Public Document Pack

Cabinet

Wednesday 12 September 2018
10.00 am Council Chamber - Shire Hall, Taunton

To: The Members of the Cabinet

Cllr D Fothergill (Chairman), Cllr M Chilcott (Vice-Chair), Cllr D Hall, Cllr D Huxtable, Cllr C Lawrence, Cllr F Nicholson, Cllr F Purbrick and Cllr J Woodman

All Somerset County Council Members are invited to attend meetings of the Cabinet and Scrutiny Committees.

Issued By Scott Wooldridge, Strategic Manager - Governance and Risk and Monitoring Officer - 4 September 2018

For further information about the meeting, please contact Michael Bryant or Scott Wooldridge or 01823 357628 swooldridge@somerset.gov.uk

Guidance about procedures at the meeting follows the printed agenda.

This meeting will be open to the public and press, subject to the passing of any resolution under Regulation 4 of the Local Authorities (Executive Arrangements) (Meetings and Access to Information) (England) Regulations 2012.

This agenda and the attached reports and background papers are available on request prior to the meeting in large print, Braille, audio tape & disc and can be translated into different languages. They can also be accessed via the council's website on www.somerset.gov.uk/agendasandpapers

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AGENDA

Item Cabinet - 10.00 am Wednesday 12 September 2018

**** Public Guidance notes contained in agenda annexe ****

1 **Apologies for Absence**

2 **Declarations of Interest**

Details of Cabinet Member interests in District, Town and Parish Councils will be displayed in the meeting room. The Statutory Register of Member's Interests can be inspected via the Community Governance team.

3 **Minutes from the meeting held on 9 July 2018** (Pages 9 - 16)

The Cabinet is asked to confirm that the minutes are accurate.

4 **Public Question Time**

The Chair will allow members of the public to present a petition on any matter within the Cabinet's remit. Questions or statements about any matter on the agenda for this meeting may be taken at the time when each matter is considered.

5 **Month 4 2018/19 Revenue Budget report and Proposals for Change** (Pages 17 - 594)

To consider the report and the recommendations relating to the Proposals for Change for decision and the Proposals for Change for consultation.

Proposals for change include:

- Proposals for the alteration of arrangements for specialist housing and support for adults with social care needs.

- Proposals for reduction in the support given to the Citizens Advice Bureaux for the administration of a benefit for individuals.
- Proposals for the alteration and/or reduction of services provided to and on behalf of children and their families.
- Proposals for the alteration and/or reduction of services to support vulnerable pupils.

- Proposals for alteration and/or reduction of support arrangements for the democratic process and for elected members.

- Proposals for the alteration of members allowances for recommendation to Council.
- Proposals to alter the arrangements for, provision of, and funding solutions for the maintenance of highways, rights of way and associated infrastructure.
- Proposals for altering the financial support and arrangements for public transport and for special educational needs (SEN) transport. CAF-10.
- Proposals to alter the funding arrangements and service level for road

safety.

- Proposals to alter the provision of park and ride services in the Taunton area.
- Proposals for altering staffing structures and levels in teams within Adult Services, Children and Family Services, Corporate Services and ECI Services.
- Proposals to alter the provision of corporate support services and / or reduce corporate and directorate overheads.
- Proposals to secure additional funding and / or recover costs within Children and Family Services, ICT and ECI Services.
- Proposals for the alteration of customer access arrangements.

6 **Capital Investment Programme 2018/19 - Quarter 1 Report** (Pages 595 - 606)

To consider this report.

7 **Adoption of the 'Well managed highway infrastructure' Code of Practice by Somerset County Council** (Pages 607 - 1732)

To consider the report, its appendices and the recommendations.

8 **Report of the Scrutiny for Policies and Place Committee on Revenue Budget Monitoring Report 2018/19** (Pages 1733 - 1734)

9 **Any other urgent items of business**

The Chair may raise any items of urgent business.

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THE MEETING – GUIDANCE NOTES

1 **Inspection of Papers or Statutory Register of Member's Interests**

Any person wishing to inspect reports or the background papers for any item on the agenda or inspect the Register of Member's Interests should contact Scott Wooldridge or Mike Bryant on (01823) 359048 or 357628 or email mbryant@somerset.gov.uk

2 **Notes of the Meeting**

Details of the issues discussed and decisions taken at the meeting will be set out in the Minutes, which the Cabinet will be asked to approve as a correct record at its next meeting. In the meantime, details of the decisions taken can be obtained from Scott Wooldridge or Mike Bryant on (01823) 357628 or 359048 or email mbryant@somerset.gov.uk

3 **Public Question Time**

At the Chair's invitation you may ask questions and/or make statements or comments about **any matter on the Cabinet's agenda**. An individual may ask no more than three questions at the meeting and any duplication of questions or statements will be managed in order to maximise the time available for public speakers. You may also present a petition on any matter within the Cabinet's remit. **The length of public question time will be no more than 30 minutes in total**.

A slot for Public Question Time is set aside near the beginning of the meeting, after the minutes of the previous meeting have been signed. However, questions or statements about any matter on the agenda for this meeting may be taken at the time when each matter is considered.

If you wish to speak at the meeting or submit a petition then you will need to submit your statement or question in writing to Scott Wooldridge by 5.00pm on Thursday 5th September. You can send an email to swooldridge@somerset.gov.uk or send post for attention of Scott Wooldridge, Democratic Services, County Hall, Taunton, TA1 4DY.

You must direct your questions and comments through the Chair. You may not take direct part in the debate.

The Chair will decide when public participation is to finish.

If there are many people present at the meeting for one particular item, the Chair may adjourn the meeting to allow views to be expressed more freely.

If an item on the agenda is contentious, with a large number of people attending the meeting, a representative should be nominated to present the views of a group.

An issue will not be deferred because you cannot be present at the meeting.

Remember that the amount of time you speak will be restricted normally to three minutes only.

4 **Hearing Aid Loop System**

To assist hearing aid users, the Council Chamber in Shire Hall has an infra-red audio transmission system. This works in conjunction with a hearing aid in the T position, but we also need to provide you with a small personal receiver. Please request one from the Committee Administrator and return at the end of the meeting.

5 **Access and Attendance**

The County Council meeting in Shire Hall is open to the public but there is limited capacity for health and safety reasons. The Council Chamber in Shire Hall is located on the first floor of the building. Shire Hall is used principally by the Courts Service and their staff are responsible for security arrangements at the main entrance**. All those attending the council meeting and the courts are required to pass through the security 'gate'. At peak times this can take well over ten minutes – so please arrive early.**

If numbers attending exceed capacity then priority will be given to those who have registered to speak at Public Question Time and thereafter admittance will be on a first come, first served basis.

The design of Shire Hall and the listed Council Chamber is not ideal for those using wheelchairs, with restricted widths in corridors and elsewhere, but council officers will ensure they have access to the meeting if at all possible.

6 **Emergency Evacuation Procedure**

In the event of the fire alarm sounding, members of the public are requested to leave the building via the signposted emergency exit, and proceed to the collection area outside Shire Hall. Officers and Members will be on hand to assist.

7 **Cabinet Forward Plan**

The latest published version of the Forward Plan is available for public inspection at County Hall or on the County Council web site at: http://www.somerset.gov.uk/irj/public/council/futureplans/futureplan?rid=/guid/505e09a3-cd9b-2c10-89a0-b262ef879920.

Alternatively, copies can be obtained by telephoning (01823) 359027 or 357628.

8 **Excluding the Press and Public for part of the meeting**

There may occasionally be items on the agenda that cannot be debated in public for legal reasons (such as those involving confidential and exempt information) and these will be highlighted in the Forward Plan. In those circumstances, the public and press will be asked to leave the room while the Cabinet goes into Private Session.

9 **Recording of meetings**

The Council supports the principles of openness and transparency, it allows filming, recording and taking photographs at its meetings that are open to the public providing it is done in a non-disruptive manner. Members of the public may use Facebook and Twitter or other forms of social media to report on proceedings and a designated area will be provided for anyone who wishing to film part or all of the proceedings. No filming or recording will take place when the press and public are excluded for that part of the meeting. As a matter of courtesy to the public, anyone wishing to film or record proceedings is asked to provide reasonable notice to the Committee Administrator so that the relevant Chair can inform those present at the start of the meeting.

We would ask that, as far as possible, members of the public aren't filmed unless they are playing an active role such as speaking within a meeting and there may be occasions when speaking members of the public request not to be filmed.

The Council will be undertaking audio recording of some of its meetings in County Hall as part of its investigation into a business case for the recording and potential webcasting of meetings in the future.

A copy of the Council's Recording of Meetings Protocol should be on display at the meeting for inspection, alternatively contact the Committee Administrator for the meeting in advance.

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THE CABINET

Minutes of a Meeting of the Cabinet held in the Luttrell Room, County Hall, Taunton, on Monday 9 July 2018 at 10am.

PRESENT

Cllr D Fothergill (in the Chair)

Cllr M Chilcott
Cllr D Hall
Cllr D Huxtable
Cllr C Lawrence
Cllr F Nicholson
Cllr F Purbrick
Cllr J Woodman

Junior Cabinet members:
Cllr G Fraschini
Cllr M Pullin

Other Members present: Cllr P Clayton, Cllr S Coles, Cllr M Keating, Cllr T Lock, Cllr L Leyshon, Cllr D Loveridge, Cllr T Munt, Cllr L Redman, Cllr M Rigby, Cllr N Taylor, Cllr A Wedderkopp

Apologies for absence: None

106 **DECLARATIONS OF INTEREST** – agenda item 2

Members of the Cabinet declared the following personal interests in their capacity as a Member of a District, City/Town or Parish Council:

Cllr M Chilcott	West Somerset District Council
Cllr J Woodman	Sedgemoor District Council

Junior Cabinet Members declared the following personal interests in their capacity as a Member of a District, City/Town or Parish Council:

Cllr M Pullin	Mendip District Council

107 **Minutes of the meeting of the Cabinet held on 11 June 2018** - agenda item 3

The Cabinet agreed the minutes and the Chair signed these as a correct record of the proceedings, subject to the amendment below.

The Cabinet Members for Resources, Cllr Mandy Chilcott requested further details of the LGA Assistance be added to minute 101.

The Chief Executive, Patrick Flaherty clarified that the LGA were providing on-going support regarding the Council's Children's and Adoption's Services with a value of up to £100k.

The Leader of the Council, Cllr David Fothergill offered congratulations to Pam Pursley, Risk Manager who had recently been awarded the ALARM Risk Professional of the Year Award.

108 **Public Question Time (PQT)** – agenda item 4

No members of the public had registered to speak.

109 **Somerset Road Safety Strategy Adoption** - agenda item 5

The Cabinet Member for Highways and Transport, Cllr John Woodman, introduced the report, highlighting: the importance of data; and how data ensures resources are best utilised.

The Service Manager, Transport Programmes, Nick Cowling, noted: key stakeholders had been consulted; and support of the Safe Systems Approach.

Further points raised in debate included: the importance of outcomes; the importance treating patients; the Safe Systems approach; accident statistics for motorcycle riders; road congestion and the impact on road safety; the role of District Planning Boards; the importance of costing the adoption of the strategy; flexible estate road design; accidents on the M5; the importance of balancing accident investigations and traffic flow; data analytics and accident hotspots; data analytics and using data as effectively as possible; and 'shared spaces' and the resulting reduction in accidents;

The Director of Commissioning and Lead Commissioner ECI, Paula Hewitt, confirmed: the adoption of the strategy would not require any additional funding, but would ensure that existing funding is used as effectively as possible; and that she would raise M5 closures with Highways England and the Police, but that motorway closures were often to allow surface or barrier repairs.

The Service Manager, Transport Programmes, Nick Cowling, confirmed: the Council was actively involved in the Avon and Somerset Constabulary data analytics work; that action plans including detailed outcomes would follow; and that 'shared spaces' can be a valuable resource. The Service Manager further noted that he would provide Cllr David Hall with details of motorcycle accident statistics.

Cllr David Fothergill, Leader of the Council summarised the points raised by Members.

Following consideration of the officer report, appendix and discussion the Cabinet resolved to:

1. Endorse the revised Road Safety Strategy and authorise its adoption
2. Delegate to ECI Operations Director to progress development of the implementation and transition plans.

ALTERNATIVE OPTIONS CONSIDERED: As set out in the officer report

REASON FOR DECISION: As set out in the officer report

110 **Sub National Transport Body for the South West Peninsula** – agenda item 6

The Cabinet Member for Highways and Transport, Cllr John Woodman, introduced the report, noting that Somerset part of the only area on South West England without a transport body.

The Director of Commissioning and Lead Commissioner ECI, Paula Hewitt, added to Cllr Woodman's introduction, noting the importance of sub national transport bodies with regard to funding.

The Strategic Commissioning Manager Highways and Transport, Mike O'Dowd-Jones further highlighted that: the South West Region was split into two transport body areas; a draft Terms of Reference had been completed; the importance of engaging with other bodies; and the need to prepare a transport strategy for the region.

Further points raised in debate included: links to the Heart of the South West LEP; the importance of the South West region representing itself; Somerset County Council's financial contribution; and why has the Council chosen to join the South West Transport Body as opposed to the West of England; Scrutiny arrangements.

The Director of Commissioning and Lead Commissioner ECI, Paula Hewitt. and the Strategic Commissioning Manager Highways and Transport, Mike O'Dowd-Jones confirmed: Local Enterprise Partnerships would be part of the new transport bodies; Somerset County Council would only contribute its fair share of any costs incurred; that to date the only investment had been officer time; the strong links with Dorset and other Local Authorities to the South; rural transport challenges; that each Authority would be responsible for their own Scrutiny arrangements; that there was currently no agreement regarding a lead authority; and the expectation of leveraging central government funding.

The Monitoring Officer, Scott Wooldridge highlighted an amendment to recommendation 5 regarding the appointment of an administering body. This amendment was endorsed by Cabinet.

Cllr David Fothergill, Leader of the Council summarised the points raised by Members.

Following consideration of the officer report, appendix and discussion the Cabinet resolved to:

1. **Agree to join an informal partnership with Cornwall Council, Plymouth City Council, Torbay Council, Devon County Council and Dorset County Council; which will be known as a shadow sub-national transport body for the South West Peninsula,**

subject to Government agreeing with that proposal, and subject to formal agreement of a final terms of reference once the partnership has formally convened.

2. **Agree that the draft terms of reference attached as Appendix 1 provide an appropriate basis in principle upon which to create a partnership.**
3. **Agree to become an associate member of the shadow 'Western Gateway' sub-national transport body which will also operate initially as an informal partnership, subject to agreeing appropriate terms of reference in due course.**
4. **Delegate authority to the Lead Director for Economic and Community Infrastructure in consultation with the Cabinet Member for Highways and Transport to agree the final terms of reference for both shadow sub-national transport bodies subject to the terms being generally in accordance with the draft terms attached as Appendix 1.**
5. **Delegate authority to the Lead Director for Economic and Community Infrastructure in consultation with the Cabinet Member for Highways and Transport to develop and agree a constitution for the South West Peninsula sub-national transport body with the partner authorities, an inter-authority agreement to enable the informal partnership to operate and to include the appointment of an administering authority.**
6. **Appoint the Cabinet Member for Highways and Transport to represent the Council on the sub-national transport bodies.**
7. **Delegate authority to the Lead Director for Economic and Community Infrastructure in consultation with the Cabinet Member for Highways and Transport to agree a prospectus for the proposed body for communication purposes.**
8. **Approve an initial partnership funding contribution of up to £80,000 to facilitate the development and operation of the partnership, and lever in match-funding from the Government; with the actual value of the contribution to be agreed between the parties following further development of technical workstreams.**
9. **Agree to enter discussion with the West of England Combined Authority (WECA) with a view to forming a more formal association with that body.**

ALTERNATIVE OPTIONS CONSIDERED: As set out in the officer report

REASON FOR DECISION: As set out in the officer report

111 **Corporate Peer Challenge Review update** – agenda item 7

The Chief Executive provided the Cabinet with a verbal update regarding the Corporate Peer Challenge Review update.

Members were informed: this update would close reporting regarding the Peer Review; the identification of key lines of enquiry; the importance of the Council leading the County; the importance of challenge; financial sustainability, and the considerable savings the Council has already made;

‘re-basing’ budgets including in Children’s Services; the importance of open scrutiny, and how the three Scrutiny Committees are effective; the capacity to deliver; the importance of engaging with local communities; the Council’s People Strategy; and recognition of the improvements the Council has made.

The Chief Executive proceeded to summarise the Peer Review recommendations, including: reducing overspend; the Financial Imperative Programme; the importance of financial sustainability; establishing the real cost of Children’s Services in Somerset; and the importance of ensuring Cabinet and SLT work as effectively as possible.

The Leader of the Council, Cllr David Fothergill, highlighted that the Peer Review had provided the impetus to resolve the Council’s financial challenges.

Further points raised in debate included: ensuring the Financial Imperative work is about new thinking as opposed to cost cutting; and Member involvement in Financial Imperative work, including replicating the staff savings idea submission scheme.

The Chief Executive, Patrick Flaherty noted: that a Members Briefing would be circulated; and the importance of good governance.

112 **2018/19 Month 2 Revenue Budget Month 2 Highlight Report** – agenda item 8

The Cabinet Member for Resources, Cllr Mandy Chilcott introduced the report, noting: this was the first report of the financial year; a £12.1m or 3.8% budget overspend had been predicted; the main pressure is in the Children’s Services area; the cost of caring for children and the elderly; and the report requested approval to transfer £5m from contingency to Children’s Services.

Further points raised in debate included: the cost of home to school transport and comparison with other rural areas; the Council’s statutory role regarding school transport; transport costs in rural and urban areas; the lean Adult Social Care Management Team; holding vacancies across the council to mitigate the projected overspend; who and what triggers a Section 114 notice and what its effect is; providing additional funding for Children’s Services; the thematic approach to budget setting, and related conversations at a recent meeting of the Audit Committee; circulation of the CCN report; member involvement in LGA assistance work; the number of children in care; and the use of contingency in place of a budget adjustment.

The Strategic Finance Manager, Martin Young confirmed: Somerset’s home to school transport costs were in line with other Shire authorities; that a Section 114 notice states than an authority has more expenditure that available resources and the actions that flow from its issue; the Council’s track record of reducing overspends; the work being undertaken to project the requirements for Childrens Services Budgets; that additional children’s services funding was set aside and would enable better financial planning

moving forward.

The Chief Executive, Patrick Flaherty confirmed that: all expenditure continues to be scrutinised; the use of contingency to help Children's Services move from Ofsted Special Measures was in line with the Children and Young Peoples Plan; and the Council's new S151 Officer would be re-evaluating the Council's financial strategy.

The Deputy Director, Children and Families noted: that the number of children in care was relatively stable, with a gradual increase; and that were good early support services available.

The Chief Account, Elizabeth Watkin, noted the significant pressure on Children's Services budgets and the proposed early release of the £5m of contingency funding.

In conclusion, the Leader of the Council, Cllr David Fothergill noted: the importance of ensuring that any Children in Care are given the best possible opportunities; the Council was in a difficult financial position, a management plan was under development to address the projected overspend; the council was not poised to issue a Section 114 notice; and the overspend was not acceptable, and an appropriate mitigations were being developed.

Following consideration of the officer report, appendix and discussion the Cabinet resolved to:

1. **Approve the transfer of £5m from contingency to Children and Families - Operations budget (section 2.4).**
2. **Note the contents of this report and the potential outturn position for the year.**

ALTERNATIVE OPTIONS CONSIDERED: As set out in the officer report

REASON FOR DECISION: As set out in the officer report

113 **Children and Young Peoples Plan 2016-19 – Report on progress of Year 2** – agenda item 9

The Cabinet Member for Children and Families, Cllr Frances Nicholson introduced the report noting: the Council's 3 year plan following the inadequate Ofsted rating; the authority is now rated as 'requires improvement to be good'; and the importance of early intervention and planning.

The Deputy Director, Children and Families highlighted the report included the progress to date.

Further points raised in debate included: risks for the final year of the Plan; recruitment to Children's Services posts; schools moving to Academy Status; children's mental health and moving to adulthood; and the importance of early support and ensuring the right help is available.

The Deputy Director, Children and Families noted: risks include a reduced quality of service, placement absence and placement sufficiency; and the Social Worker degree programme available via Yeovil College.

Cabinet welcomed the update and significant work that had been completed.

Following consideration of the officer report, appendices and discussion the Cabinet resolved to acknowledge the significant work that has been undertaken to date and endorse the improvements and achievements in delivering the 7 Improvement Programmes

ALTERNATIVE OPTIONS CONSIDERED: As set out in the officer report

REASON FOR DECISION: As set out in the officer report

114 **Contract Award for the provision of Somerset Specialist All Age Drug and Alcohol Treatment Service** – agenda item 10

The Cabinet Member for Public Health and Well Being, Cllr Christine Lawrence, introduced the report noting: the new contract will commence in March 2019; the importance of performance management; the 'think family' approach; and the increasing number of people with a dependency.

The Service Manager Drugs and Alcohol, Amanda Payne added to Cllr Lawrence's introduction, noting: the need to release financial savings; the impact on children; and that a draft outcomes framework was included as an appendix to the report.

Further points raised in debate included: data sharing; welcoming the family focus; the contact flexibility; ensuring the chosen successful provider offers the right level of engagement; contract management; the importance of co-location; potential third sector involvement; TUPE implications; community safety; and the availability of residential rehabilitation.

Following consideration of the officer report, appendices A, B, C and D and discussion the Cabinet resolved to:

1. **Agree the award of contract for Somerset Specialist All Age Drug and Alcohol Treatment Service to Bidder D from 1st April 2019 for a period of 5 years with an optional two year plus further two year extension as detailed in Appendix A – Confidential Tender Evaluation Report**

2. **Agrees the case for applying the exempt information provision as set out in the Local Government Act 1972, Schedule 12A and therefore to treat the attached Appendix A in confidence, as they contain commercially sensitive information, and as the case for the public interest in maintaining the exemption outweighs the public interest in disclosing that information.**

3. **Authorises the Director of Public Health to sign the contract with the preferred supplier on behalf of the authority and to determine**

in due course whether to utilise the optional two year plus two year extension(s).

ALTERNATIVE OPTIONS CONSIDERED: As set out in the officer report

REASON FOR DECISION: As set out in the officer report

Treasury Management 2017/18 End of Year Report – agenda item 11

115

The Cabinet Member for Resources, Cllr Mandy Chilcott introduced the report noting: that CIPFA recommend the Treasury Management End of Year Report is presented to Cabinet and full Council; and the average interest paid on the Councils debt is 4.66%.

Cllr Liz Leyshon thanked Anton Sweet and Alan Sandford for their guidance following the publication of the report.

The Leader of the Council, Cllr David Fothergill highlighted the good quality information presented in the report.

Following consideration of the officer report, appendices and discussion the Cabinet resolved to approve the report and submit it to Full Council on 18th July 2018.

ALTERNATIVE OPTIONS CONSIDERED: As set out in the officer report

REASON FOR DECISION: As set out in the officer report

Any other urgent items of business – agenda item 12

116

The Leader of the Council, Cllr David Fothergill, thanked Richard Williams, Commercial and Business Services Director for his work for the Council and wished him well for the future.

(The meeting ended at 12.36pm)

CHAIR

County Council
Cabinet

12 September 2018

2018/19 Revenue Budget Monitoring

Cabinet Member(s): Cllr Mandy Chilcott – Cabinet Member for Resources
Division and Local Member(s): All
Lead Officer: Peter Lewis – Interim Director of Finance
Author: Paul Griffin – Senior Accountant – Corporate Finance
Contact Details: PJLewis@somerset.gov.uk Tel: 01823 310098

	Seen by:	Name	Date
	County Solicitor	Honor Clarke	03/09/18
	Monitoring Officer	Scott Wooldridge	03/09/18
	Corporate Finance	Lizzie Watkin	03/09/18
	Human Resources	Chris Squire	03/09/18
	Senior Manager	Peter Lewis	03/09/18
	Local Member(s)	All	
	Cabinet Member	Mandy Chilcott	03/09/18
	Opposition Spokesperson	Liz Leyshon	04/09/18
	Relevant Scrutiny Chairman	Anna Groskop	03/05/18
		Leigh Redman Hazel Prior-Sankey	
Forward Plan References:	*FP18/07/08; FP18/08/10; FP18/08/11; FP18/08/12; FP18/08/13; FP18/08/14; FP18/08/15; FP18/08/16; FP18/08/17; FP18/08/18; FP18/08/19; FP18/08/20; FP18/08/21; FP18/08/22; FP18/08/23*		

Summary:

The pressures facing all local government are well documented and Somerset County Council is determined to address its financial challenges in a robust yet considered manner. In particular, there is a strong focus to bring 2018/19 expenditure into line with the budget during the remainder of the financial year. This report describes the likely financial outcome for 2018/19 if action were not to be taken, alongside actions to address that outcome. Since May there has been considerable focus by the Cabinet and the Senior Leadership Team on addressing the financial pressures (known as Financial Imperative Programme), culminating in proposals that could save around £13m over the remainder of this financial year and more in 2019/20. If agreed and implemented, these proposals will address the majority, but not all, of this financial year's pressures and lay the foundations for longer-term financial sustainability for the Authority. This would be based on a core service offer that is affordable within funding now available and prioritises services for vulnerable children and adults and those services most valued by residents.

Many of the savings proposals will be difficult and painstaking to implement. Bringing financial control to a large, complex and sensitive spending area, like Children's Services, will be

	challenging. However, both of these challenges must be overcome if the Council is to reinstate financial stability to allow it to deliver sustainable services for the people of Somerset and meet its statutory duties.
Recommendations:	**Cabinet is recommended to:-** 1. Note the challenging financial circumstances of Somerset County Council and understand the impacts of the projected revenue budget outturn overspend position for 2018/19, the current Aged Debt Analysis and the projected delivery of the current MTFP savings. 2. Note and support the significant management actions and development of proposals for change to address the projected financial overspend during the remainder of 2018/19 and beyond. 3. Consider the proposals for change set out in Appendices C2a and C2b and have due regard to any equalities implications identified and risks implications prior to any decisions being taken 4. Agree the proposals for change set out in Appendix C2a and approve their implementation by the relevant Director(s) 5. Approve for consultation the proposals for change set out in Appendix C2b and delegate the implementation of those proposals to officers following due process 6. Note that the Leader of the Council, Cabinet Member for Resources, Chief Executive and Section 151 Officer will oversee and monitor the delivery of the proposals for change and report on progress as part of the budget monitoring reports 7. Delegate authority for the development of any additional alternative proposals for change that may be necessary to the Chief Executive in consultation with the Section 151 Officer and relevant Director(s)
Reasons for Recommendations:	The Council must deliver its services within its available resources and take appropriate action to ensure this is achieved. Robust budget monitoring information is an essential ingredient of a well-run Council, and that information must be used to inform decisions about actions required to address any budget variances. The recommendations also recognise the separate responsibilities for the Leader of the Council, Cabinet and Officers to manage services, approve proposals for change and implement changes within the overall envelope of the agreed budget, Schemes of Delegation and the Council's Financial Regulations.
Links to Priorities and Impact on Service Plans:	The Medium Term Financial Plan (MTFP) sets the funding for the County Vision and the use of those funds is then monitored, via this report, throughout the year to ensure delivery of Council objectives and actions within the resources available.

Consultations and co-production undertaken:	Information and explanations have been sought from directors on individual aspects of this report and their comments are contained in the report and appended proposals. Due process and consultations will be carried out where needed and where indicated in the specific proposals for change.
Financial Implications:	The financial implications are identified throughout the report.
Legal Implications:	It is a statutory requirement under the Local Government Finance Act 1992, as amended by the Localism Act 2011, for the Council to set a balanced revenue budget. The 2018/19 budget was approved by the Council in February 2018 and together with the Capital Investment Programme and Treasury Management Strategy it sets the resource framework and limits within which services must be delivered. Any further legal implications are set out within the specific proposals appended to this report.
HR Implications:	There are implications arising from some of the proposals to address the projected overspend and these are set out in the impact assessments. A formal consultation has been started with staff representatives on the potential loss of more than 100 posts as a result of the savings proposals.
Risk Implications:	In their report to the Audit Committee in July 2018, Grant Thornton, the external auditors, commented that "the council's financial health has deteriorated over the last 12 months due to continued overspending, predominantly in the area of children and families. This has necessitated further use of already depleted reserves that now means the council has limited capacity to fund any further overspending. The inability of the council to deliver against its budget is now pervasive to the whole council and without urgent actions could result in it running out of money in the next two to three years." Grant Thornton set out a number of recommendations for action some of which are addressed by and through this report. Progress against these actions will be monitored by the Audit Committee. Grant Thornton concluded that they were "unable to state that Somerset County Council has proper arrangements in place to ensure sustainable resource deployment …" . They then issued an adverse 2017/18 value for money conclusion and stated that they had "considered the need to exercise our wider auditor powers. At this stage, we have decided not to exercise these powers, but will consider the need to issue a 'statutory recommendation' under section 24 (Schedule 7) of the Local Audit and Accountability Act, should arrangements at the council not improve and/or further significant overspends emerge during the course of 2018/19." Therefore, taking swift and decisive

	action as set out in this report is an essential part of the response to the Grant Thornton findings. The availability and use of reserves and the revenue contingency is critical in being able to manage peaks in demand and costs incurred. This report recognises the need for such reserves and contingencies and aims to adopt a reasonable approach to maintaining both. Our corporate risk register recognises the risk to containing our spend within budget; this report details proposals to reduce spending and, if agreed, these will address the cumulative position also. The Children's Services budget is significantly overspent and is on an upward trend. This risk will be mitigated by an improved understanding of the budget, better and more timely monitoring information and improved control of expenditure within the service.
Other Implications (including due regard implications):	It is essential that decision makers ensure that consideration is given to legal obligations, in particular the need to exercise the equality duty under the Equality Act 2010, to have due regard to the impacts based on sufficient evidence appropriately analysed. This however does not prevent the Council from making difficult financial decisions, such as the reductions in service or decisions which may affect one group more than another. What the duty requires is consideration of all available information, including the potential impacts and mitigations to ensure a fully informed decision is made. Equality Impact Assessments (EIAs) have been undertaken for each of the savings proposals, where necessary, and an overarching EIA commentary has been included as a later section in this report. As services take remedial action, including any formal decisions required to address the in-year overspend, then appropriate consideration will need to be given to the legal, HR and equalities issues, as necessary.
Scrutiny comments / recommendation (if any):	This report will be considered by the Scrutiny Committee for Policies and Place on 11th September where all members have been invited to attend and participate. Any specific recommendations or alternative proposals for Cabinet to consider will be reported to the Cabinet meeting on 12th September along with any pertinent comments.

1. Background

1.1. All County Councils are under significant financial pressure and Somerset is no different. According to the National Audit Office, there has been a 49% real-term reduction in government funding for local authorities in the last six

years. In Somerset the revenue support grant has fallen from around £90m per year to less than £9m per year in five years. The financial pressure, in part, has led to the external auditor's "adverse" value for money opinion, discussed at the Audit Committee in July 2018. It is essential, as it is for all local authorities, that this Council lives within its financial means.

1.2. Considerable efforts have been made by the Council to live within its means; an estimated £130m of ongoing savings and efficiencies have been delivered over the last eight years, but the trend of reduced funding coupled with increasing demand and costs has continued. Where budgets are predicted to be overspent remedial actions are required to balance the Council's budget as a whole to avoid any draw on the General Fund. Close monitoring of current and projected spend is a key element of maintaining close control.

1.3. Throughout the 2018/19 financial year, the main area of pressure in the Council's budget has been in Children's Services (both in Children and Family Services and Learning and Commissioning – the two main areas of the Service). The demands upon these Services have not reduced since last year and have increased since month 2 of this year, driven in part by increasing numbers of children coming into care and requiring placements. The Service is also finding it challenging to deliver the savings planned for 2018/19 and is reviewing alternatives where needed. Somerset is not unique in experiencing this pressure; in 2017/18 English councils spent over £800m more than they had budgeted for on children's services. There is a concerted effort under way to improve demand management and simultaneously improve outcomes for vulnerable children. More detail of planned and on-going actions is included in section 3.

1.4. To off-set the overspend in Children's Services it is necessary to find savings in all areas of the Council's work. All services are being reviewed for further savings and efficiencies, with affordability, service quality and service improvement all in mind. The resulting savings proposals are set out in section 12 and the appendices of this report; the ability to achieve them in full will be affected by market factors, rising costs and service demand.

2. Summary Forecast 2018/19 – Revenue Budgets

2.1. It is estimated that, without decisive intervention now, there will be a projected overspend of £11.400m at the end of the year (see Appendix A) when compared to the Revenue Budget, with the majority of the overspend being in the Children's Services budgets. Most other service areas of the Council are being controlled within budget although some corporate and support budgets are also under pressure.

2.2. In response to this financial imperative the Cabinet and the Senior Leadership Team have worked closely together to put together a package of proposals to address the projected overspend and therefore to move towards an outturn position within budget. The proposals are set out within and as appendices to this report.

2.3. If the proposals set out in this report are endorsed by members and rigorously followed through by officers, then the overspend at year end is projected to be no more than £2m, with the potential for it to be less if all savings are successfully implemented in the planned timescales.

3. Children's Services

3.1. Children and Families Operations: overspend £11.196m: movement +£1.896m since month 2 (note: in this report, '+' is an adverse movement and '-' is a favourable movement)

3.1.1. The budget for external placements is projecting to spend £19.058m, an overspend of £7.477m and equates to 46% of the service overspend. This is an increase of £0.895m since month 2. The increasing overall number of children coming into care requiring placements is contributing to rising costs, with net increases within fostering and leaving care of 6 and 8 children respectively. Work to reduce the use of high cost unregulated provision is ongoing and whilst the number has increased by 3 since month 2, a 15% reduction in unit costs from £4,916 to £4,062 has been achieved.

3.1.2. The weekly residential placement review panel continues to look at transitions to alternative permanence where appropriate and this has resulted in a saving of £0.634m against the MTFP target of £0.723m. Although we have seen a decrease in the number of residential placements, the unit costs have increased from £4,101 to £4,202. Recruitment of additional Stepping Stones providers is proving more difficult than anticipated leading to £0.225m of savings not being realised and a detailed piece of work is being undertaken looking at 16+ provision in conjunction with our external advisers, PeopleToo. £1.000m of income has been assumed from the Clinical Commissioning Group (CCG) for contributions to residential placements based on the health needs of these children, but discussions around a revised protocol are ongoing and to date no income has been received. The overall projection assumes that all existing placements will continue until the end of the financial year, that the majority of MTFP savings will be achieved and that the service will achieve an additional reduction in residential placements of 4.

3.1.3. The continued reliance on locums is placing pressure on the salaries budget within fieldwork with a projected overspend of £1.602m against a budget of £12.638m. This has remained stable with the service managing within agreed establishment and considerable efforts have been made to recruitment permanent staff. Staffing pressures across other areas of the service, including resources and disabilities, contributes another £1.905m, an increase of £0.305m, due to additional posts being agreed and vacancies being filled in the edge of care service. In addition, the anticipated savings to be realised through service redesign by using technology to work differently, are not being realised as quickly as planned and are adding a further £0.352m of pressure.

3.1.4. Fees and allowances are projected to cost £9.202m, an overspend of £2.733m, with direct payments for disabled children and their families projecting to overspend by a further £0.350m. This represents a reduced forecast overspend on 2017/18 outturn in relation to direct payments which have a key role in supporting families under stress. The majority of the overspend relates to the unfunded Special Guardianship and internal fostering schemes, which represent positive permanence options for looked after children and reduces overall placement costs.

3.1.5. Budgets within the service that provide support to families to prevent children coming into care are projecting a pressure of £0.260m whilst those providing additional support for those already looked after is projecting an overspend of £0.108m, a combined increase of £0.105m. The budget for transporting children to specialist provision is also projecting an overspend of £0.213m.

3.1.6. Accommodation and staffing costs supporting Unaccompanied Asylum-Seeking Children (UASC) are projecting to overspend by £0.794m with a further £0.052m overspend within translation. This is an increase of £0.323m due to additional, unexpected placements. These placements now all go through the Placements Team to ensure that there is coordinated oversight of all placements to secure best value.

3.1.7. MTFP savings in relation to Business Support are currently only assumed to be achievable in part, with a pressure of £0.274m remaining in addition to the existing pressure of £0.340m in this area, an increase of £0.253m. Further work is being undertaken to review the Business Support functions across the service and identify further savings, but this is unlikely to be realised in-year.

3.1.8. A one-off allocation of £5m from the contingency was agreed by Cabinet at month 2 to be transferred to the Children's and Families budget, moving it from £46m to £51m.

3.2. Children and Learning Central Commissioning: overspend £5.795m: movement (-) £0.114m

3.2.1. The transport budgets for Home to School and Special Educational Needs (SEN) transport are projecting to spend £13.667m against a budget of £9.382m. Home to School transport is reporting a pressure of

£3.014m, primarily due to non-delivery of MTFP savings of £1.458m along with the impact of additional calendar days at a cost of £0.266m. The retendering of contracts in September 2017 and April 2018 has led to a combined pressure of £0.982m and contractual inflation of 7.3% for some contracts has resulted in a pressure of £0.303m that could not be absorbed within the budget.

3.2.2. The SEN transport overspend is projected at £1.272m against a budget of £3.279m. The projected position is due to contractual inflation of £0.137m, additional calendar days of £0.143m and £0.992m resulting from increasing SEN placements. Management actions are being taken to manage the pressures of increasing demand and market volatility and further work is being undertaken to look at the savings that can be achieved, although these are unlikely to have an impact in the current year.

3.2.3. A number of additional posts are regarded as important to the service, either for business as usual or for improvement, and have been allowed to be appointed outside the directorate's budget constraints. This total stands at £0.975m, a reduction of £0.038m on the previous monitoring report.

3.2.4. Plans to date are in place to achieve £0.409m of the Management MTFP saving of £0.810m and options against the remaining £0.401m (previously £0.560m) are being considered.

3.2.5. Prior year MTFP savings of £0.900m relating to services commissioned within Support Services for Education have only been partially achieved, with £0.677m remaining as a budget pressure.

3.2.6. The current forecast underspend against the Troubled Families Grant is £0.667m, an increase of £0.202m, due to an increased payment by results assumption of £0.420m, plus one-off vacancy savings and building cost and service delivery reductions within getset, which principally delivers our early help offer.

4. Adult Services including Learning Disabilities

4.1. Adults and Health Operations: underspend £1.700: movement (-) £0.660m

4.1.1. The forecast position for the year across all Adults services is an underspend of £1.700m. This is a reduction in spend from month 3 of £0.332m against a gross spend of £218.702m (0.15%).

4.1.2. In terms of the overall position, there is a pressure of £3.748m against the Learning Disabilities Purchasing budget which is offset by underspends in Adult Social Care (£4.649m), Mental Health (£0.048m) and Commissioning (£0.751m).

4.1.3. The small change in variation between month 3 and month 4 is spread across the services with an increase against Mental Health (£0.248m) being offset by decreases against Adult Social Care (£0.421m),

Learning Disabilities Purchased (£0.149m) and Commissioning (£0.010m).

4.1.4. The movement against the Mental Health budget is mainly as a result of 3 new placements unexpectedly being moved into Somerset County Council's funding from Somerset Partnership's Out of Area Treatment's service (OATS) following consultation with the service through the normal panel process.

4.1.5. The increased underspend within Adult Social Care is as a result of a reduction in the number of nursing placements, and increased usage of specialised dementia care block beds. There was a net reduction of 15 nursing placements when comparing June and July, which represents 1.6% of the 910 total nursing beds purchased and reduced the forecast by £0.255m. Increased usage of the dementia care block beds does not increase costs to the authority but does generate additional income from those now occupying the beds. This has further improved the reported position.

4.1.6. Additional savings identified from reviewing all Learning Disabilities placements have led to a reduction of £0.201m. This reduction is shared 75%/25% between SCC and Somerset Clinical Commissioning Group as per the pooled budget agreement. The overall position against the Learning Disabilities pooled budget assumes that the Clinical Commissioning Group will contribute a further £1.249m this year as agreed.

4.1.7. As reported previously there remains many vacancies within the operational teams which creates an underspend of £1m. There are currently 45 vacant posts within these teams and the forecast assumes the majority of them will be appointed to during this financial year. This would give a balanced position against staffing in future years to enable the service to deal with predicted demand.

4.1.8. The planned overspend against the Discovery contract is forecast to be £4.414m following a change to the spend profile for 2018/19 against Registered Care, Supported Living and Day Services. This figure is less than reported in the previous Cabinet report and will be offset by balances elsewhere in the service, hence spend will be balanced to the budget available. The conversion of 3 registered care homes to Supported Living establishments has been completed since the last report.

4.1.9. We estimate that £0.140m will need to be drawn down from corporate reserves to pay for the Local Assistance Scheme programme costs.

5. Public Health: underspend £0.100m: movement (-) £0.100m

5.1. The Public Health budget is made up of two elements. The ring fenced Public Health Grant (£20.723m), which is projected to be fully spent, and £1.098m of Somerset County Council funding. This element is projected to be underspent

by £0.100m and will be utilised in year to support related activity in other service areas.

6. Economic and Community Infrastructure Services (ECI): underspend £0.066m: movement (-) £0.081m

6.1. ECI Services are forecasting an underspend of £0.066m, which is 0.1% of the net budget. This is a slight improvement on the previous position that was reported to Cabinet, which was an overspend of £0.015m.

Whilst this figure is very close to budget, there are a number of variances in individual service budget lines that make up this figure.

6.2. Waste is forecasting an underspend of £0.534m. Approximately £0.300m of this figure relates to one-off accruals for March last year. To meet the accelerated statutory closing deadline, the amount of waste for March was estimated. Whilst the figure for March was estimated below the normal levels, because of the heavy snow, the drop in tonnages was even more significant, dropping to 18,000 tonnes when compared to the normal 21,000 tonnes. The other forecast savings are based on the tonnages in the first quarter of the year, although volumes continue to be volatile and dependent on outside factors such as the weather.

6.3. Transporting Somerset is forecasting an underspend of £0.099m. Inflationary pressures in the local transport market are well known, but the Concessionary Fares position is currently better than originally forecast by £0.185m, and the service has also achieved some costs savings with minor route reorganisations.

6.4. Traffic Management is forecasting an underspend of £0.058m. This follows a review of staffing charges to capital, where the amount that is permissible is slightly higher than previously budgeted.

6.5. The Somerset Rivers Authority is funded by an additional 1.25% special precept and is expecting claims of £3.565m from Delivery partners in the financial year, against an in-year funding of £2.507m. This is a planned position and the difference will be met from a drawdown from the earmarked reserve that has been built up in from previous years' income of £1.058m.

6.6. Libraries is forecasting an overspend of £0.354m, which in part is due to the additional service redesign work this year and due to a stock write off issue where no provision has been made. It is anticipated that the service redesign work will be funded by capital receipts flexibilities due to the transformational nature of this project.

6.7. Highways is forecasting an overspend of £0.203m. This comprises a number of pressures in the service including staff costs, insurance charges and contractual requirements. The service is looking at several mitigating actions to address this overspend, such as holding vacancies, reviewing whether additional time charges to capital are appropriate and validating commuted sums income.

6.8. Economic Development is showing an adverse variance of £0.201m, which is due to the Somerset share of the revenue costs of running the Connecting Devon and Somerset programme. It is assumed that this cost will be met from capital receipts flexibility and therefore would off-set the pressure to enable a balanced position.

6.9. Use of Capital Receipts Flexibility

Capital receipts flexibility is referred to several times in this report. As a reminder, this is the permission that Government has granted, by regulation and on a time-limited basis, to apply capital receipts income to transformational activity that would otherwise fall to be funded from the revenue budget. The use of capital receipts has otherwise normally been constrained to funding capital expenditure only.

- The overall ECI position assumes that capital receipts flexibilities will be used for the following transformational activities totalling £0.490m:-
- Economic Development - £0.201m for project management, grant management and technical assurance for the Connecting Devon and Somerset Broadband project.
- Libraries - £0.200m for costs of transformational work.
- Leisure - £0.059m for the work to close the current contract and, where possible, to pass the assets to another provider.
- Registration - £0.030 to make the service more accessible electronically and to reduce administrative activity in the future.

7. Corporate and Support Services: overspend £1.218m: movement (-) £0.716m

7.1. Customers & Communities underspend £0.419m: movement (-) £0.107m

Customers and Communities are forecasting an underspend of £0.419m, of which £0.265m has been delivered from a restructure of the service to enable it to operate more efficiently. Consultations are currently taking place proposing savings arising from the Technology and People (TAP) Programme, the removal of the unallocated Community Development Fund, and a reduction in opening hours for the Contact Centre. Further savings are expected to be described in the Month 5 monitoring report and are therefore not contained within the proposals for change. It is proposed to use capital receipts flexibility to fund part (£0.154m) of this improvement work.

7.2. Democratic Services underspend £0.024m: movement (-) £0.000m

Democratic Services is showing a gross underspend of £0.229m, although this includes a budgeted contribution of £0.205m to the Elections reserve. This is transferred annually to an earmarked reserve to build up funds for the quadrennial elections.

7.3. Commercial & Procurement underspend £0.008m: movement (-) £0.103m

Commercial and Procurement is currently showing an underspend of £1.072m. This includes the Building Schools for the Future (BSF) budget, where it is planned that £1.064m will be transferred to the BSF equalisation fund at year end, to build up funds to meet these costs in the future.

7.4. Business Support underspend £0.137m: movement (-) £0.137m

Corporate Business Support is showing an underspend of £0.137m, which is the removal of the Director's post from the Senior Leadership Team structure and a small number of vacancies that are being held in order to reduce the overhead of such services on the Council's budget.

7.5. HR & OD: underspend £0.273m: movement (-) £0.000m.

Human Resources and Organisational Development is showing an underspend of £0.273m. This has been achieved by removing 3 posts from the establishment, including the Organisational Development manager and the IT training post (£0.123m), reducing the spend on Pathway to Employment (£0.050m) and reducing the corporate Learning & Development budget (£0.100m). Restructuring and realignment of duties to other teams in the HR and OD area have mitigated the full impact of these reductions.

7.6. Cross Cutting Procurement Savings: overspend £1.116m: movement (+) £0.990m

In the previous MTFP, a thematic saving was proposed to make crosscutting savings through improved procurement processes. The figure of £1.116m represents the value of these procurement savings that have yet to be developed and delivered to be able to reduce service budgets. There are robust plans in place to deliver procurement savings targets in 2019/20, but it is clear some service proposals will not be met in 2018/19.

7.7. Legal Services: overspend £0.375m: movement (+) £0.097m

Legal Services is showing a forecast overspend of £0.375m. This is in part the result of an unachieved MTFP proposal to reduce the amount of legal work that was being outsourced (£0.298k). This has not proved possible due to the continued caseload being presented to Legal Services, the difficulty of attracting and sustaining suitable legal staff into the service, and the continued competitive market for external advice. The remaining overspend (£0.077m) is caused by pressures within the Coroners services around staffing, pathology and mortuary costs.

7.8. Finance: overspend £0.105m: movement (+) £0.158m

The Finance service is showing a net overspend of £0.105m, which is due to the appointment of an interim Finance Director and the associated recruitment costs for the permanent replacement.

7.9. Business Change: On-budget; movement (-) £0.000m

Business Change is showing an adverse variance of £1.229m. As in previous years, this is a planned position within the MTFP, with this balance to be met from the capital receipts flexibility.

7.10. ICT: overspend £0.390m: movement (-) £0.410m

The ICT budget has an adverse variation of £1.690m, however £1.300m of this is planned to be met from capital receipts flexibility. The ICT revenue budget has come under pressure because it has had to absorb licensing costs that were previously funded from the capital budget (c£1.500m), staffing pressures and a high number of demands from services for work. The service has restructured its staffing and reduced its establishment, charged staff to capital projects and sought to delay some projects. There are robust plans in place to reduce the ICT overspend position to within the base budget by the end of this financial year. There is currently provision within the forward MTFP approved last February to address the ICT base budget position from 2019/2020.

7.11. Property: overspend £0.048m: movement (+) £0.232m

The Property budget is showing a net adverse variance of £0.254m, which is caused by end of contract costs for the now-closed BMIS schools scheme (£0.063m), pressure on the non-schools Repairs and Maintenance budget (£0.110m), and from a net reduced rent and increased costs on a large number of properties across the Council's estate. This has been offset by some one-off additional income from the County Farms estate and from other properties. £0.206m of activity to transform the service has been identified and will be funded from capital receipts flexibility

7.12. Use of Capital Receipts Flexibility in Corporate and Support Services

Corporate and Support Services are planning to set £2.889m against the flexible use of capital receipts to fund the following projects:

- ICT £1.300m for a number of projects to upgrade our systems and networks, to improve efficiency and to support the Technology and People Programme .

- Business Change £1.229m for their on-going work to support a number of transformational projects across the authority as part of the Core Council Programme.

- Property £0.206m for a number of development projects across the County Council's estate, including the A Block project.

- Customers & Communities £0.154m for a number of transformational roles within the Service.

8. Non-Service Items: underspend £3.441: movement (-) £0.870m

8.1. Contingencies: On-budget; movement (+) £2.481m

A contingency draw-down of £5.000m was approved in the month 2 budget monitoring report to offset funding pressures within Children & Families – Operations. With the remaining contingency of £2.481m likely to be required to offset funding pressures within the Authority during the year, we are reporting the contingency budget as being fully committed. The contingency budget was

set at £7.481m and was reported as being uncommitted in month 2, hence the movement.

8.2. Investment Income: underspend £0.300m: movement (-) £0.300m

A better than anticipated return on our investments during the first quarter, coupled with an increase to the base rate has resulted in an estimated increase of £0.300m in our investment income.

8.3. Special Grants: underspend £3.052m: movement (-) £3.052m

Additional non-specific grants are now known to be received. The main additional grant was the Business Rates Retention Grant (£3.014m) that was not originally budgeted for.

9. Trading Units

Trading Units have a net nil budget. Any underspend is described as a surplus and any overspend as a deficit on the trading account.

9.1. Support Services for Education: surplus £0.005m: a movement of (-) £0.005m

Minor variances make up the movement of £0.005m.

9.2. Dillington House: deficit £0.171m: a movement of (+) £0.171m

Dillington are expecting to break-even by the end of the year, with the exception of the internal capital loan repayment of £0.171m. This is in line with the agreed business case.

10. Delivery Progress of 2018/19 MTFP Proposals

10.1. In February 2018, the Council approved £13.418m of savings proposals and £13.018m of pressures. This section of the report provides an update of the progress towards delivery of the proposals with a Red-Amber-Green (RAG) status showing the level of risk around delivery (Appendix B).

10.2. Savings

As all savings were taken from service budgets at the start of the financial year, the real risk is that service areas will not deliver the full saving and subsequently overspend against the budget. At this time of year savings are assessed as either delivered or no longer deliverable, with only a very few having the “amber” status, flagging them for attention to move them towards green. All of this information is contained in the figures in previous sections and is not additional to them.

Over 79% of the savings have been classified as having a green status, meaning service directors are confident that these savings will be delivered at the financial impact predicted in the original proposals. This is an improved position compared to previous years.

This leaves just under 21% of savings (£2.782m) that are no longer deliverable in 2018/19, or are at risk, and will require off-setting savings to avoid an overspend.

11. Addressing the Financial Challenge 2018/19

11.1. As is highlighted in this report, without prompt and effective action the 2018/19 revenue budget will be overspent by an estimated £11.4m. This section of the report sets out proposals for that "prompt and effective action" that will reduce the level of overspend to an estimated £2m or less.

11.2. Attached to the report at Appendix C1 is a schedule of proposed savings followed by detailed proposals for change at Appendix C2. A considerable amount of detail of the proposals is contained within the appendices so that members and officers can make well-informed decisions about the proposals. The schedule of proposals can be summarised as:

Maximum Potential

	2018/19 (£m)	2019/20 (£m)	Total (£m)
Adults	3.828	1.915	5.743
Children's Services	2.134	3.224	5.358
Corporate	2.990	-1.567	1.423
ECI	3.823	-0.734	3.089
	12.775	2.838	15.613

11.3. It is acknowledged that some of the plans for savings and some of the amounts estimated, have a lot of assumptions and dependencies in order to achieve them in full in the desired timeframe and are therefore necessarily imprecise at this time. Hence, senior managers have applied confidence factors to each proposal and these are shown on each proposal for change document. Using these confidence factors produces the following "pragmatic" numbers:

Pragmatic Projection

	2018/19 (£m)	2019/20 (£m)	Total (£m)
Adults	3.722	1.635	5.357
Children's Services	1.450	2.339	3.789
Corporate	2.789	-1.688	1.101
ECI	2.682	-0.606	2.076
	10.643	1.680	12.323

11.4. In 2018/19 alone, there is a gap between the maximum potential and pragmatic projection of £2.132m, which suggests that a contingency of this size should be set aside to allow for non-delivery of some (and/or elements of some) savings. Earlier in this report it is indicated that £2.4m of the main revenue contingency has been reinstated. This could be considered as a major part of the indicative contingency for unachieved savings. It is also proposed to avoid making a £1m contribution to a capital fund, for which there is no identified application in 2018/19. Releasing this would produce an overall available contingency of £3.4m.

11.5. It should also be noted that one of the proposed savings – application of Better Care Fund within Adults Services - has already been applied as a technical adjustment in the monitoring report; this reduces the maximum potential savings by £3.4m to £9.375m compared to the residual £11.4m projected overspend. Also, some of the savings do not have decisions to be made by the Cabinet as relevant decisions are anticipated by other bodies; e.g. partnership boards. Hence the sum total of proposals in the appendices will vary from the sum totals in the tables above.

11.6. It is intended that as confidence in the delivery of the savings builds, then it will be possible to reduce the contingency hence bridging the £2.0m gap. This requires strict monitoring of the savings delivery so that there is early warning of any likely non-delivery to enable remedial action to be taken.

11.7. Another key ingredient of addressing the financial challenge is gripping the Children's Services budget. At present the total overspend is projected to be in the region of £17m (after allowing for the £5m transfer from the contingency) and, of particular concern, the overspend has increased since month 2. This overspend must first be controlled and then reduced in order to support the financial recovery of the Council.

Considerable effort is currently being committed to seek to re-state the Children's Services budget for 2018/19. With external support, funded by the Local Government Association, a thorough analysis of the cost drivers of the budget is underway, which will provide a much better understanding of how to influence spend in more effective manner.

The finance and service professionals are working together to build their understanding to enable a more robust budget to be established. In addition, work will be undertaken to develop more prompt (ideally weekly) monitoring information on the key cost areas, e.g. placements, so that the reaction to spending varying from budget can be more swift than is supported by the current monthly reporting regime. The Children's Services Directorate Management Team is also developing a number of interventions that may alter the way in which cases are dealt with, to the benefit of children and the budget.

11.8. The Impact of Failure to Act or to Control

It is accepted that many of the savings proposals will be difficult and painstaking to implement. Bringing financial control to a large, complex and sensitive spending area, like Children's Services, will be challenging. However, both of these challenges must be overcome if the Council is to reinstate financial stability to allow it to deliver sustainable services for the people of Somerset.

If action is not taken, or is taken and fails, then a revenue budget overspend will follow. As it is an essential requirement of local government finance that there must be a balance of income and expenditure within each financial year then the Council would have to look to its reserves in order to balance the books.

While the annual accounts for 2017/18 showed that there is £20.929m in the General Fund, when this is adjusted for the negative sums currently set

against the list of earmarked reserves and for sums that are being held for specific purposes and for other bodies, then the sum predicted to be available at the end of March 2019 is £7.8m, which includes the planned contribution to reserves of £2.0m. This, however, compares to the minimum recommended sum for Somerset County Council of about £15.0m. Hence, the General Fund is not of adequate size to support a significant overspend. Indeed, it is only acceptable to leave it at this reduced amount for a short time and because there is revenue provision for replenishing the General Fund in future years. It should be noted, however, that some of the risk is mitigated by the remaining revenue budget contingency of £3.4m in the budget for 2018/19.

11.9. Impact on 2019/20 and Beyond – the Medium Term Financial Plan (MTFP)

Due to the timing of the consideration of these proposals, it will only be possible for them to have a part year effect in 2018/19. Indeed, for those where there is a long consultation and/or implementation period, there will only be a limited financial impact in the current year. However, the financial challenges facing Somerset County Council continue into 2019/20 and beyond. Therefore, proposals agreed now and with an ongoing impact will reduce spend in future years, potentially offering a full year effect for 2019/20.

It is estimated that the additional impact in 2019/20 of the maximum 2018/19 savings of £12.775m will be £2.838m, making the total, maximum impact £15.613m on an ongoing basis. Note that there are some negative figures in the 2019/20 column, produced by reversing out large savings that are only available on a one-off basis in 2018/19.

This report focuses on the 2018/19 budget and the actions to address the projected overspend. During September an increased focus will turn to the development of the MTFP. A priority will be to revise the current MTFP in light of further information that it is now known so that updated gaps between funding and estimated spending requirements for each year can be understood and discussed. Subsequent to that, actions will need to be developed in order to address any gaps and to present proposals to the Cabinet and Council for consideration in February 2019. Where it is appropriate and necessary to secure a full year effect of a saving from 1 April 2019, then there may be earlier requests for decisions in, say, December 2018.

It is planned to present a report on the medium term financial gaps to the Cabinet at their meeting in October along with a plan to develop actions to address the gaps over the subsequent months.

11.10. Capital and Capital Receipts Flexibilities

Since 2016 the Government has allowed local authorities to use capital receipts to fund transformation projects and consequences that would otherwise have counted against revenue funding. Somerset County Council is intending to use this flexibility and details are set out elsewhere in this report. It is anticipated that approximately £10m of expenditure will qualify as transformational against capital receipts funding. It is expected that there will be enough receipts available to support this level of expenditure; this is being closely monitored.

During the autumn months, in preparation for the 2019/20 budget and MTFP, further work will be undertaken in regard of ongoing commitments against capital receipts so that the Council can agree an appropriate strategy at the time of agreeing the forward year's budget.

11.11. The capital programme must be considered alongside the revenue budget: they both support the delivery of the Council's objectives and the consequences of borrowing for capital expenditure are a factor in the revenue budget. Currently the Council has an ambitious capital programme, particularly in regard of schools' basic need, which is funded by over £100m of borrowing. Given that this level of borrowing will create a large and irreducible commitment against revenue, it must be reviewed in the context of a strained MTFP. While the requirement for school places will not go away, they may have to be funded from alternative sources or over a longer period. Further work on this will be undertaken over the autumn.

12. Aged Debt Analysis

12.1. As at the end of July 2018, the outstanding debts over 90 days old totalled £2.188m or 33.56% of gross debt outstanding. This is above the target set for reporting performance on the Performance Wheel of no more than 15% of total debt. By way of comparison, the percentage of debt over 90 days old in July 2017 was 47.31%. The aged debt profile is not at an acceptable level and there is active pursuit of this debt ongoing so that our usually excellent record of collecting over 99% of debt, achieved over the last 3 financial years, is maintained.

12.2. Services' total outstanding debt relating to external income on the Accounts Receivable system stood at £6.520m on 31 July 2018, (July 2017 £7.075m). This sum is already credited as income in the relevant accounting codes.

12.3.

Service	Not o'due	0-30 Days	1-3 Mths	3-12 Mths	12+ Mths	Total
	£m	£m	£m	£m	£m	£m
Adults and Health - Commissioning	0.000	0.051	0.000	0.030	0.004	0.085
Adults and Health - Operations	0.083	0.738	0.353	0.805	0.150	2.129
Business Development	0.018	0.336	0.655	0.007	0.044	1.060
Customers & Communities	0.000	0.001	0.000	0.000	0.000	0.001
Children & Family - Operations	0.005	0.006	0.039	0.005	0.008	0.063
ECI - Commissioning	0.002	0.000	0.004	0.006	0.002	0.014
ECI - Operations	0.204	0.510	0.177	0.886	0.102	1.879
School & Early Years	0.029	0.055	0.001	0.008	0.009	0.102
Finance & Performance	0.004	0.159	0.011	0.072	0.004	0.250
Children & Learning - Commissioning	0.077	0.149	0.017	0.001	0.003	0.247
LD Operations	0.010	0.000	0.000	0.011	0.023	0.044
Support Servicea for Education	0.007	0.349	0.084	0.008	0.000	0.448
Public Health	0.000	0.126	0.072	0.000	0.000	0.198
Total (£m)	**0.439**	**2.480**	**1.413**	**1.839**	**0.349**	**6.520**
Total (%)	**6.73%**	**38.04%**	**21.67%**	**28.21%**	**5.35%**	**100.00%**

12.4. Aged Debt – Service Commentary

12.4.1. Adults and Health: £2.214m

Debt continues to be a main focus for the team however vacancies over the past couple of months have meant that not as much progress has been made as would normally be expected.

55% of the total outstanding debt is less than 3 months old and the majority of this relates to invoices raised to health partners and other government agencies (CCG, Other Local Authorities) for which we expect full payment. There has been an increase in debts that are aged between 3 months and 1 year, and this will be a focus for the next month.

Debts over 1 year old continue to be at their lowest level for a number of years with a further reduction since outturn of £0.086m. The current value of these is £0.176m and all are either with legal or awaiting external intervention.

12.4.2. Children and Learning: £0.860m

The majority of debt (79%) is under 30 days old and relates to invoices raised to schools for services provided by Support Services for Education and contributions from parents/carers for school transport for academic year 18-19.

Of the debts over 30 days, 50% is similarly due to invoices raised to schools but the majority have since been settled. There are also a number of older debts in relation to the recoupment of interagency fees from other local authorities and some parental contributions for children in care. All debts are being actively pursued, and the necessary debt recovery actions taken

12.4.3. Corporate and Support Services: £1.310m

The total value of debts over 90 days is £0.127m.

The larger debts within this figure are comprised of 3 property related debts from tenants and academies (totalling £0.040m) and some contributions from other local authorities and partners (£0.051m) which are under discussion and should be collected shortly.

Some of the other debts within this figure have recently been paid.

12.4.4. Economic and Community Infrastructure: £1.893m

ECI are reporting a total of £0.997m outstanding debt over 90 days old. Whilst this is higher than in previous reports, the majority of this figure comprises invoices to 2 developers totalling £0.656m, which are being actively pursued by the services.

The remainder comprise a single transport debt (£0.093m) where payment is expected shortly, and the usual large number of smaller debts, such as for utilities under the New Roads and Street Works Act (NRSWA) totalling £0.153m, and County Ticket debts from individuals (£0.036m). The overwhelming majority of these are already being pursued by the Legal Debt Recovery team.

12.4.5. Public Health: £0.198m

The debt for Public Health is less than 90 days old and not considered to be at risk of non-recovery.

13. Consultations Undertaken

13.1. The individual service content within this report has been considered by Service Management Teams prior to submission together with on-going briefings of Cabinet Lead Members.

13.2. Consultation with staff representatives has commenced in regard of those proposals with staffing impacts.

13.3. Bearing in mind that this report contains proposals for consideration at this meeting, limited discussions have also commenced with other parties affected by these proposals; for example, public sector partners, commercial partners, voluntary sector, etc.

14. Financial, Legal, HR and Risk Implications

14.1. Financial implications are dealt with in the body of this report, and where decisions are required within individual proposals.

14.2. The legal implications of the proposals are indicated individually within the proposals for change (Appendix C), as are the HR implications.

14.3. There are individual Equality Impact Assessments (EIAs) of the proposals in Appendix C and an overall assessment has been compiled, which is shown in Appendix D. Based on the proposals put forward within this report there are a number of impacts, which, when looked at together, could have combined impacts on characteristics protected under the Equality Act 2010. They are:

- A high proportion of the impacts identified will affect **young people**. This could be through the reduction or removal of support and recreational services, the support provided to Young Carers. This could then have an additional impact on the person cared for.
- **Women** are also more likely to be impacted by a combination of proposals. As women are still more likely to provide a child or adult caring role they could be disproportionately affected by the changes to support services for disabled people and young people. Where women are in single parent households the reduction in support to Advice Services could result in more pressure on these homes.
- The reduction proposed through Adults Services addresses under usage of current contracts. This could have an impact on **disabled people,** but this would be about when the service can be accessed rather than the service not being available. Again, a reduction in Advice Services could place additional pressure on these households.
- Reductions in the support provided to Citizens Advice, Local Assistance Scheme and Youth Services could remove avenues of support for people living on **low incomes**.

There are some mitigations identified within the individual proposals to minimise the impacts identified. This include

- working with the voluntary and community sector to provide some of the support services we currently provide
- providing sign posting and advice on alternative areas of support and services
- identifying alternative funding to retain the current level of service delivery

15. Background papers

15.1. County Council – 21 Feb 2018 – 2018/19 Revenue Budget and MTFP
County Council – 21 Feb 2018 – S151 Robustness and Adequacy report
Cabinet – 9 July 2018 – Revenue Budget Monitoring 2018/19 Month 2

Note:
For sight of individual background papers please contact the report author(s):

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Appendix A – Revenue Budget Monitoring – Headline Summary Table

Service	Original Base Budget	Budget Movements	Total Budget Approvals	Negative (+) Variances	Positive (-) Variances	Planned Use of Earmarked Reserves	Planned Use of Capital Receipts Flexibility	Net Variance Under (-) / Overspend		Previous Cabinet Report *	Movement from Previous Report
	£m	£m	£m	£m	£m	£m	£m	£m	%	£m	£m
Adults and Health - Operations	141.283	-0.079	141.204	6.305	-5.448	0.000	-2.557	**-1.700**	-1.20%	-1.040	-0.660
Children and Families - Operations	46.279	4.943	51.222	11.405	-0.159	0.000	-0.050	**11.196**	21.86%	* 9.300	1.896
Children and Learning - Commissioning	19.750	0.366	20.116	6.594	-0.674	0.000	-0.125	**5.795**	28.81%	5.909	-0.114
Public Health	1.026	-0.003	1.023	0.000	-0.100	0.000	0.000	**-0.100**	-9.78%	0.000	-0.100
ECI Services	62.774	0.178	62.952	2.272	-0.714	-1.134	-0.490	**-0.066**	-0.10%	0.015	-0.081
Key Services Spending	**271.112**	**5.405**	**276.517**	**26.576**	**-7.095**	**-1.134**	**-3.222**	**15.125**	**5.47%**	**14.184**	**0.941**
Corporate and Support Services	24.078	0.914	24.992	5.036	-2.246	1.317	-2.889	**1.218**	4.87%	0.502	0.716
Non-Service Items (Inc Debt Charges)	22.692	-6.319	16.373	0.009	-3.450	0.000	0.000	**-3.441**	-21.02%	* -2.571	-0.870
Trading Units	0.000	0.000	0.000	0.457	-0.291	-0.166	0.000	**0.000**	0.00%	0.000	0.000
Support Services and Corporate Spending	**46.770**	**-5.405**	**41.365**	**5.502**	**-5.987**	**1.151**	**-2.889**	**-2.223**	**-0.161**	**-2.069**	**-0.154**
Updated Business Rates Receipts	0.000	0.000	0.000	0.000	-1.502	0.000	0.000	**-1.502**	0.00	0.000	-1.502
SCC Total Spending	**317.882**	**0.000**	**317.882**	**32.078**	**-14.584**	**0.017**	**-6.111**	**11.400**	**-0.107**	**12.115**	**-0.715**

* The previous cabinet report figures have been restated to include the contingencies request approved in month 2

Appendix B: Savings Month 4 (2018/19)

Service	Value of Approved Saving	Red	Amber	Green
Adults and Health - Operations	3,206,000			3,206,000
Learning Disabilities - Operations	-			
Adults and Health - Commissioning	20,000			20,000
Public Health	107,000			107,000
Adults and Health	**3,333,000**	**0**	**0**	**3,333,000**
Children and Families - Operations	1,705,400	840,000		865,400
Children and Learning - Commissioning Central	1,443,000	1,034,000		409,000
Children's	**3,148,400**	**1,874,000**	**0**	**1,274,400**
ECI Other Services	1,307,500			1,307,500
Economic and Community Infrastructure	**1,307,500**	**0**	**0**	**1,307,500**
Key Service Spending	**7,788,900**	**1,874,000**	**-**	**5,914,900**
Corporate and Support Services	4,128,800	908,300	18,800	3,201,700
Corporate and Support Services	**4,128,800**	**908,300**	**18,800**	**3,201,700**
Total Services	**11,917,700**	**2,782,300**	**18,800**	**9,116,600**
Non-Service	1,500,000			1,500,000
Total Non-Service	**1,500,000**	**-**	**-**	**1,500,000**
TOTAL	**13,417,700**	**2,782,300**	**18,800**	**10,616,600**
Percentage		**21%**	**0.14%**	**79%**

* The non-delivery of these savings has been taken into account in the forward budget process

SOMERSET COUNTY COUNCIL
SUMMARY OF MTFP 2018/19 SAVINGS PROPOSALS

C.1 Summary of All Additional Savings Proposals for 2018/19

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ASC-01	Adults	Discovery	The planned use of an element of the Better Care Fund in 2018/19 to support the Discovery Learning Disability Contract. This is in line with the year 2 contract profile. Additional savings will be generated, mainly in 2019/20, through the removal of an element of the current Crisis Service (Oak House) and a reduction in the short breaks service.	3,394.1	750.0
ASC-02	Adults	Extra Care Housing	Decommission and repurpose 3 extra care housing schemes (out of 22 across the county) to either general housing suitable for older people or specialist sheltered housing to provide better value for money	97.5	234.0
ASC-03	Adults	Reduction in funding for Citizen's Advice services (Core Funding, Local Assistance Scheme)	For each of the districts Citizens Advice services: • End non-statutory provision of Adult Social Care Core grant • Cease funding to CABs for administration and assessment of Local Assistance grants and provide alternative delivery model	25.0	444.0
ASC-05	Adults	Home Improvement Agency	Removal of the non-statutory elements of the Home Improvement Agency.	80.0	175.0
ASC-07	Adults	Block Beds	In line with assessed demand forecasts: • remove 10 beds from Specialist Residential Care contract therefore reducing the number of beds from 208 to 198	97.4	389.7

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
			• reduce beds in Halcon by 1 or 2 • look at alternatives to current general respite bed provision with localities		
ASC-09	Adults	MH Dementia Day-care	Recommission Dementia Day Care services to meet changes in legislation and need since originally commissioned 15 years ago - current contract ends end of Jan 2019.	56.0	0
ASC-10	Adults	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.	78.0	0
CAF-01	Children's Services	Dedicated Schools Grant contribution to residential placements of children looked after	The proposal is to change the way in which residential provision for school aged looked after children is funded. Under this proposal, which will need to be discussed with the Schools Forum in October 's scheduled meeting, increases the current contribution to costs from the Dedicated Schools Grant (DSG).	728.0	709.0
CAF-02	Children's Services	Dedicated Schools Grant contribution to SEND casework team for the transition to EHCPs of children with High Needs funding without a plan	This proposal is for the Dedicated Schools Grant (DSG) to contribute to the cost of additional casework as a result of the new high needs funding universal banding process. The LA and School Forum approved a new funding distribution model for children with SEND in mainstream provision to be fully implemented from September 2018.	141.0	70.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-03	Children's Services	Dedicated Schools Grant contribution to SEND casework team for the transition to EHCPs of children with High Needs funding without a plan	This proposal is for the Dedicated Schools Grants (DSG) to contribute to the additional costs for Occupational therapy seating assessments to support children in mainstream schools.	54.0	0
CAF-04	Children's Services	Staff savings from redeployment of responsibilities and DSG contribution to SEND strategic planning	This proposal is to achieve staff savings by redeploying responsibilities and restructuring the Inclusion Management Team to manage statutory and regulatory duties undertaken by the Local Authority for all schools.	16.0	80.0
CAF-05	Children's Services	Reserve contribution for project work related to the SEND Independent Placements	The Schools Forum agreed on 11th July 2018 to fund 2 posts as an invest to save opportunity to reduce the costs of independent SEND placements.	75.0	-33.0
CAF-07	Children's Services	Troubled Families Funding	To increase income from Somerset's allocated Troubled Families Grant.	239.0	-115.0
CAF-09	Children's Services	Income Recharging for External Secondment	To recharge costs for a member of staff currently seconded to another local authority.	36.0	-36.0
CAF-10a	Children's Services	Reduce the cost of providing transport to specialist provision	The proposal is to offset demand through robust and effective casework management, making sure children are placed in appropriate provision as close to home as possible and effectively manage parental expectation from an early stage. In addition to this SCC has adopted the use of personal transport payment (PTPs) and has 24 active PTPs which are preventing an additional £213,000 annually. These are offered to all parents of children that would otherwise have to be transported individually in a taxi.	63.0	0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-11	Children's Services	Proposals related to the accommodation needs of looked after young people aged 16+	1. Ensure housing benefit claims are utilised to best effect where supported housing is being provided. 2. Challenging the throughput to 'independent living' within our supported housing model. 3. Secure 10% in year contract value reduction in supported housing commissioned services.	185.0	365.0
CAF-12	Children's Services	Early Years Staffing Restructure	Integration of Early Years Commissioning Team and SSE Early Years Improvement Team	0	80.0
CAF-14a	Children's Services	Proposals for the alteration and/or reduction of early help services provided to children and their families – getset	Reduce staffing levels in the getset service in response to falling number of level 2 referrals and by increasing caseload targets across the service.	327.1	1,685.8
CAF-14b	Children's Services	Proposals for the alteration and/or reduction of early help services provided to children and their families - getset	Cabinet approval is being sought to launch a consultation exercise to review provision of SCC early help services. The specific changes that will be proposed in the consultation will include the proposal for SCC to no longer provide level 2 services; further proposals will be developed through an appropriate analysis and initial assessments of needs and potential equalities impact. The proposed change will be further developed through analysis of consultation feedback and presented to cabinet for decision.	0	0
CAF-16	Children's Services	Reduction in Non-statutory Early Years Activity	Reduce the level of non-statutory Early Years activity and support provided and to offer traded services where previously they have been provided free of charge.	50.0	124.0
CAF-17	Children's Services	Youth Offending Team Vacancy	Deletion of a vacant post in the Youth Offending Team	20.0	12.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-18	Children's Services	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.	200.0	0
CAF-20	Children's Services	Re-modelling of support to Young Carers	Approval to proceed with the redesign of the whole young carers service (incorporate Statutory Duties into other statutory children and adult services), working with the Voluntary and Community Sector to deliver Young Carers respite/participation elements.	0	242.9
CAF-21	Children's Services	Proposals for the alteration of Youth Service	Approval to proceed with implementation of the proposed option to cease the provision of support, resources and training to voluntary youth organisations, and to close the existing grant schemes; but to maintain the Duke of Edinburgh Award scheme and the Youth Equipment Store.	0	239.0
C&C-01	Corporate Centre	Use external income to fund Communications Team post	Use additional one-off income for communications activity to fund existing posts within the Communications Team structure for 18/19 only.	38.0	-38.0
C&P-01	Corporate Centre	Commercial & Procurement Restructure	Remove a number of posts from the Commercial & Procurement structure	75.6	324.4
Corp-01	Corporate Centre	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.	90.8	0
Corp-02	Corporate Centre	Reduce contributions to reserves	To reduce the budgeted contribution to reserves in 2018/19.	1,900.0	-1,900.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
Corp-03	Corporate Centre	Slippage of capital spend activity funded from borrowing	To reflect the slippage in capital schemes that are to be funded through borrowing.	296.0	0
DS-01a	Corporate Centre	Democratic Services Demand Management	1) Business process re-engineering to achieve efficiencies in support of current Democratic Arrangements during 2018/19 2) ICT to put in place internal hosting arrangements for democratic software 3) Core Council Programme to take on administrative support for SLT meetings and SLT Work Programme	29.0	27.0
DS-01b	Corporate Centre	Democratic Services – Reductions in service levels	1) Develop a proposal for all members to make a one-off contribution equivalent to 2 days unpaid leave on the same basis is council staff. 2) Chair of Council to reduce his planned spend. 3) Reduce member support and member training.	8.0	-2.5
DS-02	Corporate Centre	Democratic Services Income Recovery & Generation	1) Seek to increase income from external partners and partnerships where SCC provides management support, 2) Recharge School Admissions and Transport Appeals 3) Recharge 50% of Cabinet Member Education and Transformation to capital receipts flexibilities	56.5	41.5
HR-01	Corporate Centre	Pathway to Employment budget	The proposal is to realise an in-year underspend on the Pathways to Employment budget by ensuring no further commitments are made.	93.0	-93.0
HR-02	Corporate Centre	Staff Awards	Not to hold the staff award this year resulting in an in year underspend of £5k	5.0	-5.0
ICT-01	Corporate Centre	ICT Resources	Review resource requirements within parts of the service including permanent and contract posts and reduce the service desk offering to minimum service levels. To realise these changes some existing contracted staff will be ceased and or re-deployed and some services may be provisioned from a third party.	59.1	129.6

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ICT-02	Corporate Centre	ICT Contracts and Services	- Ceasing a number of small ICT Contracts - Reducing licence count on an ICT contract - Deferring the implementation of enhanced email security	129.4	0
ICT-03	Corporate Centre	ICT Resource Capitalisation	Proposal is to increase the value of staff costs recharged to the ICT capital allocation (CIP) for 18/19. This will include staff recharge for all asset based projects during 18/19.	130.0	0
ICT-04	Corporate Centre	ICT Traded Services Review	Reduce overheads by using resource flexibly with reactive support. Release a contractor in reactive support. Review viability by December 2018	45.0	0
Leg-01	Corporate Centre	Legal Services Workforce	a) To remove 1 vacant post from the Legal Services structure. b) To review workload within the team with a view to remove an additional post. c) Review research publications/tools, cutting where possible, certainly cutting one of the encyclopaedias for children law. If research tools are cut too far, there is a risk that inaccurate advice would be given to the Council, so this will need to be managed carefully.	17.4	27.9
Leg-02	Corporate Centre	Increasing Legal services productivity by delivering the service to Children's Services in a different way	a) No physical attendance at Children's Social Care (CSC) area threshold meetings b) No physical attendance at Public Law Outline (PLO/pre-proceedings) meetings and advocates meetings	16.8	12.0
ECI-01	ECI	Libraries stock	Changes to the way Libraries manage Stock as an Asset during this year, will reduce the level of overspend from £154k to £0.	154.0	-154.0
ECI-02	ECI	Highways staff capitalisation	Redistribution of staff time across the capital and revenue budgets.	307.0	0
ECI-06	ECI	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave	85.0	0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
			and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.		
ECI-07a	ECI	Highway Lighting	Capitalisation of illuminated asset replacement budgets. Capitalisation of additional costs for unforeseen accident repairs and structural / test failures that require complete replacement in 2018/2019.	400.0	-100.0
ECI-07b	ECI	Highways winter and emergency	The proposal is to remove the provision of roadside salt supplies for self-help use by the public for the winter of 2018/19.	40.0	-40.0
ECI-07c	ECI	Capitalisation of Rights of Ways works	To capitalise £45k (approximately half) of the Area revenue works budget and £20k of the Central works budget for Rights of Way, and manage an anticipated underspend on the Town & Village Green budget of £15k for 2018/19	80.0	-15.0
ECI-07d	ECI	Highways Safety Defects	Reallocate £21,300 from revenue to capital for pedestrian guard rail replacement and reallocate £1.3k from revenue to capital for sign replacement, where the assets have reached the end of their useful life.	22.6	0
ECI-07e	ECI	Elliott Buildings	Purchase the existing Elliott Buildings for £15k in West Somerset Depot from Capital, to release £10k revenue for leasing the building only per annum	10.0	0
ECI-07f	ECI	Termination of in-year Hedge Cutting, Ditching and Ploughing budget spend	1. Terminate in-year Hedge Cutting, Ditching and Ploughing budget spend. 2. Only raise reactive orders for works for these workstreams and only if they are safety related.	62.0	-62.0
ECI-07g	ECI	Implement a reduced width grass cut across the A and B road network on the 2nd programmed visit.	Implement a 1-swathe width cut across the A and B network on the 2nd programmed visit. This will require an in-year amendment to the planned works programme.	10.0	-10.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-07h	ECI	Reduction in development of 'Confirm' software system	Postpone additional upgrades of modules / training of the Confirm system until April 2019 to include Personal Digital Assistant purchase.	10.0	-10.0
ECI-07i	ECI	Capitalisation of the existing revenue funded Ditches and Grips budget	Capitalisation of the existing and in-year revenue funded "Ditches and Grip"budget spend.	25.0	-25.0
ECI-07j	ECI	Reduction of the in-year Reactive Jetting budget	Reduction of the in-year reactive jetting budget to remove £40k from the original base budget. Through this proposal reactive maintenance of roadside drains and gullies and associated pipework will be reduced	40.0	-40.0
ECI-07k	ECI	Highways Staff: Continuing to hold/delete vacant posts	Savings will be made by continuing to hold/delete vacant Highways posts in ECI Operation.	87.6	-75.1
ECI-07l	ECI	Reduce the County Council's Precautionary Salting Network	Reduce the Somerset County Council (SCC) Precautionary Salting Network for winter 2018/19 from 23 routes to 16 routes by removing the four lowest current criteria: • Adjoining Counties Links • Major Settlement Links • Settlements above 500 feet Links • Urban/Rural School Links (Major).	120.0	0
ECI-07m	ECI	Highway fee structure (Section171 and Section184 licences)	To align with charging structures of other regional Local Authorities, increase fees structure for: • Section 171 licences (Working on or adjacent to the highway) • Section 184 licenses (Vehicular crossings)	29.0	87.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-09	ECI	Reduction in subsidy for Demand Responsive transport (Slinky)	To reduce the level of concessionary fare provided to passengers in receipt of a valid English National Concessionary card who use the Slinky demand responsive service from 100% to 50%.	10.0	30.0
ECI-10	ECI	Suspend Taunton Park & Ride service for a period of time	Suspend the Taunton Park & Ride service from the Gateway and Silk Mills sites to Taunton town centre and Musgrove Park Hospital until finances allow for reinstatement.	70.0	100.0
ECI-11	ECI	Increasing the level of income generated by the in-house fleet through better utilisation of existing vehicles	This proposal will increase the level of income generated by the in-house fleet through better utilisation of existing vehicles.	50.0	50.0
ECI-12	ECI	Consult on the potential reduction of financial support to the public transport and college bus network	Cabinet approval is being sought to launch a consultation exercise to review some elements of the subsidised public transport and college bus network. The specific changes that will be proposed in the consultation will be developed through an appropriate analysis and initial assessments of needs and potential equalities impact. The proposed change will be further developed through analysis of consultation feedback, and presented to cabinet for decision making following a full consultation. Any opportunities to reduce public bus subsidy costs through the re-negotiation of existing contracts and / or changes to frequencies, routing or timetables will also be reviewed and if necessary consulted on.	0	0
ECI-13a	ECI	Reduce Road Safety budget: in-year saving	To reduce the traffic management and road safety revenue budget by £50,000 in 2018/19	50.0	0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-15	ECI	Commissioning Development staff: capitalisation to support forthcoming transformation work	Capitalise (using capital receipt flexibilities) the Commissioning Development team posts from the SCC EC&I structure to undertake essential forthcoming transformation work.	25.0	78.0
ECI-17	ECI	Restructuring in community infrastructure commissioning	This proposal constitutes restructuring in Community Infrastructure Commissioning: Savings will be achieved through restructuring and deletion of posts.	62.0	72.0
ECI-18	ECI	Flood and water Management	This proposal is to halt a number of activities and schemes in the 2018/19 programme (several of which were also deferred in similar circumstances in 2017/18). This includes: • Deferring flood risk management studies and options appraisals at 4 locations. • Suspend delivery of 2 schemes commissioned to Skanska through the Highways TMC at Bruton and Curry Rivel. • Suspend delivery of an Area Highways scheme for road stabilisation works adjacent to a watercourse in Taunton Deane.	80.0	-80.0
ECI-20a	ECI	Libraries Service Redesign – additional use of capital receipts flexibilities	This proposal is to deliver an in-year saving through further transformation costs being funded through capital receipts in 2018/19 (in addition to assumptions already being factored into the corporate budget monitoring position).	65.0	-65.0
ECI-22	ECI	Recharging time to capital projects	This proposal would see a new approach with appropriate staff time and travel being recorded against the capital projects to which it relates, to ensure that every opportunity to capitalise costs is taken up.	20.0	0
ECI-23	ECI	Reduce frequency and extent of County Hall grounds maintenance	To reduce the frequency and extent of grounds maintenance works on the County Hall site, for example, grass cutting to be undertaken at longer intervals.	3.0	0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-24	ECI	Hold Corporate Surveyor vacancy for two months	To delay recruitment to the soon to be vacant Corporate Surveyor post for two months.	3.0	-3.0
ECI-25	ECI	Increase capital receipts target for 2018/19	To increase the capital receipts target for 2018/19 by an additional £1million with a view to reducing pressure on revenue budgets in the short term. Capital receipts produced through these additional disposals will be utilised to fund transformational expenditure across the authority in line with the directive from government on the use of capital receipt flexibilities.	1,000.0	-1,000.0
ECI-26	ECI	Income Generation through use of the Gateway Park & Ride site by EDF to facilitate a Park & Ride service to Hinkley Point	We have been approached by Somerset Passenger Solutions (SPS) as they would like to rent a number of surplus parking spaces to enable workers at EDF to access employment on the Hinkley site. Further income generation proposals are also being explored.	35.0	108.0
ECI-27	ECI	Controls on Building Repairs and Maintenance spending	Impose controls so that only those building repairs and maintenance tasks which carry an immediate and genuine health and safety risk will be approved.	70.0	90.0
ECI-28	ECI	Recharge on Broughton Hse NNDR	This proposal is simply about removing a project contingency and taking the risk of unforeseen project delays and costs.	5.0	-5.0
ECI-29	ECI	Deferral of professional training	Defer planned professional training until 2019/20.	5.0	-5.0
ECI-31	ECI	Marketing Facilities	1. Raise additional income through the marketing of Registration and Scientific Services 2. Reduce the size of the Scientific Services fleet	2.0	8.4

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-32	ECI	Review of Discretionary (Ceremony) Fees	Review non-statutory fees (last reviewed in 2014) to ensure they continue to cover the costs of the services provided.	1.0	19.0

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SOMERSET COUNTY COUNCIL
SUMMARY OF MTFP 2018/19 SAVINGS PROPOSALS

C2.a Summary of Proposals for Cabinet Decision by heading on the Cabinet Forward Plan

C2.a.01 Proposals for the alteration of arrangements for specialist housing and support for adults with social care needs.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ASC-02	Adults	Extra Care Housing	Decommission and repurpose 3 extra care housing schemes (out of 22 across the county) to either general housing suitable for older people or specialist sheltered housing to provide better value for money	97.5	234.0
ASC-05	Adults	Home Improvement Agency	Removal of the non-statutory elements of the Home Improvement Agency.	80.0	175.0
ASC-07	Adults	Block Beds	In line with assessed demand forecasts • remove 10 beds from Specialist Residential Care contract therefore reducing the number of beds from 208 to 198 • reduce beds in Halcon by 1 or 2 • look at alternatives to current general respite bed provision with localities	97.4	389.7

C2.a.02 Proposals for reduction in the support given to the Citizens Advice Bureau for the administration of a benefit for individuals.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ASC-03	Adults	Reduction in funding for Citizen's Advice services (Core Funding, Local Assistance Scheme)	For each district's Citizen's Advice services: • End non statutory provision of Adult Social Care Core grant • Cease funding to CABs for administration and assessment of Local Assistance grants and provide alternative delivery model	25.0	444.0

C2.a.03 Proposals for the alteration and/or reduction of services provided to and on behalf of children and their families.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-11	Children's Services	Proposals related to the accommodation needs of looked after young people aged 16+	1. Ensure housing benefit claims are utilised to best effect where supported housing is being provided. 2. Challenging the throughput to 'independent living' within our supported housing model. 3. Secure 10% in year contract value reduction in supported housing commissioned services.	185.0	365.0
CAF-14a	Children's Services	Proposals for the alteration and/or reduction of early help services provided to children and their families – getset	Reduce staffing levels in the getset service in response to falling number of level 2 referrals and by increasing caseload targets across the service.	327.1	1,685.8

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-20	Children's Services	Re-modelling of support to Young Carers	Approval to proceed with the redesign of the whole young carers service (incorporate Statutory Duties into other statutory children and adult services), working with the Voluntary and Community Sector to deliver Young Carers respite/participation elements	0	242.9
CAF-21	Children's Services	Proposals for the alteration of Youth Service	Approval to proceed with implementation of the proposed option to cease the provision of support, resources and training to voluntary youth organisations, and to close the existing grant schemes; but to maintain the Duke of Edinburgh Award scheme and the Youth Equipment Store.	0	239.0

C2.a.04 Proposals for the alteration and/or reduction of services to support vulnerable pupils.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-05	Children's Services	Reserve contribution for project work related to the SEND Independent Placements	The Schools Forum agreed on 11th July 2018 to fund 2 posts as an invest to save opportunity to reduce the costs of independent SEND placements.	75.0	-33.0

C2.a.05 Proposals for alteration and/or reduction of support arrangements for the democratic process and for elected members.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
DS-01a	Corporate Centre	Democratic Services Demand Management	1) Business process re-engineering to achieve efficiencies in support of current Democratic Arrangements during 2018/19 2) ICT to put in place internal hosting arrangements for democratic software 3) Core Council Programme to take on administrative support for SLT meetings and SLT Work Programme	29.0	27.0
DS-02	Corporate Centre	Democratic Services Income Recovery & Generation	1) Seek to increase income from external partners and partnerships where SCC provides management support, 2) Recharge School Admissions and Transport Appeals 3) Recharge 50% of Cabinet Member Education and Transformation to capital receipts flexibilities	56.5	41.5

C2.a.06 Proposals for the alteration of members allowances for recommendation to Council.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
DS-01b	Corporate Centre	Democratic Services – Reductions in service levels	1) Develop a proposal for all members to make a one-off contribution equivalent to 2 days unpaid leave on the same basis as council staff 2) Chair of Council to reduce his planned spend 3) Reduce member support and member training	8.0	-2.5

C2.a.07 Proposals to alter the arrangements for, provision of, and funding solutions for the maintenance of highways, rights of way and associated infrastructure.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-02	ECI	Highways staff capitalisation	Redistribution of staff time across the capital and revenue budgets.	307.0	0
ECI-07a	ECI	Highway Lighting	Capitalisation of illuminated asset replacement budgets. Capitalisation of additional costs for unforeseen accident repairs and structural / test failures that require complete replacement in 2018/2019.	400.0	-100.0
ECI-07b	ECI	Highways winter and emergency	The proposal is to remove the provision of roadside salt supplies for self-help use by the public for the winter of 2018/19.	40.0	-40.0
ECI-07c	ECI	Capitalisation of Rights of Ways works	To capitalise £45k (approximately half) of the Area revenue works budget and £20k of the Central works budget for Rights of Way, and manage an anticipated underspend on the Town & Village Green budget of £15k for 2018/19	80.0	-15.0
ECI-07d	ECI	Highways Safety Defects	Reallocate £21,300 from revenue to capital for pedestrian guard rail replacement and reallocate £1.3k from revenue to capital for sign replacement, where the assets have reached the end of their useful life.	22.6	0
ECI-07e	ECI	Elliott Buildings	Purchase the existing Elliott Buildings for £15k in West Somerset Depot from Capital, to release £10k revenue for leasing the building only per annum	10.0	0
ECI-07f	ECI	Termination of in-year Hedge Cutting, Ditching and Ploughing budget spend	1. Terminate in-year Hedge Cutting, Ditching and Ploughing budget spend. 2. Only raise reactive orders for works for these workstreams and only if they are safety related.	62.0	-62.0
ECI-07g	ECI	Implement a reduced width grass cut across the A and B road network on the 2nd programmed visit.	Implement a 1-swathe width cut across the A and B network on the 2nd programmed visit. This will require an in-year amendment to the planned works programme.	10.0	-10.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-07h	ECI	Reduction in development of 'Confirm' software system	Postpone additional upgrades of modules / training of the Confirm system until April 2019 to include Personal Digital Assistant purchase.	10.0	-10.0
ECI-07i	ECI	Capitalisation of the existing revenue funded Ditches and Grips budget	Capitalisation of the existing and in-year revenue funded "Ditches and Grip"budget spend.	25.0	-25.0
ECI-07j	ECI	Reduction of the in-year Reactive Jetting budget	Reduction of the in-year reactive jetting budget to remove £40k from the original base budget. Through this proposal reactive maintenance of roadside drains and gullies and associated pipework will be reduced	40.0	-40.0
ECI-07l	ECI	Reduce the County Council's Precautionary Salting Network	Reduce the Somerset County Council (SCC) Precautionary Salting Network for winter 2018/19 from 23 routes to 16 routes by removing the four lowest current criteria: • Adjoining Counties Links • Major Settlement Links • Settlements above 500 feet Links • Urban/Rural School Links (Major).	120.0	0
ECI-07m	ECI	Highway fee structure (Section171 and Section184 licences)	To align with charging structures of other regional Local Authorities, increase fees structure for: • Section 171 licences (Working on or adjacent to the highway) • Section 184 licenses (Vehicular crossings)	29.0	87.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-18	ECI	Flood and water Management	This proposal is to halt a number of activities and schemes in the 2018/19 programme (several of which were also deferred in similar circumstances in 2017/18). This includes: • Deferring flood risk management studies and options appraisals at 4 locations. • Suspend delivery of 2 schemes commissioned to Skanska through the Highways TMC at Bruton and Curry Rivel. • Suspend delivery of an Area Highways scheme for road stabilisation works adjacent to a watercourse in Taunton Deane.	80.0	-80.0

C2.a.08 Proposals for altering the financial support and arrangements for public transport and for special educational needs (SEN) transport.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-10a	Children's Services	Reduce the cost of providing transport to specialist provision	The proposal is to offset demand through robust and effective casework management, making sure children are placed in appropriate provision as close to home as possible and effectively manage parental expectation from an early stage. In addition to this SCC has adopted the use of personal transport payment (PTPs) and has 24 active PTPs which are preventing an additional £213,000 annually. These are offered to all parents of children that would otherwise have to be transported individually in a taxi.	63.0	0
ECI-09	ECI	Reduction in subsidy for Demand Responsive transport (Slinky)	To reduce the level of concessionary fare provided to passengers in receipt of a valid English National Concessionary card who use the Slinky demand responsive service from 100% to 50%.	10.0	30.0

C2.a.09 Proposals to alter the funding arrangements and service level for road safety.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-13a	ECI	Reduce Road Safety budget: in-year saving	To reduce the traffic management and road safety revenue budget by £50,000 in 2018/19	50.0	0

C2.a.10 Proposals to alter the provision of park and ride services in the Taunton area.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-10	ECI	Suspend Taunton Park & Ride service for a period of time	Suspend the Taunton Park & Ride service from the Gateway and Silk Mills sites to Taunton town centre and Musgrove Park Hospital until finances allow for reinstatement.	70.0	100.0

C2.a.11 Staffing related savings.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ASC-10	Adults	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.	78.0	0
CAF-12	Children's Services	Early Years Staffing Restructure	Integration of Early Years Commissioning Team and SSE Early Years Improvement Team	0	80.0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-17	Children's Services	Youth Offending Team Vacancy	Deletion of a vacant post in the Youth Offending Team	20.0	12.0
CAF-18	Children's Services	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.	200.0	0
C&C-01	Corporate Centre	Use external income to fund Communications Team post	Use additional one-off income for communications activity to fund existing posts within the Communications Team structure for 18/19 only.	38.0	-38.0
C&P-01	Corporate Centre	Commercial & Procurement Restructure	Remove a number of posts from the Commercial & Procurement structure	75.6	324.4
Corp-01	Corporate Centre	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.	90.8	0
ICT-01	Corporate Centre	ICT Resources	Review resource requirements within parts of the service including permanent and contract posts and reduce the service desk offering to minimum service levels. To realise these changes some existing contracted staff will be ceased and or re-deployed and some services may be provisioned from a third party.	59.1	129.6

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
Leg-01	Corporate Centre	Legal Services Workforce	a) To remove 1 vacant post from the Legal Services structure. b) To review workload within the team with a view to remove an additional post. c) Review research publications/tools, cutting where possible, certainly cutting one of the encyclopaedias for children law. If research tools are cut too far, there is a risk that inaccurate advice would be given to the Council, so this will need to be managed carefully.	17.4	27.9
ECI-06	ECI	Compulsory Unpaid Leave	Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.	85.0	0
ECI-07k	ECI	Highways Staff: Continuing to hold/delete vacant posts	Savings will be made by continuing to hold/delete vacant Highways posts in ECI Operation.	87.6	-75.1
ECI-17	ECI	Restructuring in community infrastructure commissioning	This proposal constitutes restructuring in Community Infrastructure Commissioning: Savings will be achieved through restructuring and deletion of posts.	62.0	72.0
ECI-20a	ECI	Libraries Service Redesign – additional use of capital receipts flexibilities	This proposal is to deliver an in-year saving through further transformation costs being funded through capital receipts in 2018/19 (in addition to assumptions already being factored into the corporate budget monitoring position).	65.0	-65.0
ECI-22	ECI	Recharging time to capital projects	This proposal would see a new approach with appropriate staff time and travel being recorded against the capital projects to which it relates, to ensure that every opportunity to capitalise costs is taken up.	20.0	0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-24	ECI	Hold Corporate Surveyor vacancy for two months	To delay recruitment to the soon to be vacant Corporate Surveyor post for two months.	3.0	-3.0
ECI-29	ECI	Deferral of professional training	Defer planned professional training until 2019/20.	5.0	-5.0

C2.a.12 Items to be noted as part of budget monitoring.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ASC-01	Adults	Discovery	The planned use of an element of the Better Care Fund in 2018/19 to support the Discovery Learning Disability Contract. This is in line with the year 2 contract profile. Additional savings will be generated, mainly in 2019/20, through the removal of an element of the current Crisis Service (Oak House) and a reduction in the short breaks service.	3,394.1	750.0
ASC-09	Adults	MH Dementia Day-care	Recommission Dementia Day Care services to meet changes in legislation and need since originally commissioned 15 years ago - current contract ends end of Jan 2019	56.0	0
Corp-02	Corporate Centre	Reduce contributions to reserves	To reduce the budgeted contribution to reserves in 2018/19.	1,900.0	-1,900.0
Corp-03	Corporate Centre	Slippage of capital spend activity funded from borrowing	To reflect the slippage in capital schemes that are to be funded through borrowing.	296.0	0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ICT-03	Corporate Centre	ICT Resource Capitalisation	Proposal is to increase the value of staff costs recharged to the ICT capital allocation (CIP) for 18/19. This will include staff recharge for all asset based projects during 18/19.	130.0	0
ECI-01	ECI	Libraries stock	Changes to the way Libraries manage Stock as an Asset during this year, will reduce the level of overspend from £154k to £0.	154.0	-154.0
ECI-25	ECI	Increase capital receipts target for 2018/19	To increase the capital receipts target for 2018/19 by an additional £1million with a view to reducing pressure on revenue budgets in the short term. Capital receipts produced through these additional disposals will be utilised to fund transformational expenditure across the authority in line with the directive from government on the use of capital receipt flexibilities.	1,000.0	-1,000.0

C2.a.13 Proposals to alter provision of corporate support services and / or reduce corporate overheads.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
HR-01	Corporate Centre	Pathway to Employment budget	The proposal is to realise an in-year underspend on the Pathways to Employment budget by ensuring no further commitments are made.	93.0	-93.0
HR-02	Corporate Centre	Staff Awards	Not to hold the staff award this year resulting in an in year underspend of £5k	5.0	-5.0
ICT-02	Corporate Centre	ICT Contracts and Services	- Ceasing a number of small ICT Contracts - Reducing licence count on an ICT contract - Deferring the implementation of enhanced email security	129.4	0

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
Leg-02	Corporate Centre	Increasing Legal services productivity by delivering the service to Children's Services in a different way	a) No physical attendance at Children's Social Care (CSC) area threshold meetings b) No physical attendance at Public Law Outline (PLO/pre-proceedings) meetings and advocates meetings	16.8	12.0
ECI-15	ECI	Commissioning Development staff: capitalisation to support forthcoming transformation work	Capitalise (using capital receipt flexibilities) the Commissioning Development team posts from the SCC EC&I structure to undertake essential forthcoming transformation work.	25.0	78.0
ECI-23	ECI	Reduce frequency and extent of County Hall grounds maintenance	To reduce the frequency and extent of grounds maintenance works on the County Hall site, for example, grass cutting to be undertaken at longer intervals.	3.0	0
ECI-27	ECI	Controls on Building Repairs and Maintenance spending	Impose controls so that only those building repairs and maintenance tasks which carry an immediate and genuine health and safety risk will be approved.	70.0	90.0
ECI-31	ECI	Marketing Facilities	1. Raise additional income through the marketing of Registration and Scientific Services 2. Reduce the size of the Scientific Services fleet	2.0	8.4

C2.a.14 Proposals to secure additional funding and / or recover costs.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-07	Children's Services	Troubled Families Funding	To increase income from Somerset's allocated Troubled Families Grant.	239.0	-115.0
CAF-09	Children's Services	Income Recharging for External Secondment	To recharge costs for a member of staff currently seconded to another local authority.	36.0	-36.0
ICT-04	Corporate Centre	ICT Traded Services Review	Reduce overheads by using resource flexibly with reactive support. Release a contractor in reactive support. Review viability by December 2018	45.0	0
ECI-11	ECI	Increasing the level of income generated by the in-house fleet through better utilisation of existing vehicles	This proposal will increase the level of income generated by the in-house fleet through better utilisation of existing vehicles.	50.0	50.0
ECI-26	ECI	Income Generation through use of the Gateway Park & Ride site by EDF to facilitate a Park & Ride service to Hinkley Point	We have been approached by Somerset Passenger Solutions (SPS) as they would like to rent a number of surplus parking spaces to enable workers at EDF to access employment on the Hinkley site. Further income generation proposals are also being explored.	35.0	108.0
ECI-28	ECI	Recharge on Broughton Hse NNDR	This proposal is simply about removing a project contingency and taking the risk of unforeseen project delays and costs.	5.0	-5.0
ECI-32	ECI	Review of Discretionary (Ceremony) Fees	Review non-statutory fees (last reviewed in 2014) to ensure they continue to cover the costs of the services provided.	1.0	19.0

Proposal for Change:

ASC-02 Extra Care Housing De-Commissioning

Reference:	ASC-02
Service Area:	Adult Social Care
Director:	Stephen Chandler
Strategic Manager	Steve Veevers
SAP Node	
Required	Decision to be taken to proceed

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
x	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Decommissioning of three or more Extra Care Schemes to general needs housing

Extra Care Housing is provision of accommodation-based care and support to people, allowing them to live independently. Effectively, it is having 24 hour carers based in a building, being on hand to respond to emergencies, planned care or provide group activities.

Somerset County Council currently fund background, night and management staffing (Core) in 22 extra care schemes across the county, most are well utilised but some have lower levels of care delivered in the schemes. A proportion of these are at a level where the investment in "core" does not represent value for money or provide a reduction in the "paid for" care to people.

The council's information systems and recording on care delivery in Extra Care have been instrumental in the development of this proposal that has looked at the usage and provided an update of both assessed care (that which people are eligible to receive following a social care assessment) and core staffing (which may be preventing them needing further care or helping people stay independent).

The proposal would not mean that people need to move from their home, as the property will remain, but the proposal is to remove the core care component of the Extra Care Scheme where it is not currently value for money.

The levels of investment vary by scheme and it is expected that the three schemes for de-commissioning will be £297k. However, the local authority receives client contribution income of approx. £63k per annum which will be lost, making a net saving of approx. £234k per annum.

For clarity, the schemes will not close, but it is expected that they would continue as either general needs housing suitable for older people or specialist "sheltered housing".

2a. Confidence level

100 *%*

Explanation:

Initial conversations "in principal" have already occurred with housing providers and care providers and commissioners are confident that the closure of three or more of the poorest performing ECH schemes would be possible to achieve.

The loss of schemes would not adversely affect the provision of specialist housing in Somerset and it is considered that demand for the services warrant this correction of this type of accommodation.

3. Impact on residents, businesses and other organisations:

Those people living in schemes that are identified for decommissioning will have a loss of the 24 hour care and support provision. Specifically, these schemes have been chosen as they have no use of the night support and little use of the background staffing. Replacing with a provision of home care, as if people were living in general needs housing, will continue to meet any assessed needs under the care act.

Providers who are providing the care under contract will suffer a loss of income and a change to the provision. This may impact on their staffing negatively, for example needing to make redundancies / redeployment of staff that were previously delivering this service. This may need to be taken into account for one off costs out of any saving proposals.

Landlords providing the housing should not be directly impacted, but as specialist Residential Social Landlords (RSL's) they will have social responsibilities to providing specialist accommodation. There may well be a reputational impact on these landlords, although some have already agreed in principal to changes set out.

Further information on impacts can be found in section 10.

4. Impact on other services we provide:

This proposal may have a minor impact on other services Specifically if the current Extra Care Provider, when given notice, opts to not provide the assessed domiciliary / home care to people, then other providers will have to be found.

No other impact on other services is expected.

5. Impact on staff:

No impact on staff is expected.

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:
As part of the de-commissioning of these schemes there may be a requirement of Social Worker resource to complete reviews of the people currently supported. There will need to be a light touch consultation, for each of the schemes regarding the changes that are being proposed. Support from business change and the programme office for some of the communication and response coordination is required. Support is also required from Commercial &Procurement and Legal for the contractual changes to the care and support contract, as well as ad hoc. legal advice on issues relating to service level agreements, tenancies etc.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Communication to providers / users impacted	Sept 18
Engagement with providers/users	Oct 18
Implementation plan agreed	Oct 18
In year savings to commence	*Nov 18*

8. Risks and opportunities:
Individual service users will need reviews to ensure continuity of care

9. Dependencies:
• Contract with care provider • Grant agreements with landlords

10. Initial Equality Impact Assessment:

11. Consultation and Communications plan:
Whilst formal consultation is not required SCC will undertake an assessment for any service users impacted.

12. Legal Implications:
No statutory duty to provide service, changes to be addressed through contractual and grant changes.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£97.5k*	*£*	*-£*	*£97.5k*	
2019/20	*£234k*	*£*	*-£*	*£234k*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£331.5k*	*£*	*-£*	*£331.5k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£

	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V1.1**	**Date Completed**	**22.08.2018**

Description of what is being impact assessed

ASC-02
Decommissioning of three or more Extra Care Schemes to general needs housing

Extra Care Housing is provision of accommodation-based care and support to people, allowing them to live independently. Effectively, it is having 24 hour carers based in a building, being on hand to respond to emergencies, planned care or provide group activities.

Effective use of the service would mean that people who reside in the schemes have a need for the care, which is not the case in some cases.

The council's information systems and recording on care delivery in Extra Care have been instrumental in the development of this proposal that has looked at the usage and update of both assessed care (that which people are eligible to receive following a social care assessment) and core staffing (which may be preventing them needing further care or helping people stay independent)

The proposal would not mean that people need to move from their home, as the property will remain, but the proposal it to remove the core care component of the Extra Care Scheme.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/or area profiles,, should be detailed here

This information in care delivery reports,would indicate that in the identified schemes (referred to as Scheme A, B and C) there is no or very low uptake on the provided "core" care, meaning that there would be little or no impact on the people living in these schemes of removing the core care. People will still be able to receive any care act eligible care or support that they require from a domiciliary care company for their assessed care as with any other person living in general housing (either rented, owned or from social landlords)

Scheme A - capacity for 29 people, currently delivering 0.00 assessed care hours per week
Scheme B – capacity for 23 people, currently delivering 35.75 assessed care hours per week
Scheme C – capacity for 23 people, currently delivering 38.25 assessed care hours per week

All of the 22 schemes have a higher perportion of women to men, due to the age component

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

The residents of the three identified schemes will be consulted with on a 28 day basis following the decision to remove these schemes.
This will be conducted alongside the care and support provider, and landlord to ensure that a range of views are captured.

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• There will be a reduction in the number of specialist housing options for OLDER people with the removal of three or more extra care schemes • People who wish or need to access extra care may need to move further from their current home.	☒	☐	☐
Disability	• There will be a reduction in the number of specialist housing options for DISABLED people with the removal of three or more extra care schemes • People who wish or need to access extra care may need to move further from their current home.	☒	☐	☐
Gender reassignment	• A All people have equal opportunity to access the remaining Extra Care	☐	☒	☐
Marriage and civil partnership	• All people have equal opportunity to access the remaining Extra Care	☐	☒	☐

Pregnancy and maternity	• Not an affected group	☐	☐	☐
Race and ethnicity	• All people have equal opportunity to access the remaining Extra Care	☐	☒	☐

Religion or belief	• All people have equal opportunity to access the remaining Extra Care	☐	☒	☐
Sex	• A higher proportion of women than men live in extra care, currently at a proportion of 64% to 36%. This means that women may be impacted more than men.	☒	☐	☐
Sexual orientation	• All people have equal opportunity to access the remaining Extra Care	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• With the removal of 24 hour care in extra care schemes, people may experience greater social isolation.	☒	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Monitoring of numbers / demand for extra care	31/12/2018	Vicky Chipchase	Allocation meetings	☐
Development of more modern, cost effective extra care to replace this and other losses. The reason for the long timescale on this action is due to the time it will take to raise funding, identify a site and housing partner and then physically build new extra care schemes.	01/04/2020	Steve Veevers	Extra Care development plan	☐

With the loss of on site care providers, people may experience a reduction in the contact with other people, but Somerset is promoting the use of the “community connect” model, of supporting people to be more active and participative in their local areas.	30/09/2018	Pip Cannons	Community Connect data	☒
reviewing individual plans of those potentially affected by the changes.	01/10/2018	Vicky Chipchase	Monthly reviews	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
If negative impacts remain, please provide an explanation below.				

The demography of the older population nationally, regionally and locally evidences that women live longer than their male counterparts, meaning that there is a larger older person population that men. This means that there is likely to always be a larger ECH cohort of women than men and therefore likely to be disproportionally impacted by any changes.

Completed by:	**Steve Veevers**
Date	**22/08/2018**
Signed off by:	**Stephen Chandler**
Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Steve Veevers**
Review date:	**March 2019**

Proposal for Change:

ASC-05 Home Improvement Agency

Reference:	ASC-05
Service Area:	Adult Social Care
Director:	Stephen Chandler
Strategic Manager	Steve Veevers
SAP Node	
Request	Decision to be taken.

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Removal of the non-statutory elements of the Home Improvement Agency.

The countywide Home Improvement Agency (HIA) was established in 2010 and retendered in August 2015 and awarded to Asterliving. The service is jointly commissioned by Somerset County Council, West Somerset Council, Taunton Deane Borough Council, Sedgemoor District Council and Mendip District Council with Somerset County Council as the lead authority.

The purpose of the HIA service is to help those Individuals in need of housing and environmental related support through promoting their independence, health and wellbeing in their chosen home. This includes contributing to a whole system enablement approach by building on recovery potential, optimising independence and contributing to the aim of avoiding more costly care and support interventions. This in turn enables access to independence activities and avoiding unnecessary hospital admissions. The service was built on the greater emphasis for integration in health, social care, education and housing-related support as advocated through the Better Care Fund (BCF), The Care Act 2014 and The Children and Families Act 2014 whilst supporting the financial challenges faced through rising demand.

The services currently provided by the HIA include:

- A Handyperson service
- A Home from Hospital Service – this includes provide support to the vulnerable when they come out from hospital to assist with any housing related issues upon arriving home.
- Major Adaptation (DFG and private) service
- Minor building works
- Information and Advice on all housing related services including housing options.
- Low level mobility equipment purchase offer
- Contribution to the delivery of an Information and Advice Drop In service (IAC)

This proposal is to remove the Handyperson, Home from Hospital, Information and Advice, Low Level retail offer from the current contract, as they are non-statutory services and it is felt that most are duplicated through community services such as community connect, volunteers, Homefirst or replaceable within the current health and care system.

The loss of these elements, will impact on the people who incidentally access them or might have done in the future. The largest impacted group would be those who access the HandyPerson service for low cost repairs or improvements to their home.

2a. Confidence level

Adult Social Care are confident that the proposal for the removal of the “handyperson service” can be achieved.

100 *%*

Explanation:

This proposal is to remove the Handyperson, Home from Hospital, Information and Advice, Low Level retail offer from the current contract, as they are non-statutory services, the majority of which are duplicated through community services such as community connect, volunteers, Homefirst or replaceable within the current health and care system.

3. Impact on residents, businesses and other organisations:

•Impact on organisation delivering service (Somerset West housing partnership)

•Impact on those accessing these services, eg advice & support, Home from Hospital and Handyperson Service. Mitigation to offset impacts is set out in the Equality Impact Assessment.

4. Impact on other services we provide:

With the removal of this service, there may be an increase in the uptake of statutory service, for example; Disabled Facilities Grants, Minor Works or Occupational Therapy assessments.

There is a possibility that with the removal of the very low level input services, people’s general household environment could deteriorate, therefore affecting mobility and falling into a need for statutory support either through homecare or moves to alternative settings.

To mitigate the above it is proposed that the current resources within the remainder of the Home Improvement Agency will be used to help direct people to alternative low or no cost solutions.

Included in this is the provision of where people are eligible for statutory services, e.g. minor works or Disabled Facilities Grants, ensuring this are use

5.	Impact on staff:

No SCC staff are impacted by this proposal.

The number of FTE that might be lost is: 0

The number of posts that might be lost is: 0

6.	Resources and support needed to make the change:

Support is required from Commercial & Procurement and Legal for the contractual changes to the care and support contract, as well as ad hoc. legal advice on issues relating to service level agreements, tenancies etc.

7.	Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Removal of the non-statutory services from the HIA service		30/09/2018

8.	Risks and opportunities:

- Compound effect further down the line, could potentially lead to increase in demand for SCC statutory services.
- The predominant user of the HandyPerson service is on a low income, so there may be a compounded impact, due to other losses of services.
- Impact on beneficiaries will not be acute as proposal would be to deliver a "check-a-trade" signposting to low cost traders or handyperson micro providers.

9.	Dependencies:

None.

10. Initial Equality Impact Assessment:

11. Consultation and Communications plan:

Upon advice from the Consultation Manager it was agreed that there would be no requirement for consultation.

12. Legal Implications:

There is no statutory duty to provide this service.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes/No]
If no, when is evidence expected?	[Enter date]
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£80k*	*£*	*-£*	*£80k*	
2019/20	*£175k*	*£*	*-£*	*£175k*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£255k*	*£*	*-£*	*£255k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment			
Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer			
Organisation prepared for	**Somerset County Council**		
Version	**V1.1**	**Date Completed**	**22.08.2018**
Description of what is being impact assessed			

ASC-05
Removal of the non-statutory elements of the Home Improvement Agency.

The countywide Home Improvement Agency (HIA) was established in 2010 and retendered in August 2015 and awarded to Asterliving. The service is jointly commissioned by Somerset County Council, West Somerset Council, Taunton Deane Borough Council, Sedgemoor District Council and Mendip District Council with Somerset County Council as the lead authority.

The purpose of the HIA service is to help those Individuals in need of housing and environmental related support through promoting their independence, health and wellbeing in their chosen home. This includes contributing to a whole system enablement approach by building on recovery potential, optimising independence and contributing to the aim of avoiding more costly care and support interventions. This in turn enables access to independence activities and avoiding unnecessary hospital admissions. The service was built on the greater emphasis for integration in health, social care, education and housing-related support as advocated through the Better Care Fund (BCF), The Care Act 2014 and The Children and Families Act 2014 whilst supporting the financial challenges faced through rising demand.

The services currently provided by the HIA include:

- A Handyperson serice
- A Home from Hospital Service – this includes provide support to the vulnerable when they come out from hospital to help them with anything housing related issues upon arriving home.
- Major Adaptation (DFG and private) service
- Minor building works
- Information and Advice on all housing related services including housing options.
- Low level mobility equipment purchase offer
- Contribution to the delivery of an Information and Advice Drop In service (IAC)

This proposal is to remove the Handyperson, Home from Hospital, Information and Advice, Low Level retail offer from the current contract, as they are non-statutory services and it is felt that most are duplicated through community services such as community connect, volunteers, homefirst or replaceable within the current health and care system.

The loss of these elements, will impact on the people who incidentally access them or might have done in the future. The largest impacted group would be those who access the HandyPerson service for low cost repairs or improvements to their home.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

Commissioners have used the data sets supplied as part of the contractual management of the Home Improvement Agency, which includes individual client information and trend data.

Community profiles have been considered previously as a part of the planning for the service and each macro and micro area has different impact on protected groups, specifically around demography, rurality and area of deprivation.

Demand for service

There is a need for sustainable services that support Individuals to maintain their wellbeing. Somerset has a population of approximately 545,390 people (2015). This is a primarily rural population with approximately one in four of the population living in one of Somerset's three largest towns – Taunton, Yeovil or Bridgwater. An estimated 125,000 people aged 65 or older live in Somerset (2014 Mid-Year Estimates) and the number of people aged 75 or more is projected to double in the next two decades. Just under 100,000 people in Somerset (18.8% of the population) are reported to have a long-term condition or disability which limits their day-to-day activities.

Almost 41,000 of them were aged 16-64 (12.7% of that age group in Somerset). The demand for social housing currently stands at 18,991 people on the Homefinder Somerset Social Housing register at 31st March 2016. Further details can be found in the Joint Strategic Needs Assessment

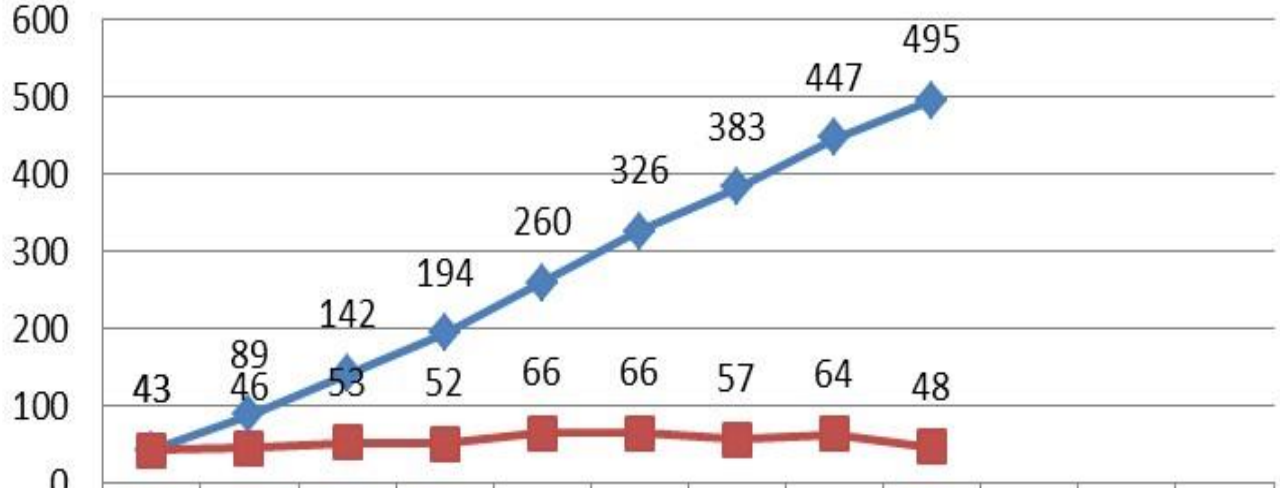
http://www.somersetintelligence.org.uk/jsna/

Service provided	Eligibility	Demand

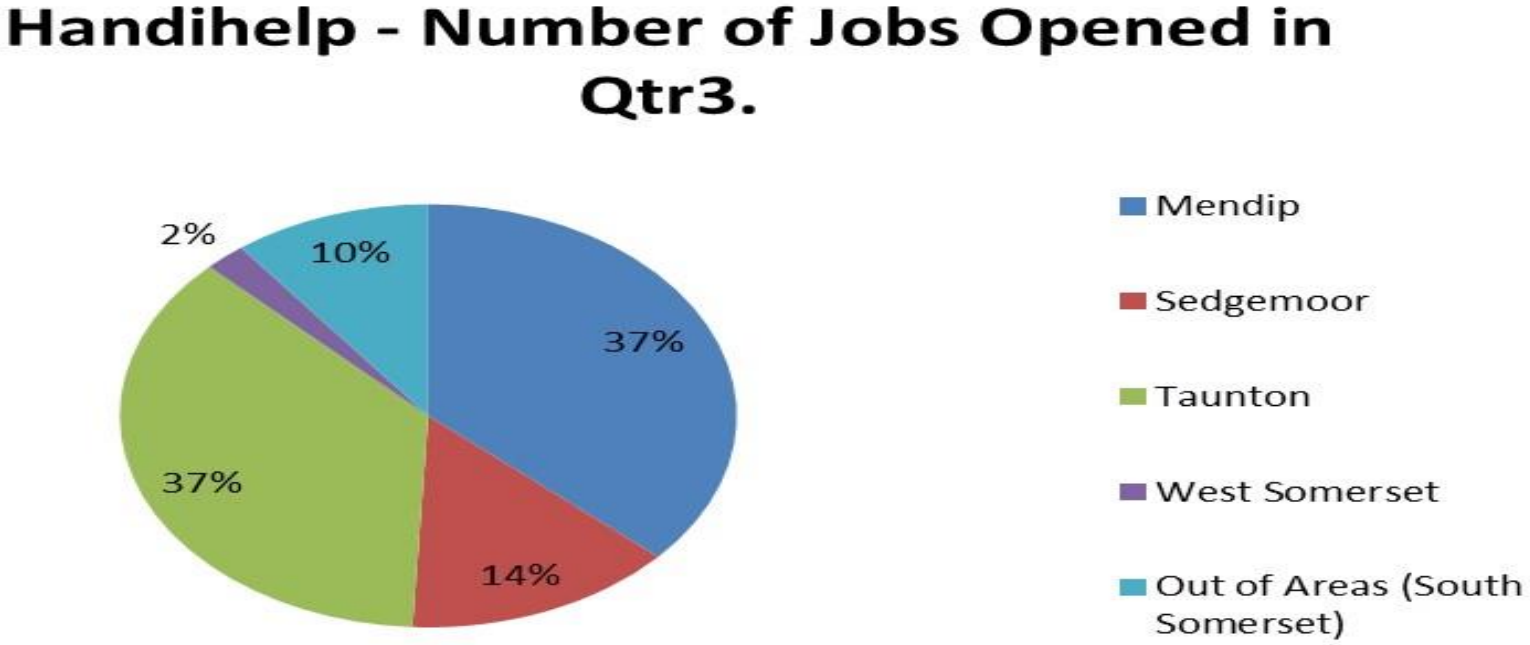
Information and Advice	A universal service available in all districts.	Somerset population
Retail offer of simple aids and equipment	A universal service available in all districts.	Somerset population
Handyperson service	Service available in all districts and to all tenures. There is a subsidised rate for households on qualifying means tested benefits (except South Somerset).	Somerset population
Project management of a minor adaptation for people living with a disability.	Targeted services in all districts. Access through OT recommendation and housing assessment.	100,000 people (18.8% of the Somerset population)
Project management of a major adaptation for people living with a disability (DFG)	Targeted services in all districts (not South Somerset). Access through OT recommendation and housing assessment.	100,000 people (18.8% of the Somerset population)
Project management of self-funded repairs and adaptations.	A universal service available in all districts.	100,000 people (18.8% of the Somerset population)
Home from hospital	A universal service available in all districts.	700 (figure based on the activity of Asterliving and Red Cross hospital discharge service)

Below is the last complete data for access to the handyperson service and geographical area of referral sources

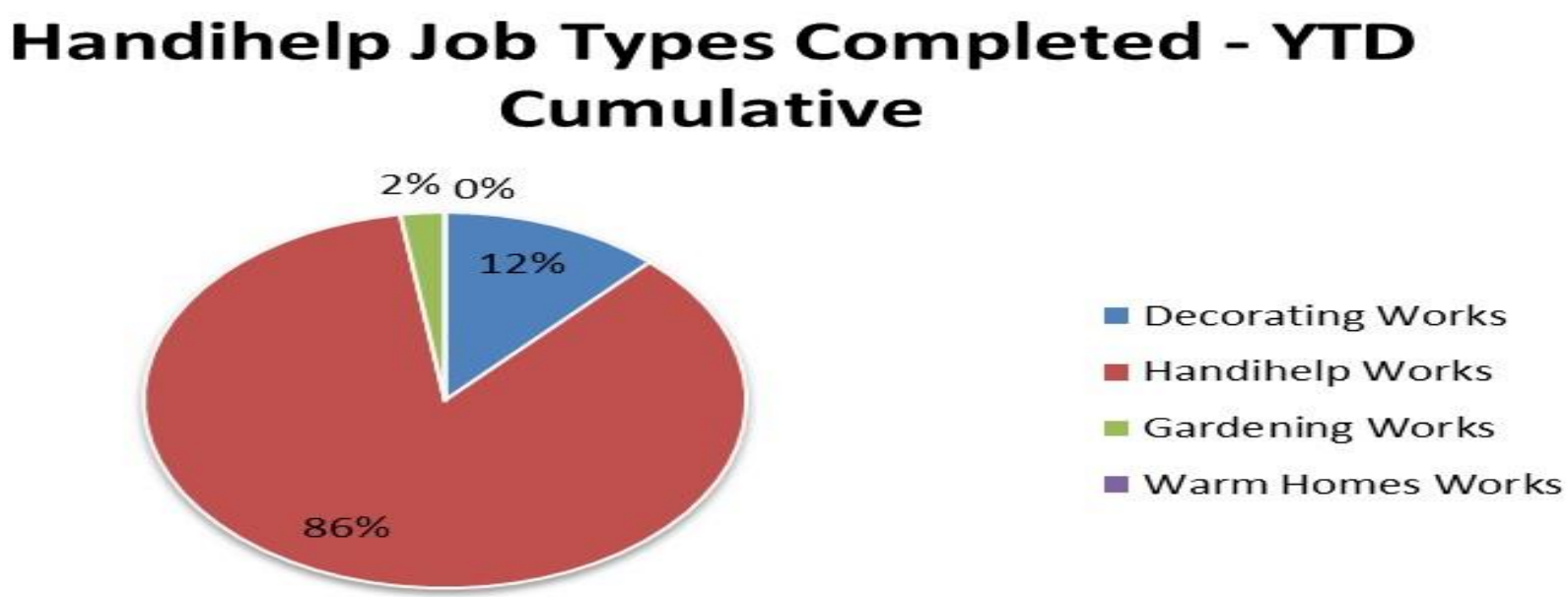
Handihelp - Year to date, Jobs Completed



	April	May	June	July	August	September	October	November	December	January	February	March
Jobs Completed YTD	43	89	142	194	260	326	383	447	495			
Jobs Completed Monthly	43	46	53	52	66	66	57	64	48			



The largest proportion of Handihelp works are centred on general household maintenance showing both decorating and gardening works as a “cosmetic” nice to have requirement compared to as a general “need” and state of repair works. Handy person did not carry out any warm home work during the 2017/18 period.



Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

Discussions have taken place with the organisation currently providing the service and other stakeholder, an alternative delivery of the model is felt to be possible and achievable that will minimise the impact on people who may access the service.

However, due to the transitory nature of the Handy Person service, i.e. data suggest that the people that historically accessed the service have done so on a “one-off” basis, there is not an easy group to consult with. The projection data above gives an indication of the number of people that might access the service (circa 45 – 55 per month) and would be impacted on the loss. Therefore, it has not been possible to have these discussions.

Residential social landlords and district and borough councils are also going to be consulted as part of this proposal.

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• Older people are likely to be impacted by the loss of the services, especially the handy person as the majority (83%) of referrals into this service are from people over the age of 65.	☒	☐	☐
Disability	• Disabled people or those with a physical impairment that does not reach the threshold for being classified as a disability are also likely to be impacted as these service provide low cost trade, advice, support services to those with mobility difficulties or disabilities.	☒	☐	☐
Gender reassignment	• This is not a specifically impacted group	☐	☒	☐
Marriage and civil partnership	• This is not a specifically impacted group	☐	☒	☐

Pregnancy and maternity	• This is not a specifically impacted group	☐	☒	☐
Race and ethnicity	• This is not a specifically impacted group	☐	☒	☐
Religion or belief	• This is not a specifically impacted group	☐	☒	☐
Sex	• This is not a specifically impacted group	☐	☒	☐
Sexual orientation	• This is not a specifically impacted group	☐	☒	☐
Other; low income, rurality & carers	• The handyperson person offers a subsidised rate for a tradesperson to complete small jobs around the home, making it easier for people to remain independent in their own homes. This means that it may impact on those people on low incomes who have limited alternative avenues. • This service also provides a county wide service, supporting the rural and urban provision across Somerset, including those in very rural areas. • The loss of this service may impact upon carers that need low cost work to their home, including their ability to continue to	☒	☐	☐

	care for their cared for person. • The other services; Home From Hospital, information and advice, low level retail offer and IAC services will also impact on the specific loss of the Home Improvement Service delivery, but mitigation is detailed in the negative impact section.			

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
It is proposed that the current resources within the remainder of the Home Improvement Agency will be used to help direct people to alternative low or no cost solutions. Included in this is the provision of where people are eligible for statutory services, e.g. minor works or Disabled Facilities Grants, ensuring this are used.	22/08/2018	Steve Veevers / Jason McKenna	Ongoing contract monitoring	☒
Somerset County Council is working with Community Catalysts to expand the offer from Micro-Providers to offer reasonable cost home repairs and handyperson work, across Somerset including rural areas.	31/10/2018	Jason McKenna / Rhys Davies	Ongoing monitoring	☐
Carers services are already readily available for carers in distress and need. These will be signposted from the remainder of the Home Improvement Agency contract for people that they come across	30/09/2018	Jason McKenna / Steve Veevers / Rachel Pringle	Ongoing contract monitoring	☐
	Select date			☐
	Select date			☐
	Select date			☐

	Select date			☐
	Select date		Negative	☐

If negative impacts remain, please provide an explanation below.
The other services; Home From Hospital, information and advice, low level retail offer and IAC services will continue in another form or with other services, for example Home First pathway one for Home from Hospital and signposting to mobility stores for low level retail offers.

Completed by:	**Steve Veevers**
Date	**22/08/2018**
Signed off by:	**Stephen Chandler**
Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Steve Veevers**
Review date:	**March 2019**

Proposal for Change:

ASC-07 Block Beds – reduction

Reference:	ASC-07
Service Area:	ASC
Director:	S Chandler
Strategic Manager	T Baverstock
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Block beds provision is the allocation of provision of beds, especially in a hospital where beds in specialist wards are a scarce resource, the bed is not just a place to sleep but also the services that go with being cared for by the medical facility.

Following the removal of a larger block contract in 2015 and then a further 15 SRC (specialist residential care) beds being removed in 2017/18 only a few remain.

To ensure the current beds are being effectively used, all block beds were reviewed for current vacancy levels, outcomes were as follows:

- Nursing 2/30 – 6%
- OPMH Nursing 1/67 – 1%
- SRC 20/208 – 9%
- Halcon PD Respite - 27% vacant nights
- General Respite beds – awaiting data

The proposal is therefore as follows;

1. Remove 10 beds from the SRC contract therefore reducing the number of beds to 198 from 208.

2. Remove 1 or 2 beds (TBC) from Halcon.

We will also look at alternatives to the current general respite bed provision with localities.

2a. Confidence level

80 %

Explanation:

Data is driving the justification for removal of beds which can be implemented by end of 2018.

3. Impact on residents, businesses and other organisations:

Some service user may find previously available accommodation or dates no longer available, e.g. Halcon delivers respite to the most complex individuals with physical disabilities and families rely on it being available to maintain their caring role and to support via specialist respite.

Removing other beds (SRC) could also mean a lack of specialist care available for those with challenging dementia needs, leading to inappropriate care or placement and moves further away from families should demand exceed current levels.

There is potential to cause friction with providers providing services elsewhere for SCC given that we have only recently made some changes in this area. It is also possible, dependent on the configuration of the changes, that it could create potential financial viability issues for some providers.

4. Impact on other services we provide:

If demand exceeded the level of supply of block beds, Adults Social Care would need to purchase on a spot basis to fulfil its statutory duty which could therefore negate some of the original savings.

5. Impact on staff:

No impact on SCC staff, however, there could be potential impact on provider staff if the service provision was reduced.

The number of FTE that might be lost is: *0*

The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:
Would require a small amount of Commercial and procurement resource to agree contractual changes required. Commissioner resource will be required to agree and negotiate changes, all resource requirements would be called on as part as business as usual and incur no additional costs.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
Endorsement at Cabinet	*12th Sept 2018*
Agree where changes will be implemented	*Sep 2018*
Officer non key decision to be taken	*October/November 2018*
Notice to be given	End of Sep 2018
Changes implemented, contractual and finance complete - commence savings be delivered.	Jan 2019

8. Risks and opportunities:
The impact on individual homes will be assessed to measure potential impacts

9. Dependencies:
N/A

10. Initial Equality Impact Assessment:

11. Consultation and Communications plan:
Following discussions with the Consultation Manager, consultation would only be required if we were to close an entire home as residents would need to be moved. Current proposal is to remove beds only so no consultation required.

12. Legal Implications:
Subject to contractual amendment and agreement with the provider - Will require a change to requirements within the contract. SCC will continue to meet its statutory duty

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£97,000*	*£*	*-£*	*£*	*Ongoing*
2019/20	*£389,000*	*£*	*-£*	*£*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£486,000*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£

	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1.0**	**Date Completed**	**17/08/18**
Description of what is being impact assessed			

ASC-07

Block beds provision is the allocation of provision of beds, especially in a hospital where beds in specialist wards are a scarce resource, the bed is not just a place to sleep but also the services that go with being cared for by the medical facility.

Following the removal of a larger block contract in 2015 and then a further 15 SRC (specialist residential care) beds being removed in 2017/18 only a few remain.

To ensure the current beds are being effectively used, all block beds were reviewed for current vacancy levels, outcomes were as follows:

- Nursing 2/30 – 6%
- OPMH Nursing 1/67 – 1%
- SRC 20/208 – 9%
- Halcon PD Respite - 27% vacant nights
- General Respite beds – awaiting data

The proposal is therefore as follows;

1. Remove 10 beds from the SRC contract therefore reducing the number of beds to 198 from 208.
2. Remove 1 or 2 beds (TBC) from Halcon.

We will also look at alternatives to the current general respite bed provision with localities.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/or area profiles,, should be detailed here

We have audited the service provision and understand the current usage needs. We are also aware of ONS and JSNA growth figures particularly for the elderly population, however we are continuing to reduce residential and nursing home usage despite a growing population and needs are being met differently and in peoples own homes.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

If any negative impacts remain we are confident that the removal of this number of beds will not affect current users of services and that our demand management will mean that it will not be detrimental to any future service users. If a statutory need arose and the new configuration was unable to meet it, then SCC would purchase additional provision on a spot basis.

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• We feel that the reduced number of beds will not impact on the assessed service needs of our elderly population **currently using the** provision as the data confirms there are currently beds available and the current provision will still be sufficient.	☐	☒	☐

	• If provision is reduced in this way, it may lead to less choice **for new users and people (and carers)** who may have to travel further from home for specialist care.			
Disability	• As above, whilst we will be able to still meet our statutory duties, this decision may affect choice of dates for respite and locations for care by reducing the availability	☒	☐	☐
Gender reassignment	• None	☐	☐	☐
Marriage and civil partnership	• None	☐	☐	☐
Pregnancy and maternity	• None	☐	☐	☐
Race and ethnicity	• None	☐	☐	☐

Religion or belief	• None	☐	☐	☐

Sex	• The care sector looks after a higher number of females due to them living longer than males. This decision is likely therefore to impact more on them.	☐	☒	☐
Sexual orientation	• The care sector looks after a higher number of females due to them living longer than males. This decision is likely therefore to impact more on them.	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Carers may have to travel further if more local options are not available following these reductions. • Carers could be at risk of not getting respite at a time and date that suits them by reducing available beds to be booked.	☒	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
We will try and make the planned reductions in areas that minimise any potential loss in particular areas and continue to maintain the spread and choice of provision as a result. Where this is not possible we would assess the individual needs of both cared for and carer to mitigate the impact.	01/01/2019	ASC Commissioner	Stats and data on placements	☐

We will monitor future placements from January 2019 to update care options if required. Reviews will happen on a monthly basis starting in February 2019.	01/02/2019	ASC Commissioner	Stats and data on placements	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

Completed by:	**Tim Baverstock**
Date	**17/08/18**
Signed off by:	**Stephen Chandler**
Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Tim Baverstock**

Review date:	**02/01/2019**

Proposal for Change:

ASC-03 Reduction in funding for Citizen's Advice services (Core Funding, Local Assistance Scheme)

Reference:	ASC-03
Service Area:	Adults Social Care
Director:	Stephen Chandler
Strategic Manager	Steve Veevers
SAP Node	
Decision required	Cabinet decision to approve

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

For each district's Citizen's Advice services:

End Adult Social Care Core Grant and Local Assistance Scheme Administration Grant and Assessment Fee

This will consist of:

- Removing 50% (£25k) from the Local Assistance Scheme budget for Assessment Fees from **October 2018/19**.
- Remove all other funds from **April 2019**:
    - 100% (£252k) of Adult Social Care Core Grant
    - 100% (£167k) of Local Assistance Scheme Administration Grant
    - Remaining 50% (£25k) of Local Assistance Scheme Assessment Fee

Reduce funding for Local Assistance Scheme purchases by 10% (saving of £12k per year) – this funding is supporting by contingencies and is therefore not part of the net change to service budget (therefore not included in section 13a)

Background

Adult Social Care Core Funding

Core funding is provided to Citizen's Advice bureaux to support their core service of providing free, confidential and independent advice, including:

- Housing advice
- Employment advice
- Money and debt advice
- Legal advice
- Health advice
- Consumer advice

Local Assistance Scheme

This is a discretionary fund. It provides financial assistance to individuals and families undergoing a short-term crisis or emergency. The scheme is available to people who can demonstrate a low income, an existing short term financial crisis, and that other sources of support have been explored and are unavailable.

The scheme is made up of 3 elements: core funding, a fee for each assessment made, and funding for purchases in line with the Council's prescribed criteria.

Public Health Funding

This proposal does not include the annual £135k grant provided to Citizen's Advice from the Public Health budget.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

This funding is discretionary and if approved can be delivered.

3. Impact on residents, businesses and other organisations:

Citizen's Advice supports some of the most vulnerable in the county, in particular:

- Older people and people with disabilities who are over represented in low income households so are more likely to be affected.
- Women who are more likely to be the adult in single parent families so are more likely to be at risk from any changes than men.
- The most significant specific group of people supported by the service are those with low incomes and therefore most potentially at risk especially where there is homelessness or a risk of homelessness.
- Residents of the most rural parts of Somerset are more likely to be affected than those in urban areas.

Nature of impact could be unavailability of advice and support provided by the bureaux or delays in provision of that advice and support.

4. Impact on other services we provide:

Services and support provided by Citizen's Advice divert potential need from health, local authority services and other public sector services, either directly or indirectly, including:

- Adult Social Care services
- Children's Services
- Police and probation services
- Health
- District councils
- Other community and voluntary sector organisations

5. Impact on staff:

There is a potential increase in workload for some staff if reduced Citizen's Advice capacity increases demand for council services increases .

The number of FTE that might be lost is: *0*
The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

Minimal Council organisational resource are required to provide these schemes.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
End in-year funding support as described in part 2.	*October 2018*
End 2019/20 funding support as described in part 2.	*April 2019*

8. Risks and opportunities:

Risks include:

- Reduced capacity of Citizen's Advice, including potential closure owing to financial unsustainability. This could lead to:
  - Unmet demand
  - Increased hardship
  - Greater levels of demand for public / community / voluntary services including statutory provision

Opportunities include:

- Potential to explore alternative methods of funding and delivery with Citizen's Advice and/or other providers.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Interdependencies with:

- Public Health (who also provide funding to Citizen's Advice for public health/health and wellbeing outcomes)
- Children's Services (households with children who would previously have been able to access Citizen's Advice services)

10. Initial Equality Impact Assessment:

The legal team advise that there are issues of legitimate expectation: extent and nature of effect on recipients, which should be understood. An Equality Impact Assessment is required.

11. Consultation and Communications plan:

Engagement to ensure Citizen's Advice are made aware of the changes in funding, and mitigation as per the Equalities Impact Assessment.

12. Legal Implications:

There is no legitimate expectation or statutory responsibility in relation to the Local Assistance Scheme.

CABS – the existing grant arrangements allows for what it proposed

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			[Yes/~~No~~]		
If no, when is evidence expected?			[Enter date]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£25k*	*£*	*-£*	*£*	*Ongoing*
2019/20	*£444k*	*£*	*-£*	*£*	*Ongoing*
2020/21	*£0*	*£*	*-£*	*£*	
Total	*£469k*	*£*	*-£*	*£*	*Ongoing*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V2**	**Date Completed**	**31 August 2018**

Description of what is being impact assessed

ASC-03

End Adult Social Care Core Grant and Local Assistance Scheme Administration Grant and Assessment Fee
This will consist of:

- Removing 50% (£25k) from the Local Assistance Scheme budget for Assessment Fees from **October 2018/19**.
- Remove all other funds from **April 2019**:
  - 100% (£252k) of Adult Social Care Core Grant
  - 100% (£167k) of Local Assistance Scheme Administration Grant
  - Remaining 50% (£25k) of Local Assistance Scheme Assessment Fee

Reduce funding for Local Assistance Scheme purchases by 10% (saving of £12k per year) – this funding is supporting by contingencies and is therefore not part of the net change to service budget (therefore not included in section 13a)

<u>Adult Social Care Core Funding</u>
Core funding is provided to Citizen's Advice bureaux to support their core service of providing free, confidential and independent advice, including:

- Housing advice
- Employment advice
- Money and debt advice
- Legal advice
- Health advice
- Consumer advice

Local Assistance Scheme

This is a discretionary fund. It provides financial assistance to individuals and families undergoing a short-term crisis or emergency. The scheme is available to people who can demonstrate a low income, an existing short term financial crisis, and that other sources of support have been explored and are unavailable.

The scheme is made up of 3 elements: core funding, a fee for each assessment made, and funding for purchases in line with the Council's prescribed criteria.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

- Regular on-going meetings with Advice Bureau managers and their Chairs.
- Close collaboration and support between the Advice Bureaux with additional information from District Councils
- Analysis of activity, spend, patterns of spend and patterns of demand.
- Data from Citizen's Advice on numbers and demography of clients, their needs, and how they were assisted.

Most common issues supported by Citizen's Advice in Somerset

Mendip (16/17 Annual Report) - approximate numbers	**Benefits and Tax Credits**	**Debt**	**Housing Advice**	**Employment Advice**	**Relationships and Family Issues**
Over 5000 clients assisted	7200	5100	1500	1200	900
South Somerset (17/18 Annual Report)	**Financial issues**	**Money Advice**	**Housing Advice**	**Consumer Issues**	**Family Issues**
5784 clients helped	8308	1194	533	351	282
Sedgemoor (17/18 Annual Report)	**Local Assistance Scheme**	**Specialist Welfare Benefit Cases**	**Money Advice**	**Wessex Water Cases**	**Specialist Housing Cases**
6889 clients assisted	797	519	220	78	58

Taunton (17/18 monitoring and outturn data)	Benefits Advice	Debt Advice	Financial Advice	Employment Advice	Relationship Advice
3345 clients	3378	1780	926	770	
West Somerset (16/17 Annual Report)	**Benefits and Tax Credits**	**Travel and Transport**	**Grants and Pastoral Support**	**Benefits and Universal Credit**	**Employment Advice**
4238 households advised	684	253	103	61	43

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

Elected Members

- Cabinet.

Citizen's Advice

- As our providers, the advice bureaux have been continually involved in the review and redevelopment of the LAS. They are on board and are closely involved in developing the funding model and providing feedback and expertise on the scheme and its future.

Partners

- District Council officer representatives.

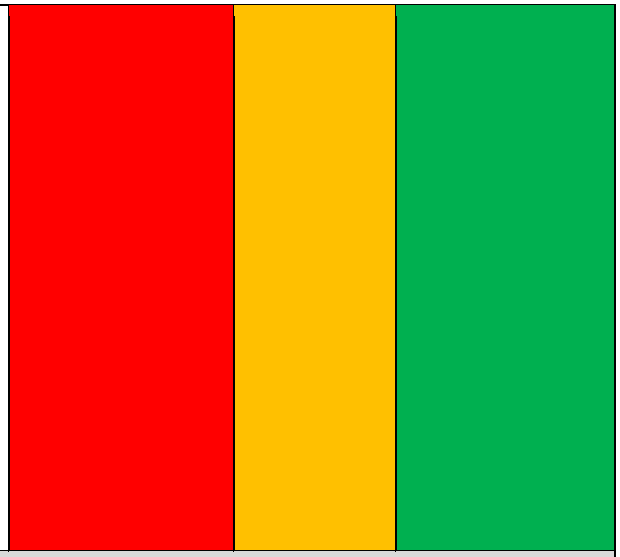
Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• Older people are over represented in low income households (see Other, below) so are more likely to be affected. Nature of impact could be lack of assessment or support provided by the bureaux, delays in provision	☒	☐	☐

	of that assessment / support, or closure on one or more bureaux. • These impacts will be minimal during 2018/19			
Disability	• Disabled people (regardless of age) are over represented in low income households (see Other, below) so are more likely to be affected. Nature of impact could be lack of assessment or support provided by the bureaux, delays in provision of that assessment / support, or closure on one or more bureaux. • These impacts will be minimal during 2018/19	☒	☐	☐
Gender reassignment	• There are no issues specific to this group	☒	☒	☐
Marriage and civil partnership	• There are no issues specific to this group	☐	☒	☐
Pregnancy and maternity	• This group, combined with being on low income has potential to be in acute financial need and therefore could be impacted by the removal of this scheme. Nature of impact could be lack of assessment or support provided by the bureaux, delays in provision of that assessment / support, or closure on one or more bureaux. • These impacts will be minimal during 2018/19	☒	☐	☐

Race and ethnicity	• This group makes up a higher proportion of Citizen's Advice clients than in district's populations as a whole. Different languages, cultures and backgrounds can require specific capabilities from organisations providing advice and support. • These impacts will be minimal during 2018/19	☒	☐	☐
Religion or belief	• There are no issues specific to this group	☐	☒	☐
Sex	• Women are more likely to be the adult in single parent families so women are more likely to be impacted than men. • These impacts will be minimal during 2018/19	☒	☐	☐
Sexual orientation	• There are no issues specific to this group however long-term migrant workers are historically more likely to be on a low income. • These impacts will be minimal during 2018/19	☒	☐	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Low Income: The most significant specific group of people supported by the service and therefore those potentially at most risk are those on low incomes, in debt or at risk of being in debt and those seeking legal advice. Nature of impact could be lack of assessment or support provided by the bureaux, delays in provision of that assessment / support, or closure on one or more bureaux. • Rurality: Residents of the most rural parts of Somerset are more likely to be affected by any changes in service provision as they may find it more difficult to access other services. • Homeless: or at risk of homelessness	☒	☐	☐

	• Mental health: Vulnerability of clients, and their response to being unable to access services and/or assessment.
	• In general: any protected group unable to access services otherwise provided by Citizen's Advice, should these proposals result in closure of one or more bureaux:
	  ○ Benefits and Tax Credits advice
	  ○ Housing advice
	  ○ Employment advice
	  ○ Money and debt advice
	  ○ Legal advice
	  ○ Relationships advice
	  ○ Consumer advice
	• These impacts will be minimal during 2018/19
				

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete

Mitigation against the negative outcomes of withdrawing the funding:
• Liaison with bureaux to:
  ○ Identify numbers of people likely to be affected, in particular in terms of protected characteristics, where and to what degree to identify alternative sources of provision,
  ○ Identify and share good practice to reduce cost and improve productivity: in general and by location and protected group
• Working with stakeholders and other providers (including Children's Social Care, Adult Social
	Under way from review
	
	To begin asap
		Adults and Health Commissioners
		
		Commissioning Development Team
		
		Advice Bureaux
			Regular monitoring of spend
			
			Feedback and data returns / annual reports from Advice Bureaux
			
			Annual review
				☐

Care, Public Health, District Councils, DWP / JobCentrePlus, health, police, probation) to identify sustainable solutions and new ways of providing support. • Monitor and review of impacts and potential responses. Regarding Local Assistance Scheme, there has already been liaison with advice bureaux through the original service review (looking at reducing overall cost rather than elimination of the scheme). Use of demographic data and that collected by Council services and Citizen's Advice to further inform planning.			Bureaux staff management	
<u>Risk of closure</u> Working with Citizen's Advice (and other providers/groups/initiatives) to identify (amongst other client groups) those with protected characteristics and how their needs can be met in other ways and with different approaches. Working with other public-sector providers (including health, District Councils) to identify alternative sources of funding Working with Citizen's Advice bureaux to identify alternative structures for Somerset's. Use of demographic data and that collected by Council services and Citizen's Advice to further inform planning.	To begin asap	Adults and Health Commissioners Partners Commissioning Development Team Advice Bureaux	Feedback and data returns / annual reports from Advice Bureaux Annual review	☐

If negative impacts remain, please provide an explanation below.	
Ending funding support could render one or more bureaux financially unviable. This would be more likely if other partners were unable or disinclined to provide additional financial / in-kind support. However, the proposals do allow a 6 month period to develop new approaches to delivery of services provided by Citizen's Advice, for example through alternative structures and/ or providers. It may also be possible for other community resources or facilities to provide some or all of these services, however these organisations and groups may require support – and time - to develop their capacity and capability.	
Completed by:	**Alastair Higton**
Date	**31 August 2018**
Signed off by:	**Stephen Chandler**
Date	**3 September 2018**
Equality Lead/Manager sign off date:	**3 September 2018**
To be reviewed by: (officer name)	**Alastair Higton**
Review date:	**3 March 2019**

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Proposal for Change:

CAF-11 Proposals related to the accommodation needs of looked after young people aged 16+

Reference:	CAF-11
Service Area:	Children's Commissioning Team
Director:	Julian Wooster
Strategic Manager	Rowina Clift-Shanley
SAP Node	EDADE

1.	The proposal is to:
x	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
x	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To deliver savings and improve practice in this area the following activities are proposed. These activities have been developed with the support of People Too. People Too have been funded by the Local Government Association (LGA) and are supporting Children's Services to undertake a financial and service review:

1. Ensure housing benefit claims are utilised to best effect where supported housing is being provided. This includes:
   - ensuring our semi-independent providers are receiving housing benefit and our placement value fees reduce accordingly
   - reviewing the potential for housing benefit claims for those 'staying put'
   - ensuring our in-house leaving care placements are receiving housing benefit at the correct rate

2. Challenging the throughput to 'independent living' within our supported housing model. This includes:
   - Consider supported housing provision for current 17 and 18 year olds with a plan to move on developed quickly for all those appropriate.

- Consider working with and utilising Adult Services experience in this area to explore alternative opportunities, the possibility of doing things differently.
- Work with District councils to 'move on' those who no longer need to live in a supported housing model.

3. Secure 10% in year contract value reduction in supported housing commissioned services.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 *%*

Explanation:

This work has been verified by independent sector experts Peopletoo; it has been modelled based on actual people and cases rather than estimates. The level of complexity and/or the willingness of the Districts to approve housing benefit are potential challenges, therefore a prudent reduction in confidence level.

3. Impact on residents, businesses and other organisations:

There are young people living in supported housing that could live independently. We will provide District Councils with weekly reports of everyone within their district who are ready to move on and able to manage their own tenancy. This action frees up spaces but also allows for the younger cohort to be appropriately accommodated and supported.

4. Impact on other services we provide:

- We will explore the use of other buildings for supported lodgings but have not classed this as a quick win. Conversations with property are scheduled.

- Finance have committed to provide a weekly review of the cost for 17 and 18 year olds and are supporting the commissioning and operations tracking – this will give visibility of savings delivered.

- Corporate Commissioning Development will support with housing benefit discussions with Districts.

- Adult Services are due to commission a complex lives service. Some young people will be eligible and may be more suitable for this service once

commissioned. In addition to this Adult Services have other services such as shared lives which we are exploring the potential of using differently.

- Business Intelligence have agreed that securing data in this area is challenging, they have been briefed and are coming back with a first attempt dashboard.

- Communications can and are helping with campaigns for supported lodgings and post 16 foster care which is a more cost-effective option.

5. Impact on staff:

No staff would be lost.

Existing staff are under immense pressure, so support from the wider organisation as listed above is essential.

The number of FTE that might be lost is: *0*

The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

See section 4, these areas can be brought together to form a working group, however, within commissioning there is very little capacity for this work currently and that is causing significant pressure.

7. Timescale to deliver and major milestones:
To include date of implementation, key decision points and governance meetings

Quick wins identified in section 4 and 6 to be progressed as soon as a decision is made.	September 2018
Full Commissioning plan (not quick wins) to be developed	*October 2018*

8. Risks and opportunities:

Opportunity

There will be an opportunity to explore the wider commissioning of post 16 provision in preparation for the end of the major supported housing contracts in December 2019.

Risk

There are pockets of resources trying to manage different types of supported housing arrangements currently and this leads to a system that is not cost effective, is not transparent and is unlikely to secure best value. A commissioning exercise should be undertaken to bring as much 16+ support together as possible, managed as a single entity and with a single view of resource eligibility and allocation. Further savings could be built into this model.
Anything carried out in 18/19 and 19/20 is tactical activity to make best use and value of what we have.

9. Dependencies:

Relationships at operational level with Districts are difficult and this requires more senior oversight from Districts where we can be clear about the bigger picture and requirements.

Consider closer working or transfer of responsibility to and with Adult services colleagues.

10. Initial Equality Impact Assessment:

We are not currently proposing changes in service, where placements change this will always be based on assessed need of a young person.

11. Consultation and Communications plan:

No

12. Legal Implications:

County Councils have the duty for support and recent Ministry and Housing, Communities and Local Government (MHCLG) guidance has clarified this.

Within our current supported housing model, we do not pay for buildings or accommodation, we pay for the support element – as is our duty.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.	
Are the savings evidenced based?	Yes
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£185,000*	*£*	*-£*	*£185,000*	*Ongoing*
2019/20	*£365,000*	*£*	*-£*	*£365,000*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£550,000*	*£*	*-£*	*£550,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£907,935

- Modelled on a 12 month assignment for a senior project manager to support Commissioners in delivering this. Oct '18 – Sept '19

Proposal for Change:

CAF-14a Proposals for the alteration and/or reduction of early help services provided to children and their families - getset

Reference:	CAF-14a
Service Area:	Children's Services
Director:	Julian Wooster
Strategic Manager	Philippa Granthier
SAP Node	

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Somerset County Council has a duty under the Children Act 2004 which requires partners to co-operate to improve the well-being of children in the county, as well as discharging the Council's functions regarding safeguarding and promoting the welfare of children.

In 2016 Somerset partners agreed a pledge for early help to be everyone's responsibility, and all adults who work with children have a role to play.

SCC has employed its own early help team, getset which delivers family support services for children and families who have additional or complex needs (level 2 and 3 of need).

Current Demand Level

Over the last 12 months the number of referrals to the level 2 service has steadily declined; from 829 children in July 2017 to 316 children in August 2018.

The referrals to the level 3 service during this period have increased from 372 children to 888 in Aug 2018.
It is worth noting that whilst there has been an increase in Level 3 there has been a corresponding decrease in Level 4 cases open to Children's Social Care, where many cases have stepped down to getset from social care intervention.

How we currently meet our Statutory Duty

- The getset service provides family support services for families with children aged 0-19 (up to 25 for children with SEND). The service operates across a district area-based approach, with four teams covering East (Mendip and South Somerset) and West (Sedgemoor, Taunton and West Somerset).

- **Level 2 service – covering additional needs offering:**
    - Individual children and family case work (the majority – 81% - being in age 0-4 age range)
    - Delivery of group parenting programmes
    - Supporting delivery of other organisations' groups and activities run from children's centre buildings and other community buildings eg Healthy Child clinics
    - Liaison and engagement with other local community groups / activities and support development of community early help offer

- **Level 3 service – covering complex needs and offering:**
    - Individual children and family case work with over 53% aged 10 years+
    - Delivery of group parenting programmes
    - Works alongside children's social care in step-up / step-down of cases

The cost of the getset service is forecast at £4,323k in 2018/19, funded by SCC core budget of £3,511k and grant income from the Troubled Families (TF) Programme of £812k. It is important to note the TF Programme, and the corresponding grant income, ends in March 2020.

In February 2018, cabinet approved that the getset service should integrate with public health nursing teams in April 2019, to form the Family Support Service, and remodel the existing children's centre building estate. Integration would enable efficiencies and savings to be made in management, administration and remove duplication of functions across the staff teams. This would have ensured there was no longer reliance on the TF grant to fund staff and accommodate national cuts to the local public health grant.

Proposed Change

In view of current demand and by increasing caseload targets across the service, it is proposed to reduce staffing levels accordingly, to within a safe minimum level.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

The savings are staffing costs which can be achieved through normal HR redeployment and redundancy processes.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

There will be minimal impact on children and families in that positive outcomes will still be achieved through the wider support of statutory agencies in Somerset.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No impact is expected

5. Impact on staff:

Savings will be achieved through restructuring and deletion of posts.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

HR support will be required for the staff reductions.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]

Staff consultation process	*August-Oct 2018*
Follow up activities following the consultation process	*Oct-Nov 2018*
Proposed staffing structure in place	*Feb 2019*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Risks will be managed to ensure that positive outcomes will still be achieved for children and families through the wider support of statutory agencies in Somerset, and implementation plans will ensure that families currently supported will receive a service offer as appropriate.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

There is a dependency with Public Health Directorate re the Family Support Service programme

There is a dependency with the Troubled Families Programme Recovery Plan although no negative impact is expected.

10. Initial Equality Impact Assessment:

The assessment is that there is a minimal impact on children and families. This is because the analysis of current referrals and caseload per worker indicates the current service can be reduced to within safe minimum levels. The proposal to reduce staffing numbers therefore brings staffing levels down to meet current demand.

11. Consultation and Communications plan:

HR consultation process from August 2018
Communications with partners will take place from September 2018

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

There are no legal implications for this proposal

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£327,094*	*£*	*-£*	*£327,094*	*Ongoing*
2019/20	*£1,685,794*	*£*	*-£*	*£1,685,794*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£2,012,888*	*£*	*-£*	*£2,012,888*	*Ongoing*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Version	**1.1**	**Date**	**August 2018**

Description of what is being impact assessed

CAF-20

The purpose of this Equalities Impact Assessment (EIA) is to highlight the possible affects for all users of the proposal to redesign the Young Carers Service which retains SCC's statutory responsibilities for the assessment of Young Carers but seeks to outsource the delivery of activity and respite for Young Carers to the Voluntary and Community Sector in Somerset (with a one-off seed funding of £30,000) which in some respects, may be better placed to offer a more sustainable (e.g. accessing external funding SCC cannot) and personalised support to our Young Carers.

The Young Carers Project is managed by Targeted Youth Support with support provided by business support.

The Friends of the Somerset Young Carers Project charity also fundraises to deliver the respite summer activity programme, contributing income of £14,393.50 in 2018-19, an average of £15,754 per year since its set up in 2013.

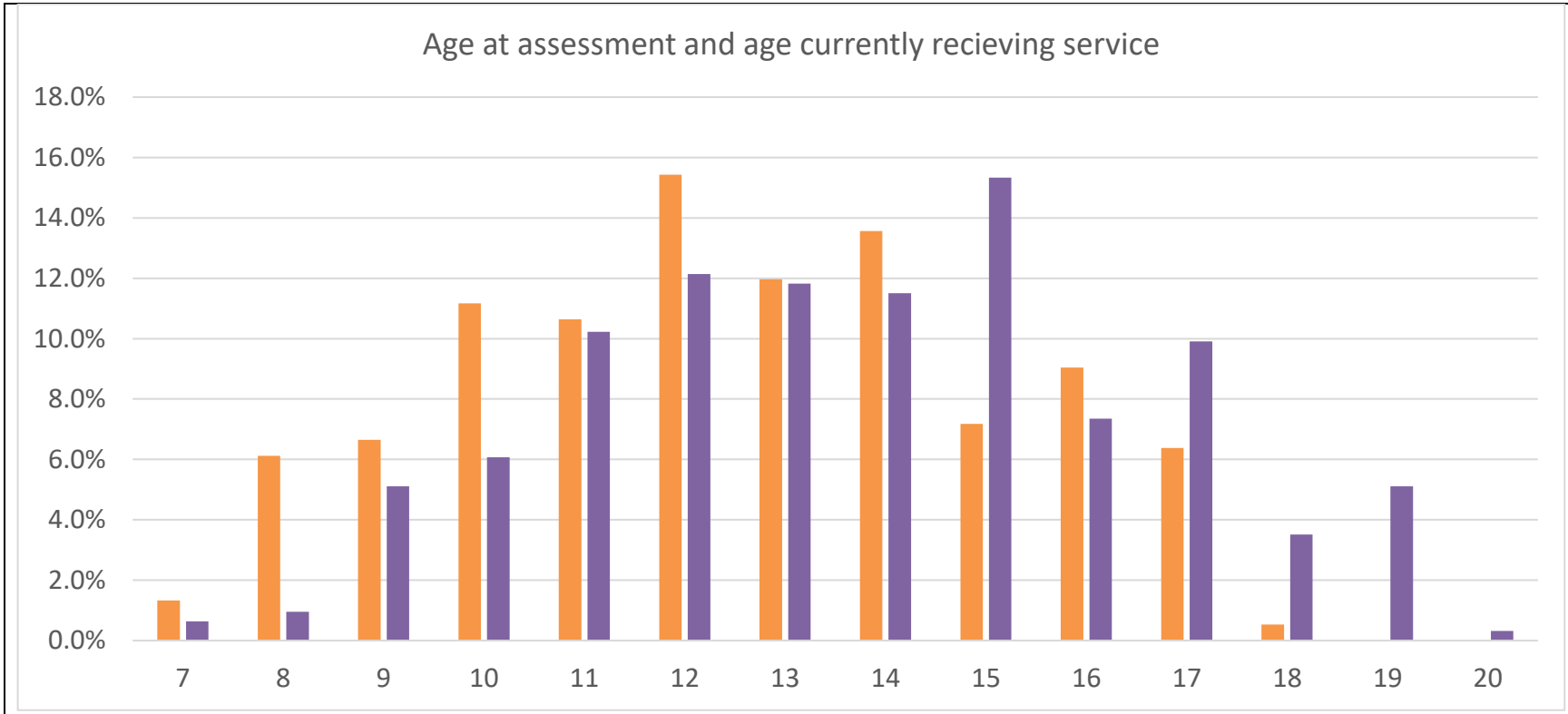
The redesign of the service will impact on the posts identified and will look to strengthen the Friends of Somerset Young Carers Project charity and/or other externally funded organisations to deliver/provide the non-statutory elements of the service currently offered.

Where possible, this EIA will outline the potential impacts of the new arrangements if implemented, may have on all users who either directly or indirectly access the service.

Where potential impacts are identified this EIA will propose ways of mitigating them, whether they are positive or otherwise.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here
It is estimated there are 1,750 Young Carers in Somerset, of which only a small number are identified, as is commonplace nationally. Young Carers are regarded as a vulnerable disadvantaged group who are heightened risk of social isolation as a result of their caring responsibilities. In the Schools Health Education Unit (SHEU) 'Somerset Children and Young People's Survey 2018' [draft report, publication embargoed until Autumn Term] 51% of primary pupils who are young carers responded that they use internet chat rooms or social networking sites 'often' or 'very often', compared with 38% of the whole Somerset sample. The survey also showed that 49% of secondary school pupils that identified as Young Carers had been bullied at or near school in the last 12 months compared to 25% of the whole school sample. Social Isolation may be compounded by failure to achieve their potential, particularly in terms of education. The Young Carers Project in Somerset works to an active caseload of approximately 150 at any point in time, with around 100 new referrals each year. As of 9 July 2018, there were 147 Young Carer cases open. 17 Young Carers currently in receipt of a service from Young Carers Project are aged over 18. The table below shows the ages of Young Carers currently accessing the service (orange) and their age at referral (purple);



Young Carers in Somerset are currently caring for parents/family members (including siblings in some cases) with a multitude of needs under the following categories;

- Physical Disability
- Mental Health
- Alcohol and Substance misuse

Currently, Young Carers supported via the Project are caring for family members with the following needs (may be more than one factor in each family);

Identified Need	Parent/grandparent	Sibling	Total

Physical Disability	104	24	**128**
Mental Health	43	15	**58**
Alcohol and Substance misuse	1		**1**
Total	**148**	**39**	

Of the 319 respondents to the SHEU 'Somerset Children and Young People's Survey 2018' [draft report, publication embargoed until Autumn Term] that identified themselves as a Young Carer, 11% also identified themselves as having a Special Educational Need and 9% as having a disability or long-term illness themselves.

In March 2017, out of 163 Young Carer households in Somerset (Troubled Families data);

- 63 households were identified as households involved in crime or antisocial behaviour (38.7%)
- 97 households were identified as households with children not attending school regularly (59.5%)
- 133 households were identified as households with worklessness or financial exclusion (81.6%)
- 26 households were identified as households with domestic violence (16%)

The SHEU 'Somerset Children and Young People's Survey 2018' [draft report, publication embargoed until Autumn Term] found 391 respondents identified themselves as a Young Carer, of which 45% also identified themselves as being eligible for Free School Meals and 18% identified themselves as coming from a single parent family.

Most parents try hard to minimise the effect of the difficulties caused by their or their child(ren)'s illness or disabilities on their (other) children, and many young carers cope well with caring, especially with the support of other family members. However, self-harm, drugs and alcohol and eating problems are known to be some of the ways Young Carers may try and deal with their difficult feelings. The SHEU 'Somerset Children and Young People's Survey 2018' [draft report, publication embargoed until Autumn Term] found only 54% of secondary pupils **who are young carers** responded that they know an adult they trust who they can talk to if they are worried about something, compared with 70% of the whole Somerset sample. 18% of secondary school pupils who were Young Carers said they were not at all happy with their life at the moment compared to 6% of the whole Somerset sample, with 48% scoring a low – medium self-esteem score compared to 29% of whole Somerset sample. 18% of Year 6 pupils who are young

carers pupils responded that they had an alcoholic drink (not just a sip) in the 7 days before the survey, compared with 7% of the whole Somerset sample. 33% of secondary pupils who are young carers responded that they had an alcoholic drink in the 7 days before the survey, compared with 18% of the whole Somerset sample. 25% of secondary pupils **who are young carers** responded that they didn't have any lunch on the day before the survey, compared with 14% of the whole Somerset sample. 15% of Year 6 pupils **who are young carers** got less than 6 hours' sleep the night before the survey, compared with 5% of the whole Somerset sample.

During previous consultations with Young Carers, regular groups for Young Carers which provide opportunities for social interaction and to discuss shared experiences and explore coping strategies were identified as the most effective way to meet their needs.

The Young Carers Project has been managed via the Targeted Youth Service since 2012, and is currently supporting approx. 150 Young Carers, the redesign proposal for the service seeks to improve the statutory offer for Young Carers around identification/referral and assessment (by bringing it into line with similar early intervention services which identify and assess needs) whilst also maintaining the effective working relationships and knowledge base of workers currently supporting Young Carers. Equally, given the financial climate, the redesign of the service seeks to make it more efficient and sustainable into the future. Moving respite and activities for Young Carers into the VCS who are potentially better places to apply for external funding and respond flexibly to the needs of Young Carers in a more personalised way.

To help make this feasible for the VCS, one-off seed funding of £30,000 funded from the wider savings of the proposal identified, would be made available. SCC has an expectation that the VCS pro-actively seeks external funding to be self-sufficient longer term.

Whilst the decision seeks to maintain the statutory functions, the importance of the non-statutory elements especially the regular support groups and Young Carer breaks are not under-estimated, the redesign seeks to maintain most if not all support provision available under the current service.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

No consultation with Young Carers, associated groups or the Young Carers Project has yet been undertaken about the proposed changes to the service. This is largely a result of the need to be careful not to unnecessarily cause anxiety or stress to those affected (including SCC staff) whilst potential changes are considered. It is considered highly likely that any change to the service will generate significant interest and be viewed negatively – it is essential that SCC clarifies its strategic position which can be

communicated clearly, prior to engaging with all groups affected. Consultation is scheduled to take place with service users between September – November 2018.

Analysis of impact on protected groups

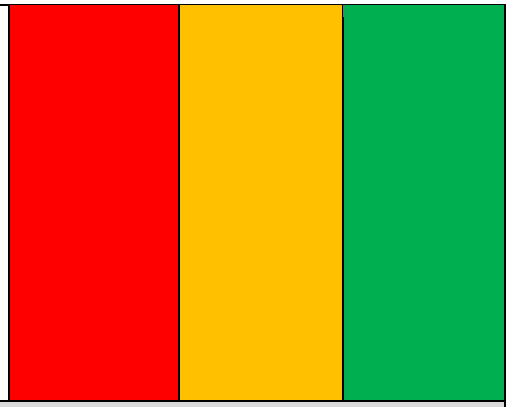
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• Young Carers currently accessing the service are between the ages of 7-25, the average age being 14. • Young Carers as children have rights, under the United Nations Convention on the Rights of a Child, to a childhood. The Young Carers service identifies and reduces the level of excessive and inappropriate care therefore increasing the chance of a Young Carer having a childhood and not having the responsibilities of an adult too soon. A reduction in the service could impact on these children and young people's access to their right to a childhood. • Young Carers as children have rights, under the United Nations Convention on the Rights of a Child, to have an education. No Young Carer open to the service has had the benefit of a 100% school attendance rate, and 45% of Young Carers open to the service are attending school less than 90% of the time, despite support from the service and reduction in inappropriate care. A reduction in the service could impact on these children and young people's access to their right to an education.	☒	☐	☐

	• Young Carers as children have rights, under the United Nations Convention on the Rights of a Child to be healthy and be protected from physical and psychological harm. The Young Carers service identifies and reduces the level of excessive and inappropriate care therefore reducing the impact on their health and wellbeing. Self-harm, drugs and alcohol and eating problems are some of the ways Young Carers may try and deal with their difficult feelings when not adequately supported. Responses to the SHEU 'Somerset Children and Young People's Survey 2018' [draft report, publication embargoed until Autumn Term] found 33% of secondary school pupils who were young carers (compared to 18% of all pupils) had an alcoholic drink in the 7 days before the survey. 26% of Young Carers (compared to 13% of all pupils) responded that they didn't have any lunch on the day before the survey. 24% of Young Carers (compared to 15% of all pupils) responded that they have tried smoking tobacco (cigarette or roll-up). A reduction in services could impact on these children and young people's access to their right to be healthy and protected from physical and psychological harm.			
Disability	• None identified	☐	☐	☐
Gender reassignment	• None identified	☐	☐	☐

Marriage and civil partnership	• None identified	☐	☐	☐
Pregnancy and maternity	• None identified	☐	☐	☐
Race and ethnicity	• Current Young Carers numbers assessed as requiring a service – 279 are White-British, 5 are Mixed – White, 4 Black Caribbean, 2 are Mixed – White & Black African, 2 are Mixed – Other White Background, 1 is White – Other European and 1 is Gypsy/Roma. The % of those who are Mixed - White & Black Caribbean and Mixed - White & Black African is a slightly higher proportion than identified in the school population. • As there is a slightly higher percentage of carers identified as mixed heritage any reduction in support will disproportionately affect this group.	☐	☐	☐
Religion or belief	• None identified	☐	☐	☐
Sex	• Current Young Carers numbers assessed as requiring a service - 125 Male, 185 Female, 3 Transgender • As more girls/young women are currently supported through the service any reduction in support will disproportionately affect this group.	☐	☐	☐

	• As 3 transgender people are supported by this service they are more likely to be in a state of uncertainty than their peers so changes to this service are more likely to have an increased impact upon them.			
Sexual orientation	• Of the 391 Young Carers who responded to the SHEU 'Somerset Children and Young People's Survey 2018' [draft report, publication embargoed until Autumn Term] 15.5% of Young Carers in Year 8 and Year 10 identified as LGBT compared to 6% of the total Year 8 and Year 10 respondents. • As 3 transgender people are supported by this service they are more likely to be in a state of uncertainty than their peers so changes to this service are more likely to have an increased impact upon them.	☐	☐	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Isolation – Young Carers are often isolated by the nature of their caring duties and the restrictions on their free time and choices. They may have less access to transport due to the families' lack of access to a vehicle/inability to drive. Therefore, for young carers affected by rurality, their ability to access services, support and social opportunities is often reduced unless transport is provided. Any reductions in transport options could reduce attendance at sessions and therefore isolate these already isolated children further as a result of their rurality at a time when we recognise they are more likely to be disconnected from their own local community due to caring responsibilities. • Armed Forces – 10% of the young people identifying as Young Carers in the SHEU 'Somerset Children and Young People's Survey 2018' [draft report, publication embargoed until Autumn Term] also identify as being connected to the armed forces. With forces families being more nuclear and separated from	☒	☐	☐

	their extended families than most, young carers in these circumstances can feel even more isolated due to their caring role and are in greater need of the support and social opportunities offered by the service. • Those cared for- It might be that the young carer can no longer provide support resulting in those requiring care going without support or having to pay for support. • Low income – those on low incomes may be affected by the ability to access additional paid support for the person cared for.	

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Ensure our partners (GPs, schools, drug and alcohol services, adult social care) support the early identification of and better signposting for young carers as per their statutory duty to alleviate any need because of any reduction in the Young Carers service. Guidance to be issued through the Somerset Safeguarding Children Board.	01/01/2019	Childrens Commissioning Team	KPIs within Somerset Safeguarding Children Board	☐
Ensure adult social care assessments identify levels of caring need to avoid inappropriate care being left to young carers.	01/01/2019	Childrens Commissioning Team	Through Adult Services Performance Monitoring Arrangements	☐
Appropriate transition arrangements to a redesigned service are managed closely and the redesign is co-produced with Young Carers and the VCS.	31/08/2019	Childrens Commissioning Team	Quarterly monitoring meetings around	☐

One-off seed funding of £30,000 funded from the wider savings of the proposal identified would be made available. SCC has an expectation that the VCS pro-actively seeks external funding to be self-sufficient longer term.			utilisation of seed funding and KPI around successful external funding bids	

If negative impacts remain, please provide an explanation below.

Completed by:	**Jesse Eveleigh**
Date	**August 2018**
Signed off by:	**Julian Wooster**
Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Jesse Eveleigh**
Review date:	**March 2019**

Proposals for the alteration and/or reduction of early help services provided to children and their families

CAF-20 Re-modelling of support to Young Carers

Reference:	CAF-20
Service Area:	Children's Services
Director:	Julian Wooster
Strategic Manager	
SAP Node	
Decision required	Approval to proceed with the redesign of the young carers service as outlined in Option E below

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Our Statutory Duty

SCC must take reasonable steps to identify young carers in their area who have support needs. All young carers under the age of 18 have a right to an assessment of their need, as per the Children's Act 1989 and Carers (Equal Opportunities) Act 2004. The LA also has responsibilities under the Care Act 2014 for the needs assessment of Young Carers undergoing transition to adulthood.

Current Demand Level

It is estimated there are 1,750 Young Carers in Somerset of which only a fraction are identified, as is commonplace nationally. The Young Carers Project works to an active caseload of approximately 150 at any point in time, with around 100 new referrals each year.

How we currently meet our Statutory Responsibilities for Young Carers

The Young Carers Project in Somerset, managed via the Targeted Youth Service since 2012, has supported children and young people under 18 who provide

regular and ongoing care and emotional support to a family member who is physically or mentally ill, has a disability or misuses substances.

In addition to the statutory responsibilities, this service provides;

- 1:1 support to Young Carers during difficult times
- Group activities and respite opportunities
- Promoting awareness and recognition of the needs of Young Carers
- A Young Carers Network/Forum

The overall Young Carers Project budget for 2018 -19 is £241,400 with a current projected overspend of £22,800.

Options Appraisal

An outline appraisal considered 6 options focusing on the core service components provided by the existing Young Carers Project split in to statutory and non-statutory and sought to identify any potential savings and service efficiencies. This included the options to retain the service 'as is', integrate statutory functions into existing statutory children and adult services and to 'cease' the separate service in its entirety but seed fund the voluntary and community sector to deliver opportunities that reduce isolation and offer a level of respite– this latter option offers a potential full year saving of £194,300.

Options considered:

		Move management to Family Support Service – Apr 2019			
Option A Retain service 'as is'	**Option B** Retain Statutory Duties Element of existing service only	**Option C** Retain Statutory Duties and Individual Support to Young Carers	**Option D** Retain Statutory Duties and Young Carers Support and Respite	**Option E** Redesign whole service (incorporate Statutory Duties into other stat children and adult services) Work with VCS to deliver Young Carers respite/participation elements
1. Identifying and supporting young people with caring responsibilities (Stat Duty)	✓	✓	✓	✓	✓
2. Undertaking the Young Carers Needs Assessment (Stat Duty)	✓	✓	✓	✓	✓
3. Supporting Young Carers to reduce inappropriate levels of care	✓	×	✓	✓	✓
4. Providing 1:1 support in difficult times	✓	×	✓	✓	✓

5. Group activities and respite opportunities	✓	×	×	✓	✓
6. Promoting recognition and awareness of Young Carers' needs and achievements	✓	×	×	×	×
7. Review service delivery through Young Carers Network & Young Carers Forum	✓	×	×	✓	x
Projected Spend	**£264,200** (inc £22,800 overspend)	**£105,484**	**£136,280**	**£175,718**	**£30,000** seed funding
Potential 2019/20 Savings[1] (inc. £48,606 for SM6 post)	**£0**	**£167,422**	**£136,627**	**£97,188**	**£242,906**
**** N.B. savings do not account for transition costs (redundancy or salary protection/pay award etc.) ****					
The Recommended Option is Option E – Absorb Statutory Duty to assess into existing children's and adults activities. Work with Voluntary Community Sector (VCS) to deliver Young Carers respite and networking elements					

Preferred Recommended Option

The recommended option by the DCS is Option E, to integrate statutory young carer assessment and casework function in to existing statutory children and adult services and to 'cease' the separate service in its entirety. The notional budget of £30,000 that is currently used for activities can be used as a lever to discuss how the VCS could deliver the respite and networking opportunities differently and access funds that the LA cannot.

All non-statutory elements would be in scope for the VCS discussion, as they are better placed to secure external funding opportunities. The options appraisal has identified up to 20 potential external funding streams which vary in value between £1-80k that could be utilised which are not open to SCC to apply for.

This element of the option is likely to require 'one off' (£30k) start-up fund with a co-produced commissioning activity undertaken to move this work into the charitable sector, working alongside Friends of Young Carers. This would result in a full year saving of £242,906.

Option E is the recommended option of all those considered as it offers the greatest potential saving whilst still maintaining core statutory functions and giving the VCS the opportunity to develop and enhance its offer for Young Carers in Somerset. Furthermore, it is the option considered most sustainable longer term in light of SCC's financial situation particularly as it offers a feasible solution of seed funding for the VCS to take on the additional responsibilities around arranging and managing respite for Young Carers.

Option E maintains current services and support available to Somerset Young Carers only re-organising and managing the arrangements for them, potentially

[1] Not including current £22,800 overspend

allowing them to be better managed and expanded in the future as funding opportunities may be exploited which the LA would not be able to take advantage of if retaining full responsibility.

The decision is therefore to explore ways to redesign the service so that the VCS can support the change. Subject to that arrangement being in place this decision delegates power to the DCS to implement the change.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

By ensuring statutory services are still be delivered which would increase confidence of successful delivery of 19/20 savings. However, sufficient engagement and planning will need to be undertaken to ensure mitigation for the change in service.

3. Impact on residents, businesses and other organisations:

Impacts include:

- For young carers currently receiving support from the service, they need to be transitioned to other support services
- Increased pressure on the VCS to take on additional responsibilities where no feasibility study has yet taken place
- For the recommended option to be fully successful it is reliant on the VCS's ability to become self-sufficient within a year in managing and delivering the activity and respite components of the current service
- Change of delivery for those accessing the service, Young Carers assessments will be undertaken by professionals not specialists in the needs of Young Carers.

4. Impact on other services we provide:

The Young Carers Project is currently situated within the Targeted Youth Service and has management oversight of a manager who works across the wider service.

The assessment of Young Carers under the option recommended would be undertaken by professionals located within local statutory agencies. Given current service demands, it is likely that young carers with lower level needs will not be able to access statutory services. Refreshed guidance for practitioners will be required.

5. Impact on staff:

Savings identified within this proposal will require a restructure/deletion of posts

6. Resources and support needed to make the change:

The implementation of any change to this service will need to be carefully managed given the sensitivity and high-profile public interest nature of the service. To date Young Carers and the staff within the existing Young Carers Project have not been consulted on any aspect of this potential change.

To manage the transition to the VCS for the respite and activities component, this will require Children's Commissioning oversight to ensure co-production with Young Carers and the VCS.

Any staff who may be at risk of redundancy because of this will need to be appropriately supported by HR etc.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Cabinet decision	*12th September 2018*
Initial engagement with current users	*September onwards*
Staff consultation	*August – Nov 2018*
Consultation with VCS and proposals finalised	*September onwards*
Children and adult services informed and trained to undertake young carer assessments	*October onwards*
Delivery of new model	*January 2018 onwards*

8. Risks and opportunities:

This recommendation will increase workloads for services within Children's and Adults with responsibilities for early help/assessments of need.

This recommendation risks the loss of SCC's strategic oversight of Young Carers in Somerset due to the loss of a dedicated service.

This recommendation risks the loss of expertise and knowledge of Young Carers within SCC. The recommendation includes the potential redundancy of SCC staff

This recommendation potentially reduces the voice of Young Carers for SCC as services with a direct interface with Young Carers other than the assessments, are delivered externally.

This option enables the potential development and enhancement of the VCS in its offer for Somerset Young Carers and allows it to explore external funding sources that cannot currently be explored.

9. Dependencies:

The ability/appetite within the VCS in Somerset to pick up the respite activity elements of the Young Carers service. The seed funding should enable this to be more viable, however it is only offered as a 'one-off' so requires the VCS to respond quickly and be proactive in securing the provision self-sustainably longer term. If the VCS is unable to successfully take on these elements, SCC is still able to meet its statutory obligations for Young Carers.

10. Initial Equality Impact Assessment:

Young carers currently accessing the service are between the ages of 7-25, the average age being 14. In terms of gender, current Young Carers numbers assessed as requiring a service - 125 Male, 185 Female, 3 Transgender.

No young carer open to the service has had the benefit of a 100% school attendance rate, and 45% of young carers open to the service are attending school less than 90% of the time, despite support from the service and reduction in inappropriate care giving roles. A reduction in the service could impact on these children and young people's access to their right to an education.

The mitigation against all these risks would be appropriate training and awareness amongst those completing assessment and delivering support to young carers. School settings would need to be briefed on the changes so that they can monitor and refer effectively.

A full EIA has been completed.

11. Consultation and Communications plan:

Engagement exercise will be undertaken between Sept-November to codesign/redesign the proposal with users and highlight alternative model for delivery.

12. Legal Implications:

Statutory obligations on SCC will still be delivered.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£18,794*	*£*	*-£18,794*	*£0*	
2019/20	*£254,112*	*£*	*-£11,206*	*£242,906*	*One off*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£272,906*	*£*	*£30,000*	*£242,906*	*ongoing*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V1.3**	**Date Completed**	28/08/2018

Description of what is being impact assessed

CAF-21

This assessment considers the potential and likely impact of proposals to SCC's support for universal youth and community provision. Options under consideration range from maintaining the status quo to ceasing all support for youth and community provision as currently provided via the Youth & Community Service (Y&CS); ending SCC support for the Duke of Edinburgh's Award, and; closing the Youth Equipment Store.

The detailed options are outlined in section 2 of proposals for the alteration and/or reduction of early help services provided to children and their families report within which this EIA sits.

Any reduction in support offered via the Youth & Community Service may have unintended impacts and must therefore be carefully planned and its implementation effectively managed and monitored.

Youth & Community Service

Much existing support for community-led universal youth provision is in areas of need and relative deprivation. This is universal provision, not targeted at or attracting any specific group or characteristic. Communities in need are priorities for grant aid, although in the latest funding round all applications were supported. Any reduction in support and provision of grant aid could therefore affect disadvantaged communities and the young people who live in them.

Young people from a variety of vulnerable groups access existing provision which is part of the community-led universal offer supported by the Youth & Community Service and are therefore potentially affected. The following have been identified: low income; disability; ethnicity; gender; sexual orientation; young parents; young carers alongside communities in general, however there is no specific data relating to this as groups are small and dispersed. Presenting an accurate picture of who accesses the provision is not possible.

Universal provision for 11-19 year olds is a key element of the range of universal, preventative and diversionary activities which help young people develop the resilience, skills, knowledge and character to make a successful transition to adulthood. Any reduction in the quality, breadth or availability of such provision is likely to have a negative impact on young people's educational, health and wellbeing outcomes.

The work of the service is outlined in the Annual Report available from the Service website.

Duke of Edinburgh's Award

Duke of Edinburgh's Award (DofE) programmes are offered in 55 centres under the SCC operating licence. All mainstream secondary schools offer DofE, as do many Special Schools, PRUs and some community organisations.

SCC's DofE team has targeted development with disadvantaged and vulnerable groups in recent years and external funding has been raised to support this. Approximately 20% of DofE participants (total 2100+ young people each year) are identified as disadvantaged using measures based on pupil premium eligibility, deprivation indicators for home postcode and identified SEND. It is likely that detailed analysis using more nuanced criteria would identify a greater proportion as disadvantaged and vulnerable. About 75% of additional needs settings now provide DofE with SCC support.

Many small settings in which vulnerable and disadvantaged young people are educated and supported would struggle to resource the additional cost and complexity of a direct DofE licence (the alternative model with no SCC involvement) so are likely to cease their DofE delivery if faced with this requirement. This could reduce access for many young people who would otherwise benefit through participation.

Youth Equipment Store

The Youth Equipment Store provides subsidised access to a range of equipment for schools, SCC services and community groups as well as families.

Most of the organisations which use YES serve disadvantaged communities where families cannot afford the commercial cost of equipment. YES provided equipment for about 3000 children and young people in 2017/18. It has to be assumed that unavailability of equipment through YES would reduce disadvantaged young people's access to recreational and developmental activity.

Proposal

The preferred option is to cease the provision of support, resources and training to voluntary youth organisations, and to close the existing grant schemes.

The Duke of Edinburgh's Award operating licence and the Youth Equipment Store will be retained, and the approach focussed on delivering growth and development to improve provision for young people and income generation. The DofE team will be reshaped to provide capacity to manage development and growth in provision.

This enables more disadvantaged young people and communities access to Duke of Edinburgh's Award programmes and is the most cost-effective way of supporting schools' delivery of DofE, and for young people who do not have access to resources, equipment can be provided. By retaining the Duke of Edinburgh's Award licence SCC also shows it's commitment and can expect reciprocal commitment from schools. Without this lever it is more difficult to engage schools which may not otherwise offer DofE.

The retained staff will be managed within Children's Services by a part time post which will also carry responsibility for voluntary youth sector leadership. If the staff reductions can be made by December 2018 this option will deliver savings in 2018/19 and 2019/20. A residual budget of £40k is required in 2019/20 to support the structure. Increased income generation and provision of tradable activity will put the approach at full cost recovery by 2020/21.

Implementation of the option outlined above – to cease SCC support to community-led provision for 11-19 year olds – has potential impacts which include: the potential closure of approximately 30 youth clubs over a two year period (through lack of funding and access to advice and guidance); another ten are likely to reduce their opening hours through lack of resource; there could be reduced quality (and safeguarding capacity) of provision for young people in remaining settings (through reduction in training, advice and support); reduced sustainability of small VCSE groups and vibrancy of market as reduced grants to stimulate the market; reduced links between SCC and VCSE youth organisations.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

A range of evidence contributed to this impact assessment.

An assessment of the stability and sustainability of Somerset's VCSE sector is contained in Somerset Community Foundation's 2017 Sate of the Sector report. While covering the voluntary and community sector as a whole there is no reason to assume the county's voluntary youth sector is more robust or sustainable than any other. The report outlines the fragility of some aspects of the voluntary sector and therefore any SCC action which reduces the support provided to VCSE organisations must be expected to have a negative impact.

UK Youth's 2018 national State of the Membership report highlights the challenges facing voluntary sector youth work and positive activity providers. It notes the significant reduction in local authority support for youth provision over recent years and the reduction in opportunities for young people which resulted.

Feedback from existing Youth & Community Service customers is collated via a satisfaction survey and included in the service's long-form annual report. This outlines customers' needs which the service currently meets.

The statutory guidance on local authorities' duty to secure services and activities for young people aged 13-19 was updated in June 2012. While there is no prescription of service availability requirements or sufficiency standards, it underlines the expectation that local authorities will take the strategic lead in ensuring (with a variety of partners) the local offer of services which: connect young people with their communities; offer varied activities to support personal, social and physical development; improve mental and physical health; enable young people to fulfil their potential, and; raise their aspirations. The government's Civil Society Strategy (August 2018) includes a commitment to review and update the statutory guidance for local authorities. The Strategy also recognises the value and place of youth work and youth provision in the range opportunities which support young people's development, health and resilience.

Many aspects of youth provision and initiatives contribute to the Somerset Youth Offer, with significant investment coming through the National Citizen Service and Youth Investment Fund. Alongside Y&CS other SCC activity which contributes to the overall offer includes the provision of Short Breaks support for young people with Special Educational Needs and Disabilities (SEND) and the developing offer for 11+ through the Family Support Service which will form in April 2019.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

No consultation has been undertaken to date. Should the decision to cease SCC Youth & Community Service activity be taken SCC will work with youth work providers and SCC's Community Development Officers to identify the most effective withdrawal process and secure the smoothest possible transition.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• Younger young people are easier to provide for than those aged 14+ because older young people can be more challenging to engage and work with. Organisations which maintain provision often do so with volunteers and paid staff with limited experience and training, so their workforce can lack the resilience necessary to maintain engagement with challenging young people. Groups may therefore concentrate on the lower age rage to the detriment of many young people who need support and deserve access to services.	☒		☐
Disability	• The current service does not support organisations and clubs which provide specifically for young people with disabilities. These are separately supported and funded by SCC and other organisations and would not be affected by the proposal.		x	☐
Gender reassignment	• Access to community-based provision and social groups may provide a support network which would otherwise be unavailable.	☒	☐	☐
Marriage and civil partnership		☐	☒	☐

Pregnancy and maternity	• Universal provision offers young parents and parents-to-be safe settings in which to be young people. Any reduction in provision may limit access.	☒	☐	☐
Race and ethnicity	• Provision in some disadvantaged urban areas may attract young people from minority groups. These groups may be more affected by reductions than groups in other areas. • Young people from minority groups are more likely to be from low income households so are likely to be more reliant on public service provision.	☒	☐	☐
Religion or belief	• While faith-based youth provision is not supported, some faith groups are supported to offer generic opportunities. There is no unreasonable impact expected on religious groups.	☐	☒	☐
Sex	• It is possible that existing some clubs, especially in rural areas, attract more young men than young women. Any reduction could therefore potentially affect young men more directly and in greater numbers.	☒	☐	☐
Sexual orientation	• Access to community-based provision and social groups may provide a support network which would otherwise be unavailable.	☒	☐	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• SCC-supported youth provision is the only opportunity for young people in some rural and low-income communities. Any reduction in provision may therefore affect rural young people and those form low income families more directly than those in more affluent and urban areas. • The Y&CS manages the Essential Life Skills fund for West Somerset in support of the Opportunity Area programme.	☒		☐

Negative outcomes action plan Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.				
Action taken/to be taken	**Date**	**Person responsible**	**How will it be monitored?**	**Action complete**
Age 11-19 - Encouragement of organisations which offer grant aid for work with young people to maintain focus on 14+ age group	31/12/2018	Somerset Community Foundation Charitable trusts	Children's Commissioning Team to monitor through light-touch facilitation of the sector.	☐
Age 11-19 - Research and promote opportunities to draw in alternative funding to support provision	31/03/2019	Sector-led strategic leadership group	Children's Commissioning Team to monitor through light-touch facilitation of the sector.	☐
Age 11-19 - Improved co-ordination of Youth Investment Fund-supported provision by providers.	31/03/2019	Somerset Rural Youth Project (Young Somerset), Minehead Eye, YMA Taunton, YMCA Somerset Coast, YMCA Mendip.	Children's Commissioning Team to monitor through light-touch facilitation of the sector.	☐

Age 11-19 - Improve uptake of National Citizen Service, especially by disadvantaged young people.	30/06/2019	Somerset Rural Youth Project (Young Somerset) and Activate. Support from SCC services.	Children's Commissioning Team to monitor through light-touch facilitation of the sector.	☐
Pregnancy and maternity – young parents and parents-to-be affected by reduction in provision to be signposted and supported into alternative provision (e.g. provided by getset, Health Visiting Team and voluntary organisations).	March 2019	Providers affected	Getset and Health teams through local links	
Disability - Encourage clubs and projects to maintain accessible provision.	31/03/2019	Children's commissioning	Children's commissioning via light touch facilitation of sector	☐
Race -Target support from UASC project to help sustain provision they currently access.	Select date	YMCA Somerset Coast YMCA Mendip	Children's commissioning through light touch facilitation of the sector	☐
Religion and Belief - Young people affected by change are supported to engage in sustained provision	Select date	Children's commissioning	Children's commissioning via light touch facilitation of sector	☐

Sex – young people affected by change – especially young men are supported and signposted to alternative sustainable provision.	March 2019	Children's commissioning	Children's commissioning via light touch facilitation of sector	
Sexual Orientation - 2BU Project sustained and becoming more sustainable. 2BU offers young people networking and group opportunities.	31/12/2018	Somerset CCG		☐
Other – West Somerset Essential Life Skills grant programmes managed elsewhere in SCC with focus on quality and sustainability of provision that meets needs of target cohort.	31/12/2018	West Somerset Opportunity Area Manager		☐
Rurality - Encouragement for groups which provide grant funding for youth provision to focus on rural and low income areas affected by reduction in SCC support.	March 2019	Children's Commissioning	SCC Corporate Affairs through links with funders	

If negative impacts remain, please provide an explanation below.
Following implementation of the preferred option there is likely to be an overall reduction in the quality and breadth of provision for young people, and the sustainability and resilience of the VSCE youth sector. Considering the scale of reduction in funding and support, this is unavoidable.

Completed by:	Jeff Brown
Date	28.8.2018
Signed off by:	**Julian Wooster**

Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Jeff Brown**
Review date:	**March 2019**

Proposal for Change:

CAF-21 Proposals for the alteration of Youth Service

Reference:	CAF-21
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Rowina Clift-Shanley
SAP Node	
Decision required	Approval to proceed with implementation of the proposed option 3 to cease the provision of support, resources and training to voluntary youth organisations, and to close the existing grant schemes; but to maintain the Duke of Edinburgh Award scheme and the Youth Equipment Store.

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Our Statutory Duty

Somerset County Council (SCC) has a duty under the Education Act 1996 to secure young people's access to sufficient educational leisure-time activities for the improvement of their well-being and personal and social development, and sufficient facilities for such activities; that activities are publicised; and that young people are placed at the heart of decision making regarding the positive activity provision

Current Demand Level

The Youth & Community Service engages with 58 organisations which support work with young people. These include:

- Town and parish councils;

- Small voluntary groups, and;
- Larger (generally charitable) youth work providers.

The DofE teams supports 55 active groups and the Youth Equipment Store has about 100 regular voluntary organisation and school customers.

How we currently meet our Statutory Duty

SCC's Youth & Community Service provides infrastructure support to voluntary youth organisations and currently delivers the following functions:

- Advice, guidance, resources, and quality assurance tools
- Administers £150k grant aid to support locally-led youth provision
- Monitoring and quality improvement visits to provision funded by SCC
- Provider and market support and networking
- Accredited and bespoke youth work and safeguarding training local groups
- Support for public services to improve their engagement with young people
- Manages the Duke of Edinburgh's Award operating licence and Youth Equipment Store

The cost of Youth & Community Service to SCC's core budget is £326k in 2018/19. In addition the service is projected to generate approx £90k income and promote in-kind contributions to the county's youth provision of about £175k.

Options Appraisal

An outline appraisal considered five options to reshape and redesign the service and its approach to identify savings and service efficiencies. Options considered ranged from service retention 'as is' to deliver a 5% saving and 'cease' the service in its entirety. This latter option offers a potential full year saving of £326,000.

Option / Function	1 Continue as is and deliver 5% saving	2 Continue and reduce grant aid to £100k	3 DofE and YES only at full cost recovery by 2020	4 Outsource to infrastructure org	5 Cease
Hands-on support for local provision	✓	✓	×	×	×
Resources	✓	✓	×	×	×
Grant aid	✓	✓	×	×	×
Grant QA	✓	✓	×	×	×
Safe & Welcoming Safeguarding framework	✓	✓	×	×	×
Quality improvement visits	✓	✓	×	×	×
Provider and market support	✓	✓	×	×	×

Sponsored Level 2 & 3 Youth Work training	✓	✓	×	×	×
Bespoke training	✓	✓	×	×	×
Accredited safeguarding training	✓	✓	×	×	×
Support for SCC services	✓	✓	×	×	×
Sector engagement	✓	✓	×	×	×
Duke of Edinburgh's Award	✓	✓	✓	Not possible	×
Administration of Youth Equipment Store	✓	✓	✓	Not viable	×
Saving 2018/19	15,000	15,000	47,000		100,000
Saving 2019/20	20,000	70,000	239,000		226,000
Saving 2020/21			40,000		
Savings Total	**35,000**	**85,000**	**326,000**		**326,000**

Preferred Recommended Option

Option 3 is recommended by the DCS.

This option proposes to cease the provision of support, resources and training to voluntary youth organisations, and to close the existing grant schemes.

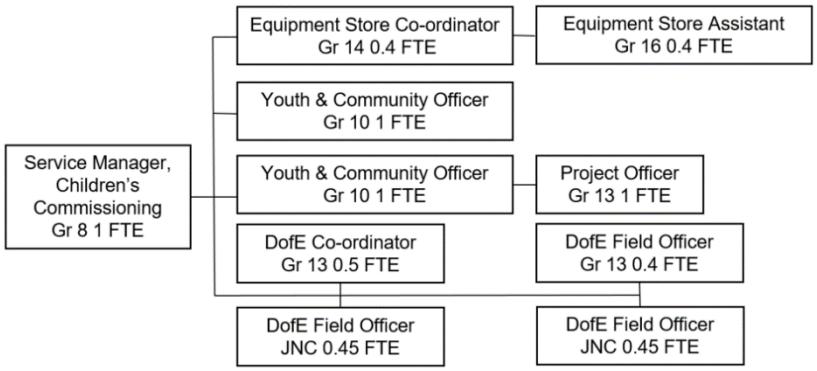
The Duke of Edinburgh's Award operating licence and the Youth Equipment Store would be retained, and the approach focussed on delivering growth and development to improve provision for young people and income generation. The DofE team would be reshaped to provide capacity to manage development and growth in provision.

This enables more disadvantaged young people and communities access to Duke of Edinburgh as it is the most cost effective way of schools to deliver DofE and for children to have access to resources and equipment. By retaining a Duke of Edinburgh licence the LA also shows it's commitment and can expect reciprocal commitment from schools. Without this lever it is more difficult to engage schools who may not ordinarily offer DofE.

Options considered and rejected (refer to the table above)

Option 1 – continue existing service and deliver 5% saving

- Continue and develop existing functions including: hands-on support for VCSE and local provision; sustain grant aid and active QA implementation; continue training for youth workers.
- Maintain responsive support for local provision; improve links with major partners and initiatives such as National Citizenship Scheme (NCS). Develop strategic leadership for sector to improve outcomes and draw additional income into county.
- Sustain and develop Duke of Edinburgh's Award (DofE) and Youth Equipment Store (YES).
- Administer £150k grant fund and manage West Somerset Essential Life Skills grant programme. Retain staff structure and review line management to improve effectiveness.



- Move DofE posts from JNC to Green Book. Broaden DofE provision and improve income generation to generate savings. Broaden YES customer base to generate efficiency savings.
- Deliver 5% saving on current budget.

Option 2 – Continue existing service, deliver 5% saving and reduce grant aid to £100k

- Continue and develop existing functions including: hands-on support for VCSE and local provision; sustain grant aid and active QA implementation; continue training for youth workers.
- Maintain responsive support for local provision; improve links with major partners and initiatives such as NCS. Develop strategic leadership for sector to improve outcomes and draw additional income into county.
- Sustain and develop Duke of Edinburgh's Award and YES.
- Administer £100k grant fund and manage West Somerset Essential Life Skills grant programme. Retain staff structure and review line management to improve effectiveness.

- Broaden DofE provision and improve income generation to generate savings. Broaden YES customer base to generate efficiency savings.
- Deliver 5% saving on current budget.

Customer Impact

- Potential for reduced sustainability of clubs through reduction in available grant aid

Option 4 – outsource the service - DofE advised they will not allow SCC to hold the licence and outsource delivery.

Option 5 – cease the service

- Close Youth & Community Service (inc. grant programmes), Youth Equipment Store and withdraw from DofE activity.

Customer Impact

- Loss of SCC's strategic leadership in youth sector; up to 30 youth clubs potentially close through lack of financial and hands-on support and another 10 reduce opening hours; reduced quality (and safeguarding capacity) of provision for young people in remaining settings; reduced sustainability of small VCSE groups and vibrancy of market; reduced links between VCSE youth groups and SCC Stronger Communities activity.
- Alternative 'direct licence' model for DofE likely to be unaffordable for smaller establishments, reducing access for vulnerable and disadvantaged groups; loss of links with and support (inc. financial) from VCSE and charitable sector; loss of access to DofE for SCC apprentices and vulnerable groups.

Internal impact

- Capacity impact through need to manage West Somerset Essential Life Skills grant programmes elsewhere in Children's.
- Loss of YES premises contribution (£12k) to SCC property.
- One-off income windfall if YES inventory sold.
- Any redundancy or redeployment costs will offset savings in first year if funded by service.

Risks

- Risk of reputational damage through removal of highly visible service; reduced VCSE ability to respond to safeguarding issues through loss of training and support; reduced provision for young people.
- Risk of reputational damage following recent public restatement of commitment to DofE programme.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 %

Explanation:

In year savings are challenging due to them be set on the expectation of a December delivery.

3. Impact on residents, businesses and other organisations:

Potential impacts of preferred option 3 include:

- Loss of SCC's strategic leadership in youth sector
- Risk of reputational damage through removal of highly visible service and valued grant programme; reduced VCSE ability to respond to safeguarding issues through loss of training and support; reduced breadth of provision for young people.
- Much of existing support for community-led youth provision is in areas of need and relative deprivation, and communities in need are priorities for grant aid. Any reduction in support and provision of grant aid will therefore affect disadvantaged communities and the young people who live in them.
- The impact of SCC's withdrawal of support to community-led provision for 11-19 year olds includes the likely closure of 30 youth clubs in the coming two years (through lack of funding and access to advice and guidance); another ten are likely to reduce their opening hours through lack of money; reduced quality (and safeguarding capacity) of provision for young people in remaining settings (through reduction in training, advice and support); reduced sustainability of small VCSE groups and vibrancy of market; reduced links between SCC and VCSE youth organisations

4. Impact on other services we provide:

- Duke of Edinburgh's Award (DofE) programmes are offered in 55 centres under the SCC operating licence. All secondary schools offer DofE, as do many Special Schools, PRUs and community organisations
- SCC's DofE team has targeted development with disadvantaged and vulnerable groups in recent years and external funding has been raised to support this. Approximately 20% of DofE participants (total 2100+ young people each year) are identified as disadvantaged using very basic measures. It is likely that detailed analysis using more nuanced criteria would identify a greater proportion as disadvantaged and vulnerable. About 75% of additional needs settings now provide DofE with SCC support.

5. Impact on staff:
Savings will be achieved through restructuring and deletion of posts.

6. Resources and support needed to make the change:
HR support will be required.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
LGA / Peopletoo report to SCC Children's Services on remodelling of services	*6 September 2018*
Cabinet decision	*12th September 2018*
Initial engagement with current users	*September onwards*
Staff consultation	*August – Nov 2018*
Consultation with VCS and proposals finalised	*September onwards*
Delivery of new model	*January 2018 onwards*

8. Risks and opportunities:
• Risk of reduced quality and breadth of youth work provision • Risk of reduced access to Duke of Edinburgh's Award programmes • Opportunity is the proposed Community Development Grant for early help which will support 0-19 year olds and their families

9. Dependencies:

N/A

10. Initial Equality Impact Assessment:

Equalities Implications

A separate Equalities Impact Assessment has been produced.

11. Consultation and Communications plan:

Should the decision to cease SCC Youth & Community Service activity be taken SCC will work with other youth work providers and SCC's Community Development Officers to identify the most effective withdrawal process and secure a smooth transition.

12. Legal Implications:

There are no immediate legal considerations associated with the preferred option.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

	Savings	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	£47,000*	*£*	*-£*	£47,000*	
2019/20	£239,000	*£*	*-£*	£239,000	
2020/21	£40,000	*£*	*-£*	£40,000	
Total	**£326,000**	*£*		**£326,000**	

- *Please note: the 2018/19 savings have already been included in the month 4 budget monitoring report.*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

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Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1.1**	**Date Completed**	**22st August 2018**

Description of what is being impact assessed

CAF 1-5 DS-02 and CAF 16

Central to the following change proposals for additional savings is the refocusing of Dedicated Schools Grant (DSF) contributions to continue services currently provided by the Council:

- CAF-01 – Increasing the contribution from DSG for Looked After Children in residential Placements
- CAF-02 – Refocusing DSG for casework related to the transition to Education, Health and Care Plans for high need individual who do not currently have them
- CAF-03 – DSG to support the additional occupational therapy costs for seating assessments to support children in mainstream schools
- CAF-05 – DSG reserve contribution for project work related to Special Educational Needs and Disabilities (SEND) independent placements
- DS-02 – Additional funds from DSG to fund statutory school admissions and transport appeals undertaken by Democratic Services
- CAF-16 - Restructuring of Services Supporting the Delivery and Quality Assurance of Early Years Provision (Developing and Extending Grant)

The following areas are those which have constituted the main areas funded by the DSG (High Needs block) in 2018/19 and those that would be affected by an overspend on High Needs. In other words, the impact of this change would have the biggest impact in these areas of business.

1. **The place funding** (£6.465m) is £10,000 per commissioned place and the LA agrees the number of commissioned places in maintained special schools, ASD bases and PRUs. This cost will increase as we build capacity in our own provision to

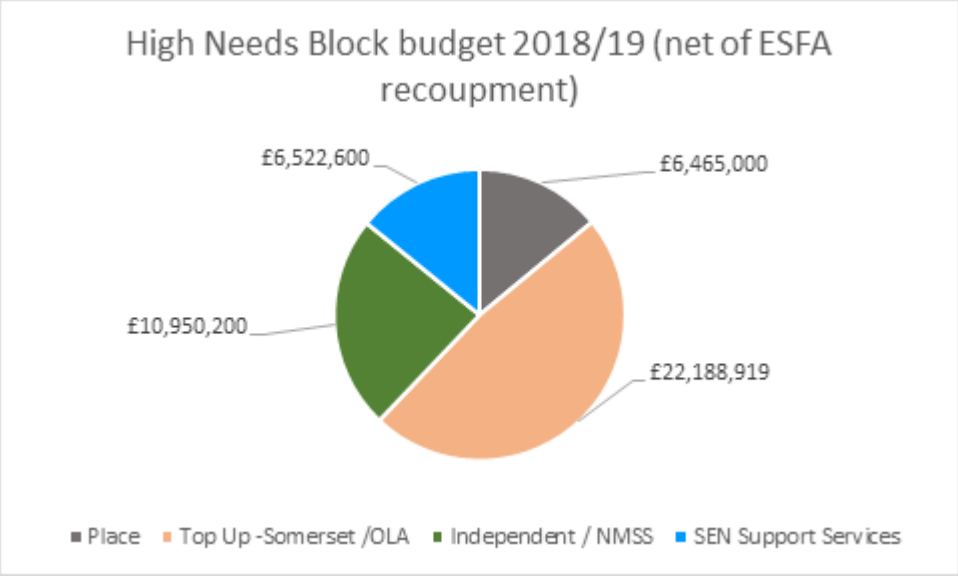
manage population demand and work to reduce the number of independent placements. It is therefore envisaged that there is unlikely to be an impact of a change of funding stream in this area

2. **Independent and Non-Maintained Special Schools (NMSS)** (£10.950m made up of the place and top up funding combined). The local authority has a responsibility to fund this fee. Possible impacts are being mitigated through a managed reduction in the number of placements and negotiation to reduce the fees involved, but if this intervention fails additional funding will be required which the DSG may not be sufficient to cover.
3. **Top up funding** (£22.189m), the additional funding paid to mainstream schools, academies, early years providers and Further Education (FE) colleges to meet the needs of the children and young people with SEND where the assessment is that the education provider should receive additional funding above the delegated allocation received for universal education and to provide SEN support. There are approximately 2,000 children and young people in receipt of this high needs top up funding and a further 1,000 in maintained and academy Special schools, resource bases and PRUs. Similar to item 2 High Needs budget pressures are being mitigated through project management actions (outlined in CAF 05). If these actions fail to produce sufficient reduction in expenditure the amount of top up funding paid through the High Needs funding banding system would need to be reviewed with some or all children and young people receiving less funding. This places additional pressure on the education provider to either fund the difference themselves or review the provision.
4. **SEND support services** (£6.523m) are a combination of services to children and young people with SEND and their parents and services to educational providers. The services funded from the budget are Early Years area (Special Educational Needs Coordinators (SENCOs), Educational Psychologists, specialist teachers and support staff for hearing and visual impairments, the learning support team and The Physical Impairment and Medical Support team (PIMS), Special Educational Needs Integration Team, also known as APC – Alternative Provision Centre (SENIT) and outreach services for PRUs and special schools. The level of service provided may be impacted by DSG budget pressures and the LA would need to consider whether to withdraw from providing discretionary services. The number of children and young people being supported by these services is considerable (thousands), the detail of which would have to be provided direct by the services.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

The pie chart reflects the planned budget for High Need DSG in 2018/19 and net of recoupment for commissioned places in academies and FE colleges where the Education and Skills Funding Agency (EFSA) pay the institutions direct.



Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

It has not been possible to consult with the Schools Forum as we are currently in the school holiday period. The first meeting of this forum will take place on the 3rd October. This meeting will be used to fully understand the impacts of these decisions.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• All impacts under this proposal are for children and young people from 18 months to 25 years old with SEND. No other age bands will be affected.	☐	☒	☐
Disability	• All children and young people impacted by these decisions will have learning or other disability which result in the need for an Education, Health and Care Plan (EHCP) or have resulted in a high need funding allocation for specific support. These decisions may result in a reassessment of eligibility / need for some children. The extend of this will be determined by the LA in consultation with the Somerset Schools Forum as they consider the overall impact.	☒	☐	☐
Gender reassignment	• N/A	☐	☒	☐
Marriage and civil partnership	• N/A	☐	☒	☐

Pregnancy and maternity	• N/A	☐	☒	☐
Race and ethnicity	• N/A	☐	☒	☐
Religion or belief	• N/A	☐	☒	☐
Sex	• N/A	☐	☒	☐
Sexual orientation	• N/A	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• There may be some people on low incomes, carers, or those living in rural settings impacted by these changes. This will be determined with a better understanding of the individuals impacted following discussions with the Schools Forum.	☒	☒	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
A full impact assessment to be conducted by the LA (as part of the deficit recovery plan) following consultation with the Schools Forum to be stared following the first meeting of the academic year.	03/10/2018	Annette Perrington	Through the Schools forum	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

Completed by:	**Vikki Hearn**
Date	**22 August 2018**

Signed off by:	**Annette Perrington**
Date	**22 August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Vikki Hearn**
Review date:	**March 2019**

Proposal for Change:

CAF-05 DSG Reserve contribution for project work related to the SEND Independent Placements

Reference:	CAF-05
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Annette Perrington
SAP Node	

1.	The proposal is to:
√	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

The Schools Forum agreed on 11th July 2018 to fund 2 posts as an invest to save opportunity to reduce the costs of independent SEND placements.

The outcomes and savings target have yet to be agreed and will need to be signed off by the Schools Forum High Needs sub group in September and Schools Forum in October. The continued funding will be dependent on the level of savings achieved between September 2018 and July 2019.

The funding secured so far is for 2 posts, costed at grade 8 and grade 10 and for the period 1st July 2018 – 31st August 2019 (14 months), the amount is £117,000.

The work is part of the High Needs deficit recovery plan to reduce the High Needs in year spend to within budget and repay the cumulative deficit of £5.6m as at end of 2017/18.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 %

Explanation:

The decision contained within this proposal has already been taken by the Schools Forum on 11th July 2018.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

If the project does not achieve sufficient savings continued funding will be at risk and therefore the employment costs post August 2019 will revert back to the Local Authority. Early identification of this risk will be required to fully mitigate.

The number of FTE that might be lost is:

The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

7. Timescale to deliver and major milestones: To include date of implementation, key decision points and governance meetings	
Planned accomplishments to track progress [Milestone]	[Date]
Schools Forum approval given on 11th July 2018	*July 2018*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

If the project does not achieve sufficient savings continued funding will be at risk and therefore the employment costs post August 2019 will revert back to the Local Authority. Early identification of this risk will be required to fully mitigate.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

This proposal will help to mitigate the impact of increasing / changing the use of the Dedicated Schools Grant contained within proposals CAF01, CAF02, CAF03, CAF04 and CAF 06. If the additional cost incurred by the DSG cannot be mitigated it could impact on children and young people with SEND. An interim EIA has been developed and a more detailed one will be required as part of the development of the High Needs deficit recovery plan.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

12. Legal Implications:

Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?*

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			[Yes]		
If no, when is evidence expected?			[N/A]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19		*£75,200*	*-£*	*£75,200*	*Ongoing*
2019/20		*£-33,200*	*-£*	*£-33,800*	*Ongoing*
2020/21		*£0*	*-£*	*£0*	*Ongoing*
Total		*£42,000*	*-£*	*£42,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

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Proposal for Change:

DS-01a Democratic Services – Demand Management

Reference:	DS-01a
Service Area:	Democratic Services (former Community Governance)
Director:	Chris Squire, HR & OD Director
Strategic Manager	Scott Wooldridge, Strategic Manager-Governance
SAP Node	103740 (committee services), 102080 (chairman's expenses) and 107808 (members budgets)

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

1) Business process re-engineering to achieve efficiencies in support of current Democratic Arrangements during 2018/19:

   a) Review team support arrangements for Committees and democratic arrangements through process re-engineering, reducing discretionary activities and maximising use of technology.
   b) Summary of outcomes for meetings – only produce these for decision making meetings as no legal requirements for scrutiny committees. This will provide savings in administrative time.
   c) With HR Payroll, put in place electronic claiming arrangements for members to complete their own expense claims and stop current paper based resource intensive approach. This will reduce administrative requirements to focus on core priorities.
   d) Reduce administrative support for Member Training and Development to minimum levels

e) Reduce administrative support for Member Support to essential tasks only
f) Deferral of planned backfill recruitment process.

Management decision – Managed reduction in staffing support within Democratic Services to Members and the democratic process.

2) ICT to put in place internal hosting arrangements for democratic software, which would provide an annual saving of £3,000 and resolve the key network issues that members are experiencing from the current external hosting. Lead in period for this means only a part saving in 2018/19.

3) SLT support – Core Council Programme to take on administrative support for SLT meetings and SLT Work Programme backed up with audio recordings as verbatim records of the meetings. This would reduce requirement for backfill management support as these weekly meetings are resource intensive on Strategic Manager and Governance Manager and would free up their time to focus on governance work for SLT and the democratic arrangements during challenging period of 2018/19.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 *%*

Explanation:

Proposal 1 – is deliverable with SLT and Cabinet support, recognising the impact on democratic arrangements and member support

Proposal 2 – is deliverable with ICT support

Proposal 3 – Requires Chief Exec support

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Proposal 1 – No as this relates to an internal support for elected Members and Democratic Services
Proposal 2 – Positive impact as current arrangements are costing more and causing issues with elected members confidence as there are periodic firewall issues occurring
Proposal 3 – No impact

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Proposal 1 – Reduced need for ICT equipment from post reductions
Proposal 2 – ICT will need to provide support to put in place internal hosting and ongoing support for that. Conversely, the scheduled costs and work on resolving the firewall issue can be stopped.
Proposal 3 – Impact on Core Council Programme taking on this work

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Proposals would be achieved through review of the structure.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Proposal 1 – Support needed from HR
Proposal 2 – ICT will need to provide support to put in place internal hosting and ongoing support for that. Conversely, the scheduled costs and work on resolving the firewall issue can be stopped.
Proposal 3 – Impact on Core Council Programme funding and eligibility to fund these services through capital receipt flexibility.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Proposal 1 – Consultation on proposed reductions and implementation by 1 January 2019	September 2018
Proposal 2 – ICT resources need to be re-prioritised to support internal hosting solution, albeit they are allocated to resolve the firewall issues being experienced which are likely to cost more than an internal hosting solution.	September – December 2018
Proposal 3 – transfer meeting support to Core Council Programme	September 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Proposal 1 – members may attempt to increase activity through member support requests and democratic arrangements even with the reductions and this will need to be managed. Slower response times to requests for service could lead to complaints which could impact on management resources.
Proposal 2 - ICT resources may have greater priorities ahead of this proposal
Proposal 3 – Core Council support may be re-prioritised later in 2018/19 and therefore create the need for SLT support and work programme to be supported elsewhere or to return to Democratic Services in due course

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Proposal 1 – dependent on members not increasing activity so requiring additional officer support
Proposal 2 – ICT resources need to be prioritised
Proposal 3 – Core Council need to support this proposal

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Not relevant to any of these proposals.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Proposal 1 – will involve consultation with staff affected and members about reduced level of support. This will include a compulsory redundancy consultation.
Proposal 2 – will require consultation with ICT and the current service provider to put internal hosting arrangement in place
Proposal 3 – requires consultation with Strategic Manager-Core Council Programme

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Proposal 1 – requires HR & OD Director or Strategic Manager-Governance decision following consultation
Proposal 2 – requires Corporate Affairs Director decision and agreement of current service provider to support the move to internal hosting
Proposal 3 – no legal implications.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£29k*	*£*	*-£*	*£29k*	
2019/20	*£27k*	*£*	*-£*	*£27k*	
2020/21	*£0k*	*£*	*-£*	*£0k*	
Total	*£56k*	*£*	*-£*	*£56k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

DS-02 Democratic Services – Income recovery and income generation

Reference:	DS-02
Service Area:	Democratic Services (former Community Governance)
Director:	Chris Squire, HR & OD Director
Strategic Manager	Scott Wooldridge, Strategic Manager-Governance
SAP Node	103740 (committee services), 102080 (chairman's expenses) and 107808 (members budgets)

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

1) Seek to increase income from external partners and partnerships where SCC provides management support, to further offset costs of the Strategic Manager – Partnerships Governance post and the support provided by the Democratic Services team.

2) School Admissions and Transport Appeals – Democratic Services have provided support for the statutory school admissions and transport appeals for the Council for over 10 years. Comparison with other councils shows that we provide great value for money, some councils use their legal services to do this work. This role is statutory and has to be separate from the schools' admission function. Beyond this, who undertakes the work and how this is funded is a choice for the council.

   Democratic Services will put in place full cost recovery for these support services.

3) Recharge 50% of Cabinet Member Education and Transformation to capital receipts flexibilities in view of work on transformation.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

60 %

Explanation:

Proposal 1 is subject to agreement from external partnerships and partners. The possibility of achieving senior management savings within the team in time for the 2020/21 financial year is a realistic option particularly if members agree to withdraw from providing lead support to these sub-regional partnerships.

Proposal 2 is a long outstanding internal recovery model for provision of essential statutory services.

Proposal 3 is a relatively straight forward as this should be chargeable costs for this new Cabinet Member post.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Some of the roles and functions contained within Proposal 1 could be delivered by another of the external partners and/or partnerships but these would be political decisions. If this were to happen then some of these functions would have to remain as a County Council function.

Proposal 2 provides best value to SCC and is well established. An alternative provider could be sought but this could impact on delivery of this statutory service and is unlikely to deliver savings

Proposal 3 is an internal matter for SCC only

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Proposal 1 forms part of the Council's Administering Authority work. If the proposal for additional external income is not successful, then this will require corporate resources to meet these costs.

Proposal 2 will require Children's Services to utilise more of the Central Schools Budget to fund this activity instead of it continuing to fall to corporate services.

Proposal 3 has no impact to other SCC services outside of Corporate Services.

5. Impact on staff:

No impact on staffing

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

All proposals relate to internal income / cost recovery.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Proposal 1 – Liaise with relevant external partners to review Administering Authority costs for 2019/20 and consult partners on revised proposals for increased income Decision by partners on funding for 2019/20	November 2018 to January 2019 February to April 2019
Proposal 2 – Chief Executive approved cost recovery in 2018/19 and then on an ongoing basis. Recovery system for internal transfer being established and put in place. Cost estimate for 2019/20 services to be provided in early 2019 to enable Children's Services to secure funding from Schools Forum as part of overall School Admissions function	October 2018 January 2019
Proposal 3 requires a decision by Finance (as qualifying spend) and support from SLT	October 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Proposal 1 – could impact on partnership relations and reputational risk if not carefully managed which could adversely impact upon SCC's roles in external partnerships. Failure to implement this proposal though will result in SCC having to identify corporate resources to meet associated costs.
Proposal 2 – Failure to implement this cost recovery will impact upon Democratic Services budgets and create a corporate pressure for additional resources.
Proposal 3 – Represents an opportunity to offset additional unbudgeted costs.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

As set out above. One of the key dependencies relates to Proposal 2 where Children's Services costs for School Admissions will need to incorporate the Democratic Services costs which form the basis of this proposal. Whilst Proposal 2 represents an internal income to Democratic Services it will be an additional cost to Children's Services Budgets.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Proposal 2 is covered by an impact assessment concerning the use of the Dedicated Schools Grant.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Proposal 1 – requires SCC Cabinet and external partners, elected member and senior officer consultation
Proposal 2 – principle of proposal already established with Chief Executive and officers already working with Senior Managers in Education Services to put the mechanism in place.
Proposal 3 – Internal Cabinet and SLT consultation

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Proposal 1 – will require decisions by the Cabinet, the Chief Executive and an officer non-key decision by the Monitoring Officer.

Proposal 2 – Chief Executive already endorsed approach.

Proposal 3 – Section 151 officer decision following Cabinet & SLT support

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£6.5k*	*£ 50k*	*-£*	*£56.5k*	*ongoing*

2019/20	*£ 1.5k*	*£ 40k*	*-£*	*£41.5k*	*ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£ 8k*	*£ 90k*	*-£*	*£98k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£ 0k
	Capital Receipts	£ 8k
	Estimate of redundancy costs	-£ 0k
	Estimate of resource costs to deliver	-£ budgeted
	Sub-total	£ 8k
2019/20	Capital Costs	-£ 0
	Capital Receipts	£ 8k
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£ budgeted
	Sub-total	£ 3.5k
2020/21	Capital Costs	-£ 0
	Capital Receipts	£
	Estimate of redundancy costs	-£ 0
	Estimate of resource costs to deliver	-£ budgeted
	Sub-total	£ 8k
	TOTAL	£ 16k

Proposal for Change:

DS-01b Democratic Services – Reductions in service levels

Reference:	DS-01b
Service Area:	Democratic Services (former Community Governance)
Director:	Chris Squire, HR & OD Director
Strategic Manager	Scott Wooldridge, Strategic Manager-Governance
SAP Node	103740 (committee services), 102080 (chairman's expenses) and 107808 (members budgets)

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
	1) Develop a proposal for Full Council to consider for all members to make a one-off contribution equal to 2 days of their Member Allowances deduction in their Basic and SRA allowances. This would generate £ 4,992 in 2018/19. This would require a recommendation to Council in November from Cabinet dependent on the situation with the similar themed Council wide officer proposal 2) Chair of Council to reduce his planned spend by £3,000 in 2018/19 (25% of his budget). Delivery plan in place and budget profile already changed to reflect this. 3) Reduce member support and member training, including withdrawing from the Shared Member Development Service hosted by Devon County Council by 1 April 2019. This will achieve a full year saving in 2019/20 of £2,500.

2a.	Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

65 %

Explanation:

Proposal 1 – is deliverable with Cabinet and Conservative Group support
Proposal 2 – is deliverable and Chair of Council already briefed, supportive and mobilised to deliver this
Proposal 3 – is deliverable with Political Group leaders support

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Proposal 1 – Impact is the same as all other services delivering the 2 days proposal
Proposal 2 – No negative impact identified other than potential concerns from elected members with the proposals relating to withdrawal of Chair's lunch on the Full Council days
Proposal 3 – Will impact on delivering the agreed commitment to Personal Development Plans for members and developing new members into key roles which will affect succession planning

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Proposal 1 – Impact is the same as all other services delivering the 2 days proposal. Changes to member allowances require HR Payroll and Finance support to effect those.
Proposal 2 – No negative impacts on other services identified at this stage
Proposal 3 – Reduction in external support will need to be offset by support from HR&OD to improve the offer available on the learning centre for elected members

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact on staffing.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Proposal 1 – Support required from Finance and Payroll
Proposal 2 – No external support required
Proposal 3 – Reduction in external support will need to be offset by support from HR&OD to improve the offer available on the learning centre for elected members

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Proposal 1 – Proposal to be drafted by Monitoring Officer for November's Full Council meeting to consider	September – November 2018
Proposal 2 – Chair of Council already briefed and supportive. Action being taken to deliver the planned savings by end of 2018/19.	September – Feb 19
Proposal 3 – Notice to be served on shared service and alternative lower level arrangements to be put in place internally	September – Feb 19

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Proposal 1 – Members may not agree to support this proposal at Full Council in which case it cannot be implemented. This proposal provides for members to demonstrate they are also supporting the financial imperative.
Proposal 2 – There may be some opposition from some members to these proposals but ultimately it is the Chair of Council's decision. This proposal provides for the Chair to demonstrate that he is also supporting the financial imperative.
Proposal 3 - Will impact on delivering the agreed commitment to Personal Development Plans for members and developing new members into key roles which will affect succession planning

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Proposal 1 – dependent upon members support
Proposal 3 – dependent upon managing members expectations and HR & OD support for learning centre

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Not relevant to any of these proposals.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Proposal 1 – dependent upon members support
Proposal 3 – consultation required with the Political Group Leaders and HR & OD's ability to support learning centre activity.

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Proposal 1 – Full Council decision in November 2018
Proposal 3 – Strategic Manager – Governance decision following consultation

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£8k*	*£*	*-£*	*£8k*	*One-off*
2019/20	*-£2.5k*	*£*	*-£*	*-£2.5k*	*£2.5k On-going*
2020/21	*£0k*	*£*	*-£*		
Total	*£5.5k*	*£*	*-£*	*£5.5k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£

	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

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Proposal for Change:

ECI-02 Highways staff: capitalisation

Reference:	ECI-02
Service Area:	ECI Operations - Highways
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Currently staff in ECI Operations - Highways use the Profess time recording software to record time spent on both revenue and capital activities. The purpose of Profess is to determine the time allocation between capital and revenue budgets.

The use of Profess is time-consuming and the usage and accuracy of data is inconsistent across the Highways Group.

The proposed change will see a redistribution of time across the capital and revenue budget headings based on an assessed percentage of time related to the post rather than the time recorded on Profess.

This will provide greater predictability and certainty of staff costs in revenue and capital work streams.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

Some initial time distribution analysis has been undertaken and it confirms that the staff time recording could be remodelled to reflect job role rather than specific to the individual.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

There is no impact on residents, businesses or any other external organisations.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

The costs for the Profess time recording system is spread across ECI Operations. The costs will remain unchanged and be borne by the service areas that continue to use the software.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Those staff not required to fill out Profess time sheets will save a considerable amount of time over the year. Those who charge out a proportion of their time will continue to use a modified time sheet on Excel; therefore, no licence fee costs

The number of FTE that might be lost is: *0*

The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
By winter 2018 (any costs can be redistributed as a retrospective exercise)	*Winter 2018*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The principle risk relates to the service not being able to demonstrate the distribution of capital and revenue staff time for audit purposes.

Finance confirmed a system of monitoring is required; albeit not necessarily a time recording system. To ensure the capital / revenue time distribution remains accurate and fit for purpose, it is intended to undertake time recording audits spanning specific job roles over one week of the year.

This will serve to corroborate the historical information gathered from Profess data and provide future data in the event of internal and external audit.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Not applicable

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No consultation required. Light touch communications to Highways staff notifying of the proposed changes.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None.

There are internal and external audit requirements to demonstrate the distribution of staff time / costs across to capital. This will be mitigated by ad hoc time audits.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes – time recording and additional 'sanity' checks		
If no, when is evidence expected?			Not applicable		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£307k*	*£0*	*-£0*	*£307k*	*Ongoing*
2019/20	*0*	*£0*	*-£0*	*0*	*-*
2020/21	*0*	*£0*	*-£0*	*0*	*-*
Total	*£307k*	*£0*	*-£0*	*£307k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£307k
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2019/20	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£
	TOTAL	-£307k

Proposal for Change:

ECI-07a Capitalising of Highway Lighting Revenue Budget

Reference:	ECI-07a
Service Area:	Highway Lighting
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCIA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Capitalising of Highway Lighting Revenue Budget as follows:

- An ongoing £300K Revenue Budget to be Capitalised each financial year for illuminated asset replacement (RTC's / Test failure units).
- A one-off additional £100K Revenue Budget to be capitalised in Financial year 2018/2019. Due to additional unforeseen RTC's and structural / test failures that require complete replacement 2018/2019.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No further Impact for Financial year 2018/19

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No other services will be impacted.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact on current staff levels

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No further resource required, only additional time on current staff levels to implement change to SAP and Purchase Orders.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Transfer of Capital budget to Highway Lighting	*Sept 2018*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

No risks identified for the financial year 2018/19.

Commentary:
Should this capitalisation have to be delivered in future years then it would have to be accounted for in a revised capital bid for 2019/20 onwards.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			[Yes]		
If no, when is evidence expected?			[Enter date]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£300k*	*£*	*-£*	*£300k*	*Ongoing*
2018/19	*£100k*	*£*	*-£*	*£100k*	*One Off*
2019/20	*-£100k*	*£*	*-£*	*-£100k*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£300k*	*£*	*-£*	*£300k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£400k
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£300k
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£300k
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£1.1m

Proposal for Change:

ECI-07b Highways – Winter & Emergency Service

Reference:	ECI-07b
Service Area:	Highways
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCFC

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

This proposal concerns roadside salt supplies for self-help usage by the travelling public in winter conditions. Current Council policy is for salt to be supplied for this operation contained in grit bins and 1 tonne dumpy bags. The proposal is to remove this provision for the winter of 2018/19.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

Pending approval to proceed.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

This is a service that has traditionally been supplied by the County Council in order to promote self-help by the travelling public, residents, local businesses etc. This approach is promoted in Council publicity material and is supported on a national basis by the Department for Transport.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Greater demand from the travelling public, residents, local businesses, District/Town/Parish Councils, Elected Members and others for additional roads to be included on the County Council's precautionary Salting Network.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact on staff.

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None – will be managed within the service area.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Removal of provision.	Winter of 2018/19

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The proposal may adversely affect the ease of use and travel across the highway network in winter conditions.

The proposal will reverse the Council's current approach to the distribution of salt for self-help usage.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Will rely upon the co-operation of the travelling public, residents, local businesses, District/Town/Parish Councils, Elected Members and others.

Any reduction in the Skanska budgets issued through the Annual Plan will affect the revenue rebate and may affect our ability to realise further MTFP savings.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Yes. This affects access to the highway network for all.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Yes. Direct communication with District/Town/Parish Councils, Elected Members and others will be required. Communicating these changes to the wider public would require press release(s) and follow up interviews through local media channels. In order to mitigate the potential impact on communities the County Council will develop a proposal to offer to top up grit bins as chargeable service. Changes to County Council publicity documents promoting the self-help approach and changes to the County Council website would be required.

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* None.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?			N/A		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£40,000*	*£*	*-£*	*£40,000*	*One-off*
2019/20	*-£40,000*	*£*	*-£*	*-£40,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V1**	**Date Completed**	**22/08/2018**

Description of what is being impact assessed

SCC Financial Imperative Actions - ECI07b – Highways - Winter & Emergency Service (Salt Supplies)

This proposal concerns roadside salt supplies for self-help usage by the travelling public in winter conditions. Current SCC policy is for salt to be supplied for this operation contained in grit bins and 1 tonne dumpy bags. The proposal is to remove this provision for the winter of 2018/19.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

- The local knowledge of the Somerset County Council (SCC) Highways Group of the Somerset highways network.
- Suitably qualified and experienced personnel (SQEP) who have considerable experience in managing winter service.
- Bench-marking against 'Well Managed Highways – Code of Practice 2016" Minimum Winter Network.
- Many years' experience of contacts with local stakeholders who use the Somerset highways network.
- SCC's "Equality Act: Protected Characteristics – January 2013". Although five years old, the data in relation to the protected characteristics that are relevant to this analysis are still appropriate.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

No formal consultation has been carried out with any protected groups who may be impacted by this proposal. This is due to the short-time scales involved in the SCC Financial Imperative Actions programme. The proposal only covers in year operations (2018/19). Mitigation will be achieved by utilisation of farming contractors and other ad hoc activities depending on available resources.

The proposal will be mitigated further by inviting Parish Councils to pay to have their bin topped up. This will enable engagement to happen with those most impacted by the proposal and allow for a better assessment of any issues that arise. A record of this will be maintained and will feed into a review of the **Somerset County Council Winter & Emergency Policy Plan 2017/ 2018.**

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• The proposals do have a greater impact on rural areas. Rural areas do have a larger proportion of older residents than urban areas. • The proposals could impact access to schools and education facilities for children and young people.	☒	☐	☐
Disability	• The removal of roadside salt supplies will make the urban highway network, including footways, less accessible and more hazardous than previously.	☒	☐	☐

Gender reassignment	• N/A	☐	☒	☐
Marriage and civil partnership	• N/A	☐	☒	☐
Pregnancy and maternity	• The removal of roadside salt supplies will make the urban highway network, including footways, less accessible and more hazardous than previously. It will thus be less available for use by pregnant and new mothers and their support team and, if used, more hazardous to drive on.	☒	☐	☐
Race and ethnicity	• N/A	☐	☒	☐
Religion or belief	• N/A	☐	☒	☐
Sex	• N/A – see Pregnancy / Maternity implications above.	☐	☒	☐
Sexual orientation	• N/A	☐	☒	☐

Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Carers. The removal of roadside salt supplies will make the urban highway network, including footways, less accessible and more hazardous than previously. It will thus be less available for use by carers accessing people who require care and, if used, more hazardous to drive on. • Socio-economic. The removal of roadside salt supplies will make the urban highway network, including footways, less accessible and more hazardous than previously. It will thus be less available for use by people getting to work or accessing other services and, if used, more hazardous to drive on. • Rurality. The proposals do have a greater impact on rural areas. The removal of roadside salt supplies will make the urban highway network, including footways, less accessible and more hazardous than previously. It will thus be less available for use by people travelling around rural areas and, if used, more hazardous to drive on. Any public bus services will have a less accessible and more hazardous network to drive on. • Isolation. The proposals do have a greater impact on isolated groups, especially in rural areas. The removal of roadside salt supplies will make the urban highway network, including footways, less accessible and more hazardous than previously. It will thus be less available for use by people travelling around rural areas and, if used, more hazardous to drive on. Any public bus services will have a less accessible and more hazardous network to drive on.	☒	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Publicity by SCC in advance of the 2018/2019 winter season to alert all road users as to the changes to the network compared to the winter of 2017/2018	15/10/2018	SCC Highways Group	Record kept of media interactions, internet and social media postings, direct communications with parish/town councils and elected members. Record of responses received from the travelling public, parish/town councils and elected members.	☐
Section 3.3.1 of the Somerset County Council Winter & Emergency Policy Plan states that 'where conditions or events are unusual they are to be responded to by contacting a Client Representative and/or operative to carry out appropriate treatment'. This may be used to mitigate any impact to the equalities protected groups outlined above where it is deemed 'unusual'. The policy specifically references pregnant women going into labour.	01/10/2018	SCC Highways Group	Record kept of the number of requests that SCC Highways Group receives.	☒

Somerset County Council Winter & Emergency Policy Plan is currently being updated to ensure it is fit for purpose in light of these short term changes.	01/09/2018	SCC Highways Group	Record kept of the number of requests that SCC Highways Group receives	☐

If negative impacts remain, please provide an explanation below.
It is highly likely that despite the measures taken above, there will still remain negative impacts in terms of network accessibility and highway safety.

Completed by:	**David Peake**
Date	**22nd August 2018**
Signed off by:	**Andrew Turner**
Date	**23rd August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**David Peake**
Review date:	**March 2019**

Proposal for Change:

ECI-07c Capitalisation of Rights of Way works

Reference:	ECI-07c
Service Area:	Rights of Way
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCKBA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking uposts that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To capitalise £45k (approximately half) of the Area revenue works budget and £20k of the Central works budget for Rights of Way, and manage an anticipated underspend on the Town & Village Green budget of £15k for 2018/19

Capitalisation of Area revenue works budget

Timber bridge kits, their installation and furniture stock are currently largely attributed to capital budgets along with any significant bridge/ surfacing/drainage projects.

Replacement of waymarks, fingerposts, stiles, gates, ditch crossings etc. has been viewed as a revenue activity. Consideration of the most recent guidance confirms that this activity can be capitalised as it is structural maintenance for assets that have reached the end of their useful life, and this activity currently *represents* half of the revenue works budget for the Areas and the majority of the Central 'Projects' budget.

It is important to note that stiles and gates and privately-owned bridges are not deemed to be 'owned' by the County Council, but they are an asset of the highway.

Landowners are required to maintain stiles and gates but may claim 25% of reasonable costs in doing so. In practice this is achieved by providing the asset to the landowner and they or volunteers install it. There are occasions where the Council will exercise discretion and fund installation. This discretion has decreased over the years. Should there be pressure on the capital allocation in the future, a greater enforcement approach could be considered in the future, however this would come with its inherent risks and costs.

Anticipated underspend of Town & Village Green budget of £15k for 2018/19

A one-off in-year saving of £15k can be anticipated in relation to Town & Village Green registrations. Please note that the rest of this paper focuses on the first proposal as there is no demonstrable impact of not processing a Town & Village Green application this year.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

In year:

100 *%*

Explanation:

The capital budget is available from Traffic Management and therefore there is high confidence on delivery for this financial year.

Ongoing:

50 *%*

Explanation:

Uncertainty as to capital allocation for future years and how this capitalisation can be delivered in future years without unduly impacting on service delivery and organisational structure.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Future pressure on capital allocation resulting in a possible move to an increased enforcement delivery model could see a decrease in percentage of the network easy to use, thus impacting on tourism, local economy, health, school routes & modal shift agendas (ie people using different ways to travel). It could also see an increase in complaints and notices being served on the Council for 'out of repair' and/or obstructions. This would be largely down to non-compliance from landowners and a trend of increasing lack of landowner co-operation in response to the change in approach. This will be particularly prevalent where we have been instrumental in improving the asset on their land in the past (eg: stile to gate), the effect of which is a potential greater cost when requiring replacement, albeit this should be less often. Pressure would also be placed on the current relationships with contractors and current arrangements for storage of materials could be jeopardised.

Greater use of powers by Parish Councils and increased uptake of volunteer schemes are other possible outcomes which may, in part, offset the above impact.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None in-year.

Should this capitalisation have to be delivered in future years then it would have to be accounted for in a revised capital bid for 2019/20 onwards.

If the necessary increase in allocation is not realised then this puts pressure on the other workstreams of the capital budget such as significant bridges and capital items for volunteer schemes.

Should an increase in enforcement (see 3 above) have to also take place then this would impact on Enforcement Officer resource (or Job Evaluation process), debt recovery, additional admin processes through SAP (staff impact on the service and Commercial & Procurement). There is currently no Business Support provision for this area of work but the demand for it could increase to ensure grade-appropriate work division.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None.

Commentary:
Should this capitalisation have to be delivered in future years then it would be accounted for in a revised capital bid for 2019/20 onwards.

If the necessary increase in allocation is not realised then this would impact on staff. It would necessitate a review of the current staffing structure and a likely increase in the Enforcement Officer resource. A Job Evaluation process may follow for Area Wardens, with a possible impact on staffing budgets. This would be an additional pressure on revenue/ capital budgets

SUBJECT TO FUTURE CAPITAL ALLOCATION

The number of FTE that might be required: ***1***

The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Can be managed in-service.

Commentary:
Should this capitalisation have to be delivered in future years then it would have to be accounted for in a revised capital bid for 2019/20 onwards.

If the necessary increase in allocation is not realised then this would impact on resources required; Enforcement Officer support, debt recovery, business support, commercial & procurement.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Retrospective analysis and forward instruction	Upon acceptance of the proposal
Completion	2-4 weeks after acceptance and at year end.

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies). What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Risks:
Future risks are outlined in the impact and resources sections above. Main risk is alienation of landowners and a general withdrawal of cooperation. Cooperation of landowners is more critical in the Rights of Way context than in the roads and the financial and officer time cost of this cooperation whilst difficult to measure, should not be underestimated.

Opportunities: Potential for increased uptake in volunteer schemes and use of Parish Council powers if service delivery model changes, but this opportunity is likely to plateau at some point and often will stand or fall on the motivation of key individuals.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None in-year.

Commentary:
Sufficient capital budget allocation in the future to offset the proposal as well as support the potential increase in volunteer scheme participation.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Not in year, but reservations as to future service deliverability pending capital allocations may require an Equality Impact Assessment in the future.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Not necessary in-year.

Commentary:
Should this capitalisation have to be delivered in future years then it would have to be accounted for in a revised capital bid for 2019/20 onwards.

If the necessary increase in allocation is not realised then this would require staff consultation particularly around any potential restructure / JE process / business support requirement. Some stakeholder consultation (Local Access Forum, NFU, CLA, Ramblers, British Horse Society) may be advisable.

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Commentary:
Should this capitalisation have to be delivered in future years then it would have to be accounted for in a revised capital bid for 2019/20 onwards.

If the necessary increase in allocation is not realised then this would impact on the efficiency on issue resolution.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£65k*	*£0*	*-£0*	*£65k*	*Ongoing, (subject to capital allocation)*
2018/19	*£15k*	*£0*	*-£0*	*£15k*	*One-off*
2019/20	*-£15k*	*£0*	*-£0*	*-£15k*	-
2020/21	*£0*	*£0*	*-£0*	*£0*	-
Total	*£65k*	*£0*	*-£0*	*£65k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£65k
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	-£65k
2019/20	Capital Costs	-£65k
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	-£65k
2020/21	Capital Costs	-£65k
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	-£65k
	TOTAL	-£195k

Proposal for Change:

ECI-07d Safety Defects

Reference:	ECI-07d
Service Area:	Highways – Safety Defects
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCACA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Reallocate £21,300 from revenue to capital for pedestrian guard rail replacement and reallocate £1.3k from revenue to capital for sign replacement, where the assets have reached the end of their useful life.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

Capitalisation proposal follows the same approach for other safety defects previously capitalised.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Additional capital budget codes required

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Sept 2018 (to include retrospective assessment of capital reallocation)	*Sept 2018*

8. Risks and opportunities:

Should this capitalisation have to be delivered in future years then it would have to be accounted for in a revised capital bid for 2019/20 onwards.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

None

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

N/A

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes]
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£22,600*	*£*	*-£*	*£22,600*	*Ongoing*
2019/20	*£*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£22,600*	*£*	*-£*	*£22,600*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£22,600
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£22,600
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£22,600
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£67,800

Proposal for Change

ECI-07e Purchase of Elliott Buildings

Reference:	ECI-07e
Service Area:	Highways – West Somerset Elliott building
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCCC

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Purchase the existing Elliott Buildings for £15k in West Somerset Depot from Capital, to release £10k revenue for leasing the building only per annum.

Please note:

- That we are still awaiting costs for the potential purchase of the Elliott units at Yeovil depot.
- That the Highways group is reviewing the depot assets for further financial and operational efficiencies. This has commenced and is expected to realise further savings.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80%

Explanation:

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Additional capital codes will be required

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
	September 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

None

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

None

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

N/A

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes]
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£10k*	*£*	*-£*	*£10k*	*Ongoing*
2019/20	*£*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£10k*	*£*	*-£*	*£10k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£15,000
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£15,000
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£ 15,000
	TOTAL	£ 15,000

Proposal for Change:

ECI-07f Termination of in-year Hedge Cutting, Ditching and Ploughing budget spend (excluding works committed for delivery).

Routine and Environmental Maintenance Project

Reference:	ECI-07f
Service Area:	Highways Maintenance (Operations)
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCDABA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

This proposal is to:

1. Terminate in-year Hedge Cutting, Ditching and Ploughing budget spend.
2. Only raise reactive orders for works for these workstreams and only if they are safety related.

The proposal only relates to 2018/19 savings.

2a.	Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation: Ditching (£40k), Ploughing (£20k) and Hedge Trimming (£2k)

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

- Low impact on communities and business. Whilst the change would see a reduction in operational output, works have taken place already this year.
- The County Council will continue to work with the Somerset Rivers Authority (SRA) in order to seek funding for enhanced maintenance works programmes.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No direct impact as a consequence.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No direct impact as a consequence.

The number of FTE that might be lost is: ☐
The number of posts that might be lost is: ☐

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No resource/support needed to make the change.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Delivery of saving	Once approved

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

- Risk of affecting the overall contract turnover and subsequent revenue rebate.
- Potential for contractual Early Warning Notices/Compensation event with contractor.
- Potential increase in localised carriageway surface water flooding, accidents, third party damage and claim.

- Potential accelerated rate of deterioration to the carriageway surface course due to running surface water between blocked gullies.
- Potential accelerated rate of deterioration to the highway pavement due to water ingress.

The SRA enhanced maintenance requirement potentially applies in order to mitigate negative impacts.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/A

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Yes

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

The County Council will to continue to work with the SRA in order to seek funding for enhanced maintenance works programmes.

12. Legal Implications:

Please consider
• Are there any services which could safely and legally be stopped?
• Whether or not you require a delegation to implement
• Any relevant standing orders or Procedure Rules that you are following (including procurement)
• Is there a statutory duty to consult?

None.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£62,000*	*£*	*-£*	*£62,000*	*One-off*
2019/20	*-£62,000*	*£*	*-£*	*-£62,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V1**	**Date Completed**	**21/08/2018**

Description of what is being impact assessed

ECI-07f
The reduction to the in-year budget for the delivery of Ploughing, Ditching and Hedge Cutting operations

This proposal is to:

1. Termination of in-year Hedge Cutting, Ditching and Ploughing budget spend.
2. Only reactive orders to be raised for works for these workstreams and only if safety related.

The proposal only related to 2018/19 savings.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

This information is not available as the impact cannot be predicted at this stage.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

Due to the time constraints there has been no formal consultation. All reactive / emergency needs will continue, and the proposal

only relates to in year savings (2018/19), so the impact will be low.
Analysis of impact on protected groups
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• The proposals may have a greater impact on older residents and children as hedge growth or flooding cause by ceasing planned works may impede pedestrian walk ways.	☒	☐	☐
Disability	• Hedge growth or flooding cause by ceasing planned works may impede pedestrian walk ways.	☐	☒	☐
Gender reassignment	• N/A	☐	☒	☐
Marriage and civil partnership	• N/A	☐	☒	☐

Pregnancy and maternity	• Hedge growth or flooding cause by ceasing planned works may impede pedestrian walk ways	☐	☒	☐
Race and ethnicity	• N/A	☐	☒	☐
Religion or belief	• N/A	☐	☒	☐
Sex	• N/A	☐	☒	☐
Sexual orientation	• N/A	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• N/A	☐	☒	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Service reductions are not expected to have any significant impacts. In the unlikely event that safety or serviceability issues arise, they will be dealt with using the reactive safety defect programme of work (which remains unaffected by these proposals). This is a statutory duty of the local authority and remains in place. The date provided is the date on which planned works ceased. The proposal is only for the 2018/19 financial year.	01/09/2018	Andrew Turner	Through the impact manged through the Reactive Safety Defect Programme	☐
By way of mitigation, SCC will to continue to work with the SRA in an attempt to seek funding for enhanced maintenance works which may occur as a result of this proposal.	01/09/2018	Andrew Turner	Through conversations with the SRA	☐

If negative impacts remain, please provide an explanation below.

N/A

Completed by:	**Neil McWilliams**
Date	**21/08/2018**
Signed off by:	**Andrew Turner**
Date	**21 August 2018**

Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Neil McWilliams**
Review date:	**March 2019**

Proposal for Change:

ECI-07g Routine and Environmental Maintenance

- **Implement a reduced width cut across the A and B road network on the 2nd programmed visit.**

Reference:	ECI-07g
Service Area:	Highways Maintenance (Operations)
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCDABA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Verge maintenance

Implement a 1-swathe width cut across the A and B network on the 2nd programmed visit. This will require an in-year amendment to the planned works programme.

- Currently, variable swathe width planned cuts are carried out across the network.
- An in-year saving to be achieved by modifying the extent of cutting undertaken in this 4-week countywide programme.
- Limited vegetation growth noted on the network would also support the reduced cut.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Low impact on communities and business. Whilst the change would see a reduction in operational output, the overall verge maintenance programme would still deliver/align with the current Council policy.

- A and B network, inclusive of visibility splays, cut twice
- C and unclassified network, inclusive of visibility splays, cut once.
- Sensitive sites cut last.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No direct impact as a consequence.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No direct impact as a consequence.

The number of FTE that might be lost is: ☐
The number of posts that might be lost is: ☐

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No resource/support needed to make the change.

7. Timescale to deliver and major milestones:
To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Implement saving	Once approved

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Risks - of affecting the overall contract turnover and subsequent revenue rebate.

- Implement 1-swathe width cut countywide for the A and B network planned verge maintenance 2nd cut but to minimise risk visibility splays to remain as

part of this programme.

Opportunities - the reduction in service can positively enhance wildlife and flora protection and enable creation of new habitats.

- The change to working practises would better align the current verge maintenance operations with the Somerset County Council 'Highways Bio-diversity Manual'.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/A

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

N/A

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

N/A

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£10,000*	*£*	*-£*	*£10,000*	*One-off*
2019/20	*-£10,000*	*£*	*-£*	*-£10,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-07h Reduction in development of 'Confirm' software system

Reference:	ECI-07h
Service Area:	Highways – Confirm Database
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCACA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:
Postpone additional upgrades of modules / training of the Confirm system until April 2019 to include Personal Digital Assistant purchase. This change will reduce revenue budget by £10k. 'Confirm' is a highway maintenance and asset management software system for the management of highway, traffic and streetworks functions.

2a. Confidence level
Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level. *100* *%* *Explanation:*

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None

The number of FTE that might be lost is:

The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Additional capital codes required.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Implement saving	Once approved

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

No Training for Confirm Managers could delay future efficiency improvements.

No facility to purchase additional Street Works modules if any legislation changes happen in this area.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

None

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

n/a

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes]
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£10,000*	*£*	*-£*	*£*	*One-Off*
2019/20	*-£10,000*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-07i Routine and Environmental Maintenance

- **Capitalisation of the existing revenue funded Ditches and Grips budget**

Reference:	ECI-07i
Service Area:	Highways Maintenance (Operations)
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCDABA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
Capitalisation of the existing and in-year revenue funded “Ditches and Grip”* budget spend. * (A highway grip is a shallow ditch connecting the road edge to the roadside ditch. Its purpose is to drain rain water from the highway into the connected roadside ditch).	

2a.	Confidence level
Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level. *60* *%* *Explanation:* This proposal must be analysed against criteria to ensure compliance with revenue to capital switch.	

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No impact. Operational delivery continues.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No direct impact as a consequence.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No direct impact as a consequence.

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No resource/support needed to make the change.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Deliver saving	Once approved

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

No impact. Operational delivery continues.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/A

10. Initial Equality Impact Assessment:
Is the equality duty relevant? N/A

11. Consultation and Communications plan:
Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? N/A

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* N/A

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£25,000*	*£*	*-£*	*£25,000*	*One-off*
2019/20	*-£25,000*	*£*	*-£*	*-£25,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£0*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£25
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	-£25
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£

2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
TOTAL		£

Proposal for Change:

ECI-07j Routine and Environmental Maintenance

- **Reduction of the in-year reactive jetting budget.**

Reference:	ECI-07j
Service Area:	Highways Maintenance (Operations)
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
Reduction of the in-year reactive jetting budget to remove £40k from the original base budget. Through this proposal reactive maintenance of roadside drains and gullies and associated pipework will be reduced	

2a.	Confidence level
Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level. *100* *%* *Explanation:*	

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Medium impact on communities and business. Whilst the change would see a reduction in operational output, works have taken place already this year.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No direct impact as a consequence.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No direct impact as a consequence.

The number of FTE that might be lost is: ☐
The number of posts that might be lost is: ☐

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No resource/support needed to make the change.

7. Timescale to deliver and major milestones:
To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Implement saving	Once approved

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

- Risk of affecting the overall contract turnover and subsequent revenue rebate.
- Potential for contractual Early Warning Notices/Compensation event with contractor.
- Potential increase in localised carriageway surface water flooding, accidents, third party damage and claim.
- Potential accelerated rate of deterioration to the carriageway surface course due to running surface water between blocked gullies.

- Potential accelerated rate of deterioration to the highway pavement due to water ingress.
- The County Council will continue to work with the Somerset Rivers Authority in order to seek funding for enhanced maintenance works programmes.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/A

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

N/A

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

N/A

12. Legal Implications:

Please consider
• Are there any services which could safely and legally be stopped?
• Whether or not you require a delegation to implement
• Any relevant standing orders or Procedure Rules that you are following (including procurement)
• Is there a statutory duty to consult?

None.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£40,000*	*£*	*-£*	*£40,000*	*One-off*
2019/20	*-£40,000*	*£*	*-£*	*-£40,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1**	**Date Completed**	**21/08/2018**

Description of what is being impact assessed

ECI-07j

The reduction to the in-year budget for the delivery of Reactive Jetting

Through this proposal reactive maintenance of roadside drains and gullies and associated pipework will be reduced

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

This information is not available as the impact cannot be predicted at this stage.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

Due to the time constraints there has been no formal consultation. All reactive / emergency needs will continue, and the proposal only relates to in year savings (2018/19), so the impact will be low.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• Flooding caused by ceasing planned works may impede pedestrian walk ways and highways	☒	☒	☐
Disability	• Flooding caused by ceasing planned works may impede pedestrian walk ways and highways	☒	☒	☐
Gender reassignment	• N/A	☐	☒	☐
Marriage and civil partnership	• N/A	☐	☒	☐
Pregnancy and maternity	• Flooding caused by ceasing planned works may impede pedestrian walk ways and highways	☒	☒	☐

Race and ethnicity	• N/A	☐	☒	☐
Religion or belief	• N/A	☐	☒	☐
Sex	• N/A	☐	☒	☐
Sexual orientation	• N/A	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Flooding caused by ceasing planned works may impede pedestrian walk ways and highways	☒	☒	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

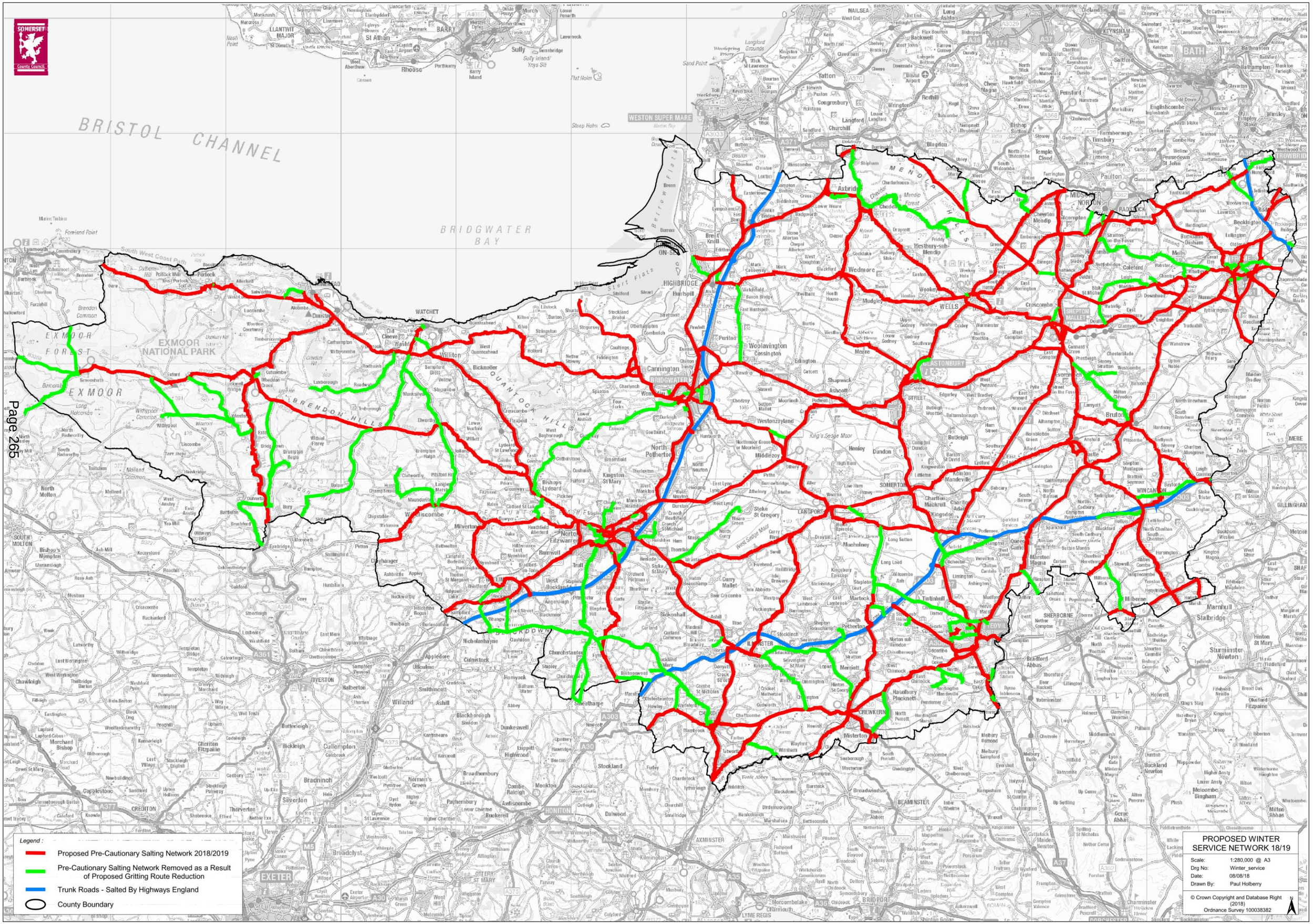
Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Service reductions are not expected to have any significant impacts. In the unlikely event that safety or serviceability issues arise, they will be dealt with using the reactive safety defect programme of work (which remains unaffected by	01/09/2018	Andrew Turner	Through the impact manged through the Reactive	☐

these proposals). This is a statutory duty of the local authority and remains in place. The date provided is the date on which planned works ceased. The proposal is only for the 2018/19 financial year.			Safety Defect Programme	
By way of mitigation, SCC will to continue to work with the SRA in an attempt to seek funding for enhanced maintenance works which may occur as a result of this proposal.	01/09/2018	Andrew Turner	Through conversations with the SRA	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.
These will be managed through the Reactive Safety Defect Programme

Completed by:	**Neil McWilliams**
Date	**21/08/2018**
Signed off by:	**Andrew Turner**
Date	**21 Aug 2018**

Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Neil McWilliams**
Review date:	**March 2019**


BRISTOL CHANNEL
BRIDGWATER BAY
EXMOOR NATIONAL PARK
EXMOOR FOREST
BRENDON HILLS
QUANTOCK HILLS
MENDIP HILLS
BLACKDOWN HILLS
WESTON SUPER MARE
BRIDGWATER
WELLS
GLASTONBURY
TAUNTON
EXETER
HONITON
AXMINSTER
SOMERTON
YEOVIL
CREWKERNE
BEAMINSTER
BRIDPORT
LYME REGIS
Legend :
Proposed Pre-Cautionary Salting Network 2018/2019
Pre-Cautionary Salting Network Removed as a Result of Proposed Gritting Route Reduction
Trunk Roads - Salted By Highways England
County Boundary
PROPOSED WINTER SERVICE NETWORK 18/19
Scale: 1:280,000 @ A3
Drg No: Winter_service
Date: 08/08/18
Drawn By: Paul Holberry
© Crown Copyright and Database Right (2018)
Ordnance Survey 100038382

Proposal for Change:

ECI-07l Reduce the County Council's Precautionary Salting Network

Reference:	ECI-07l
Service Area:	Highways
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCFC

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Reduce the Somerset County Council (SCC) Precautionary Salting Network from 23 routes to 16 routes by removing the four lowest current criteria:

- Adjoining Counties Links
- Major Settlement Links
- Settlements above 500 feet Links
- Urban/Rural School Links (Major).

The proposal is to remove this service for the winter of 2018/2019.

(For information, the remaining criteria covered by the revised SCC Precautionary Salting Network will be: Strategic and County Routes, Freight Routes and Emergency Locations Links).

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

Pending approval to proceed – decision required to implement and incorporate into the Winter Service Policy Plan.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

There is no current scheme for the residents, schools, businesses etc to carry out themselves or pay for salting on additional sections of the network outside the Precautionary Salting Network. Town/Parish councils could have a role where there are currently no grit bins in the locality.

The current SCC proposal (see appendix) is:

- Strategic and County Route;
- Freight Routes; and
- Emergency Locations Links

The Code of Practice (2018) sets a “Minimum Winter Network” which should include:

- Connectivity between major communities;
- Links to the strategic highway network;
- Connectivity across authority boundaries where appropriate;
- Links to transport interchanges; access to emergency facilities including Fire and Rescue, Police, Ambulance Services and hospitals;
- Links to critical infrastructure (ports, power stations, water treatment works etc);
- Principal public transport routes, access to rail and bus stations, and to bus garages and other depots; and
- Other locally important facilities.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

There may be impacts on accessibility for services that SCC deliver such as home visits by SCC staff to the homes of vulnerable residents, especially in rural areas.

There may also be impacts on residents of Somerset accessing other SCC facilities and services. There may be impacts on some SCC staff gaining access to their place of work.

These criteria include access routes to schools. Many of these schools are served by school buses operated by or contracted to Transporting Somerset.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact on staff other than as set out in section 4.

The number of FTE that might be lost is: *0*
The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None – will be managed within the service area.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Appropriate democratic scrutiny and sign-off.	September 2018
Preparation of drawings etc	September 2018
Communication with town/parish and elected members	30th September 2018
Implement revised routes for start of 2018/2019 season.	15th October 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Removal of part of the service may be less convenient and could lead to hazardous highway conditions at times.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

SCC Democratic Services
SCC Children's Services
SCC Adult Social Care
Transporting Somerset
Somerset Waste Partnership

Any reduction in the budgets issued through the Annual Plan may affect the revenue rebate which could affect our ability to realise further MTFP savings

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Yes. This affects access to the highway network for all. Impacts on particular groups need to be considered.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Yes. Direct communication with schools, District, Town, Parish Councils and elected members will be required. Direct communication with schools, district/town/parish councils and elected members in advance of implementation will be needed. Changes to SCC publicity documents and website will need to be made.

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£120,000*	*£*	*-£*	*£120,000*	*Ongoing*

2019/20	*£0*	*£*	*-£*	*£0*	
2020/21	*£0*	*£*	*-£*	*£0*	
Total	*£120,000*	*£*	*-£*	*£120,000*	*Ongoing*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**A**	**Date Completed**	**22/08/2018**

Description of what is being impact assessed

SCC Financial Imperative Actions - ECI 07l – Highways - Winter & Emergency - Reduce Gritting Routes

Reduce the SCC Precautionary Salting Network from 23 routes to 16 routes by removing the four lowest current criteria:

- Adjoining Counties Links
- Major Settlement Links
- Settlements above 500 feet Links
- Urban/Rural School Links (Major).

The proposal is to remove this service for the winter of 2018/2019.
(For information, the remaining criteria covered by the revised SCC Precautionary Salting Network will be: Strategic and County Routes, Freight Routes and Emergency Locations Links).

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

- The local knowledge of the SCC Highways Group of the Somerset highways network.
- Suitably qualified and experienced personnel (SQEP) who have considerable experience in managing winter service.
- Bench-marking against 'Well Managed Highways – Code of Practice 2016" Minimum Winter Network.
- Many years' experience of contacts with local stakeholders who use the Somerset highways network.

- SCC's "Equality Act: Protected Characteristics – January 2013". Although five years old, the data in relation to the protected characteristics that are relevant to this analysis are still appropriate.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

No formal consultation has been carried out with any protected groups who may be possibly impacted by this proposal. This is due to the short-time scales involved in the SCC Financial Imperative Actions programme. The proposal only covers in year operations (2018/19) and will be mitigated by the continuation of any reactive / emergency works required.

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• The proposals do have a greater impact on rural areas. Rural areas do have a larger proportion of older residents than urban areas. • The proposals could impact access to schools and education facilities for children and young people.	☒	☐	☐
Disability	• The proposal will make the rural highway network, including footways, less accessible and more hazardous than previously.	☒	☐	☐

Gender reassignment	• N/A	☐	☒	☐
Marriage and civil partnership	• N/A	☐	☒	☐
Pregnancy and maternity	• The reduced number of gritting routes will mean that less of the network will be treated in anticipation of frost, ice and snow. It will thus be less available for use by pregnant and new mothers and their support team and, if used, more hazardous to drive on.	☒	☐	☐
Race and ethnicity	• N/A	☐	☒	☐
Religion or belief	• N/A	☐	☒	☐
Sex	• N/A – see Pregnancy / Maternity implications above.	☐	☒	☐
Sexual orientation	• N/A	☐	☒	☐

Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Carers. The reduced number of gritting routes will mean that less of the network will be treated in anticipation of frost, ice and snow. It will thus be less available for use by carers accessing people who require care and, if used, more hazardous to drive on. • Socio-economic. The reduced number of gritting routes will mean that less of the network will be treated in anticipation of frost, ice and snow. It will thus be less available for use by people getting to work or accessing other services and, if used, more hazardous to drive on. • Rurality. The proposals do have a greater impact on rural areas. The reduced number of gritting routes will mean that less of the network will be treated in anticipation of frost, ice and snow. It will thus be less available for use by people travelling around rural areas and, if used, more hazardous to drive on. Any public bus services will have a less accessible and more hazardous network to drive on. • Isolation. The proposals do have a greater impact on isolated groups, especially in rural areas. The reduced number of gritting routes will mean that less of the network will be treated in anticipation of frost, ice and snow. It will thus be less available for use by people travelling around rural areas and, if used, more hazardous to drive on. Any public bus services will have a less accessible and more hazardous network to drive on.			

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Publicity by SCC in advance of the 2018/2019 winter season to alert all road users as to the changes to the network compared to the winter of 2017/2018	15/10/2018	SCC Highways Group	Record kept of media interactions, internet and social media postings, direct communications with parish/town councils and elected members. Record of responses received from the travelling public, parish/town councils and elected members.	☐
Section 3.3.1 of the Somerset County Council Winter & Emergency Policy Plan states that 'where conditions or events are unusual they are to be responded to by contacting a Client Representative and/or operative to carry out appropriate treatment'. This may be used to mitigate any impact to the equalities protected groups	01/10/2018	SCC Highways Group	Record kept of the number of requests that SCC Highways Group receives.	☒

outlined above where it is deemed 'unusual'. The policy specifically references pregnant women going into labour.				
Somerset County Council Winter & Emergency Policy Plan is currently being updated to ensure it is fit for purpose in light of these short term changes.	01/09/2018	SCC Highways Group	Record kept of the number of requests that SCC Highways Group receives	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

It is highly likely that despite the measures taken above, there will still remain negative impacts in terms of network accessibility and highway safety especially in the event of prolonged ice and snow.

Completed by:	**David Peake**
Date	**22nd August 2018**
Signed off by:	**Andrew Turner**
Date	**23rd August 2018**
Equality Lead/Manager sign off date:	**August 2018**

To be reviewed by: (officer name)	**David Peake**
Review date:	**March 2019**

Proposal for Change:

ECI-07m Highway fee structure (Section 171 and Section 184 licences)

Reference:	ECI-07m
Service Area:	Highways
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCFC

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To align with charging structures of other regional Local Authorities, increase fees structure for:

- Section 171 licences (Working on or adjacent to the highway)
- Section 184 licenses (Vehicular crossings)

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

70 *%*

Explanation:

Pending approval to proceed.
Implementation likely to be in quarter 4 of the 2018/19 financial year.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No – this is a regulatory function undertaken by the Highway Authority.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact on staff.

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None – will be managed within the service area.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Fourth quarter implementation	Jan / Feb / Mar 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The increase costs may discourage those needing to work on the highway from applying for a licence, resulting in works being undertaken on the highway illegally.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Yes. Consultation will be required before implementation.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Consideration will need to be given to the procedural requirements relating to setting fees for works licences.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£29k*	*-£*	*£29k*	*Ongoing*
2019/20	*£*	*£87k*	*-£*	*£87k*	*Ongoing*
2020/21	*£*	*£0*	*-£*	*£0*	
Total	*£*	*£116k*	*-£*	*£116k*	*Ongoing*

13b. One off project costs and income (not included in above):

£'000's		

2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-18 Flood and Water Management

Reference:	ECI-18
Service Area:	Economic and Community Infrastructure
Director:	Paula Hewitt
Strategic Manager	Barry James
SAP Node	

1.	The proposal is to:
	Managing Demand – N/A
	Increasing Productivity – N/A.
	Service Delivery Models – N/A
X	**Reductions in Services** – This proposal constitutes a reduction in the service provided during this financial year, and will have a consequent impact upon future years (i.e. studies and options appraisals lead to future scheme delivery).

2. Outline of the proposed change:

In-year saving from the Flood and Water Management Programme of works.

This proposal is to halt a number of activities and schemes in the 2018/19 programme (several of which were also deferred in similar circumstances in 2017/18). This includes:

- Deferring flood risk management studies and options appraisals at 4 locations.
- Suspend delivery of 2 schemes commissioned to Skanska through the Highways TMC at Bruton and Curry Rivel.
- Suspend delivery of an Area Highways scheme for road stabilisation works adjacent to a watercourse in Taunton Deane.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

Deferring the proposed schemes will almost certainly achieve the savings required if a decision to do so is confirmed as soon as possible. Delays in decision could mean that the full saving cannot be achieved as spend will be incurred.

Other schemes in the programme are too advanced to be able to offer savings at this stage in the financial year or have already completed.

3. Impact on residents, businesses and other organisations:

Accepting this in-year saving will delay identification of flood alleviation measures at a number of higher risk locations. Several of these sites were prioritised for the programme based on previous flood events, including Ilminster where surface water flooding in the Ditton Street area that affected a number of residents and businesses was investigated by the team.

This work cannot be taken forward by another authority. These services are linked to the County Council's duties as Lead Local Flood Authority. This means the powers/responsibilities rest with the County Council and not another authority. The nature and types of work it is proposed to defer are not suitable for community led initiatives.

While SCC could apply for additional funding for projects from the Somerset Rivers Authority this would not be available in-year. Indeed, this is not straight forward and there is no guarantee any funding application would be successful. The Somerset Rivers Authority was created to provide locally raised funding for enhanced protection and flood works in Somerset. Bidding for funding for activities that are part of SCC's core business whilst making savings will likely attract scrutiny from partners and reputational damage for the council and potentially also for the SRA itself may ensue.

4. Impact on other services we provide:

None.

5. Impact on staff:

These proposals do not result in an impact on staff numbers, who will focus on other statutory work. There will be an impact on staff morale as the service provision aligns to the more statutory aspects of the role at the expense of long-term funding for better strategic outcomes.

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

None.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Notify Procurement and Environment Agency	*August 2018*
Saving delivered	*August 2018*

8. Risks and opportunities:

Deferring the studies for a second year will delay our ability to implement service improvements aimed at securing funding for larger flood alleviation schemes. This can lead to reputational damage, undermine potential for collaborative working, and may bring into question SCC's commitment and ability to solving flood-related issues, particularly if a future flood event occurs.

As a Flood Risk Management Authority SCC is represented on the Wessex Regional Flood and Coastal Committee. As a Lead Local Flood Authority SCC is expected to play its part in delivering the national capital programme – in particular the national target of 300,000 properties better protected from flooding by 2020. SCC can make this contribution by applying for Flood Defence Grant in Aid (FDGiA) funding to deliver flood mitigation schemes. To secure funding there is a robust application and assessment process. Applying for funding allows us to maximise the outcomes achievable from our own budget as well as demonstrating our commitment to working with partners. To meet these requirements SCC needs to have identified candidate schemes and this is achieved by undertaking studies to assess flood risk and consider and evaluate potential mitigating measures.

Not proceeding with these studies will delay the implementation of service improvement and prevent the preparation of robust business cases for FDGiA funding.

As a key contributor and host of the Somerset Rivers Authority partners may question our commitment to flood risk management activities at a time when additional funding is being raised through council tax for enhanced levels of flood protection.

9. Dependencies:

None.

10. Initial Equality Impact Assessment:

There is no immediately apparent need for assessment of equality impacts.

11. Consultation and Communications plan:

None.

12. Legal Implications:

These proposals impact on non-statutory activities. Whilst not undertaking these activities could impact on our ability to deliver statutory services it is not envisaged this will be to an extent that would lead to a failure to deliver a statutory duty.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£80,000*	*£*	*-£*	*£80,000*	*One-off*
2019/20	*-£80,000*	*£*	*-£*	*-£80,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	***£80,000***	*£*	*-£*	***£0***	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£

	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1**	**Date Completed**	**21 August 2018**

Description of what is being impact assessed

ECI-18

£80k reduction in flood and water management schemes delivered in-year (18/19)

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

Schemes are included in the programme of works based upon addressing flood risk and the resultant benefit of the works; there is no distinction made based on equalities/key characteristics, demographics etc.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

As there is no distinction made based on equalities/key characteristics there is no need to consult on the impact of these proposals in order to ensure due regard is made to potential impacts on the key characteristics.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• There is no discriminatory impact of this decision on this protected group. • Potentially, if a scheme did not take place that meant existing flood risk existed and a property flooded that was occupied by someone old then this could cause them harm. However, this would apply to anyone.	☐	☒	☐
Disability	• There is no discriminatory impact of this decision on this protected group. • Potentially, if a scheme did not take place that meant existing flood risk existed and a property flooded that was occupied by someone with a disability then this could cause them harm. However, this would apply to anyone.	☐	☒	☐
Gender reassignment	• There is no discriminatory impact of this decision on this protected group.	☐	☒	☐
Marriage and civil partnership	• There is no discriminatory impact of this decision on this protected group.	☐	☒	☐

Pregnancy and maternity	• There is no discriminatory impact of this decision on this protected group.	☐	☒	☐
Race and ethnicity	• There is no discriminatory impact of this decision on this protected group.	☐	☒	☐
Religion or belief	• There is no discriminatory impact of this decision on this protected group.	☐	☒	☐
Sex	• There is no discriminatory impact of this decision on this protected group.	☐	☒	☐
Sexual orientation	• There is no discriminatory impact of this decision on this protected group.	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• There is no discriminatory impact of this decision on this protected group. • Potentially, if a scheme did not take place that meant existing flood risk existed and a property flooded that was occupied by someone with low income, or are isolated, then this could cause them harm.	☐	☒	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
None.	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

Completed by:	**Barry James**
Date	**21 August 2018**
Signed off by:	**Paula Hewitt**
Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**

To be reviewed by: (officer name)	**Barry James**
Review date:	**March 2019**

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Proposal for Change:

CAF-10a Reduce the cost of providing transport to specialist provision

Reference:	CAF-10a
Service Area:	Inclusion – School Transport
Director:	Julian Wooster
Strategic Manager	Annette Perrington
SAP Node	

1.	The proposal is to:
√	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

The Children and Families Act 2014 requires the Local Authority to consider any school provision requested by parents. This is known as parental preference. The Local Authority will also consider the nearest appropriate provision. Final decisions are determined on individual circumstances which take into account the appropriateness of the school to meet the child's SEND needs and the most efficient use of resources. This includes travel time, distance and cost. Children and young people have an annual review of their Education, health and Care plan. This will also apply to all new EHCP's.

Key stage transfers occur nationally at the end of Year 6, end of Year 11. These transitions should be undertaken in the year proceeding transfer to support effective and successful transfer to a new school with parents/ carers and young people at the point of their annual review. Such points of transition provide an opportunity for existing school placements and travel arrangements to be reviewed and for savings to be made where previous school placements may not be the nearest or most appropriate.

The proposal is to offset demand through robust and effective casework management, making sure children are placed in appropriate provision as close to

home as possible and effectively manage parental expectation from an early stage. In addition to this SCC has adopted the use of personal transport payment (PTPs) and has 24 active PTPs which are preventing an additional £213,000 annually. These are offered to all parents of children that would otherwise have to be transported individually in a taxi.

This proposal will achieve savings in this financial year (2018/19) and improve casework practice and travel coordination for the future. The team are planning to review market sufficiency and revise the service offer for future years to achieve further savings.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

50 *%*

Explanation:

Each case must be considered on individual circumstances and in conjunction with the young person and parent/ carers. In some circumstances such a change may be difficult to achieve. Risks include parental resistance to change, delayed building programmes and impact upon multiple travel opportunities.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

This would impact on children and parent/carers where they are not attending their nearest appropriate school and where transition is required. Parents, children and young people will still have a preference and in most cases shorter travel times will be in the best interest of the individual.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

This is a change is an improvement to current working practices.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

N/A

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

This work will require strong and consistent coordination between the SEND Casework Team and officers in Transporting Somerset.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Identify all children that could be moved to provision closer to home	Already undertaken
Identify the next suitable transition point for those children	Ongoing
Commence relocation conversations during the next available appropriate annual review	Ongoing
Move children to the nearest appropriate provision	Ongoing

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Good casework management is essential to this proposal. There is a risk of reputational damage to the Local Authority and additional challenge where children and young people and / or their parents differ in their views of the most appropriate specialist provision. This will need to be addressed on a case by case basis considering the best outcome for the child / young person.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Strong and consistent coordination between the SEND Casework Team and officers in Transporting Somerset. Improvements in casework management.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

All children identified will be considered to have a disability under the 2010 Equality Act. Some parents may also have disabilities under the Equality Act and should have reasonable adjustments considered as part of individual circumstances. However, this proposal is just to improve the current practice and better manage transition periods which will happen despite this proposal. There is therefore no negative equalities related impact as a result of this proposal.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

All conversations would be undertaken on a case by case basis. No public consultation exercise is necessary as there is no change to policy or practice.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Any SEND Casework activity will have to be undertaken in accordance with the relevant Code of Practice. All case work decisions will run the risk of tribunal.

Casework staff will need to ensure that proposed changes, on an individual basis, do not impact on the local authorities' statutory duty to provide transport to eligible children (Education Act 1996) and the duty not to discriminate (Equality Act 2010).

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes/No]
If no, when is evidence expected?	[Enter date]
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£63,000*	*£*	*-£*	*£63,000*	*Ongoing*
2019/20	*£*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£63,000*	*£*	*-£*	*£63,000*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-09 Reduction in subsidy for Demand Responsive transport

Reference:	ECI-09
Service Area:	Transporting Somerset
Director:	Paula Hewitt
Strategic Manager	Oliver Woodhams
SAP Node	EHDACDE

1. The proposal is to: Reduce the level of concession from 100% to 50% on Slinky demand responsive services	
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To reduce the level of concessionary fare provided to passengers in receipt of a valid English National Concessionary card who use the Slinky demand responsive service from 100% to 50%.

- In recent years supported bus services have been reduced and we have cited the demand responsive Slinky service as a replacement to enable access in areas where reductions have taken place.
- We have continued to allow free bus travel on these services in line with registered bus services but this is a discretionary addition to the network and as such the statutory concessionary fare does not apply.
- We propose the concession is brought in line with other community transport charges and only a 50% concession is applicable rather than offering the service free of charge.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 *%*

The introduction of a 50% fare maintains a very low cost for users of the service.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

The introduction of a 50% fare may impact on the elderly and disabled who are the main users of this service.

- Individuals may reduce the number of journeys they make therefore a 10% drop off has been accounted for in projected income.
- Surveys undertaken in recent years have suggested concessionary pass holders would rather pay some kind of fare rather than lose a service.

Over the past few years we have been encouraging the creation of village car schemes with some success but there would still be a 50% charge for the service which cost more than the Slinky service but would offer greater travel flexibility.

The Transport Team are working on a web portal to assist residents in sharing journeys with others: this will go live in May 2019 at the earliest.

Routing information is available here: https://www.travelsomerset.co.uk/wp-content/uploads/2017/04/SLINKY-Taunton-v2.pdf

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

It is possible some social care users are utilising the service but we are unable to identify names and numbers but again the cost per journey is minimal and as such should not preclude travel.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

N/A

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

It is anticipated a full consultation would be required to fully assess the impact of this change therefore some resource would be required from the customer and communities team in compiling the consultation and responses.

Support from the Customers and Communities team will be required to support the consultation and assist in analysis.

Support from the Communications Team will be required to communicate the changes as they are implemented.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Full 8 week consultation required	September – October 2018
Cabinet lead decision	November 2018
Implementation	January 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The service is not a registered service and as such there is no statutory requirement for free travel on this service.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

There is a separate project under way to increase the charge on adult social care transport to achieve full cost recovery.

10. Initial Equality Impact Assessment:

Yes, required: vulnerable and protected groups may be affected.

The service is mainly used by the elderly, disabled and those unable to drive which could leave them socially isolated. The full impacts will be understood through the consultation.

11. Consultation and Communications plan:

Service users will be engaged on what this change means for them and any changes to the service communicated, for example through the press and through letters to registered users.

12. Legal Implications:

There may be a risk of legal challenge however this is considered unlikely as this is not a statutory service and we propose to continue to provide access.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£10k*	*-£*	*£10k*	*Ongoing*
2019/20	*£*	*£30k*	*-£*	*£30k*	*Ongoing*
2020/21	*£*	*£0*	*-£*	*£0*	
Total	*£*	*£40k*	*-£*	*£40k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£

	Estimate of resource costs to deliver	-£
	Sub-total	£
TOTAL		£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V3**	**Date Completed**	**23st August 2018**

Description of what is being impact assessed

ECI-09

A proposal to reduce the level of concessionary fare provided to passengers in receipt of a valid English National Concessionary card who use the Slinky demand responsive service from 100% to 50%. Currently passengers who hold a concessionary pass are able to use these services at no cost – Somerset County Council reimburses providers the full fare under its discretionary concessionary fares scheme for community and demand responsive transport operators. We are proposing a change to this scheme which would reduce the concession to 50%, which would mean that concessionary pass holders would have to pay 50% of the fare to use the county council's network of 'slinky' demand responsive services.

The full fare structure is as follows: for a journey under 3 miles, Single £2.50 and Return £4.00. For a journey over 3 miles, Single £3.50 and Return £5.00. Under this proposal, passengers would pay 50% of these fares.

The Slinky demand response service is funded by Somerset County Council. Somerset Accessible Transport, Mendip Community Transport and SSVCA operate the services on our behalf.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

This proposal will impact users of Slinky schemes who hold concessionary passes. These users will be eligible to hold concessionary passes by virtue of either an age-related entitlement, or a disability-related entitlement. The following principle datasets will be used to assess how the policy might impact on protected groups:

1) *Somerset wide demographic data*

For 2017-18 the number of active Concessionary Bus Passes in circulation in Somerset is 115,320, of which we are able to determine 106,569 have been awarded on age and 4,313 on disability.

For those cards issued in 2017-18, data shows that 13,617 (43.7%) of concessionary pass holders identified as male, 17,362 (55.7%) of concessionary pass holders identified as female, with the remaining 194 (0.6%) not being identified by gender on our database.

As well as data on the number of concessionary pass holders and their demographics, the below table is taken from Census information for Somerset and details the numbers of older people with no car, who could potentially be impacted by changes to Slinky transport.

Older people (aged 65+) with no car, by Rural-Urban classification

	Female 65+ No car	**Male 65+ No car**	**% Female 65+ No car**	**% Male 65+ No car**
Rural village and dispersed	2,679	903	15.2%	5.6%
Rural town and fringe	3,547	1,070	28.0%	10.4%
Urban city and town	9,886	3,389	35.0%	15.3%

% based on those living in a residential household, not communal establishments.

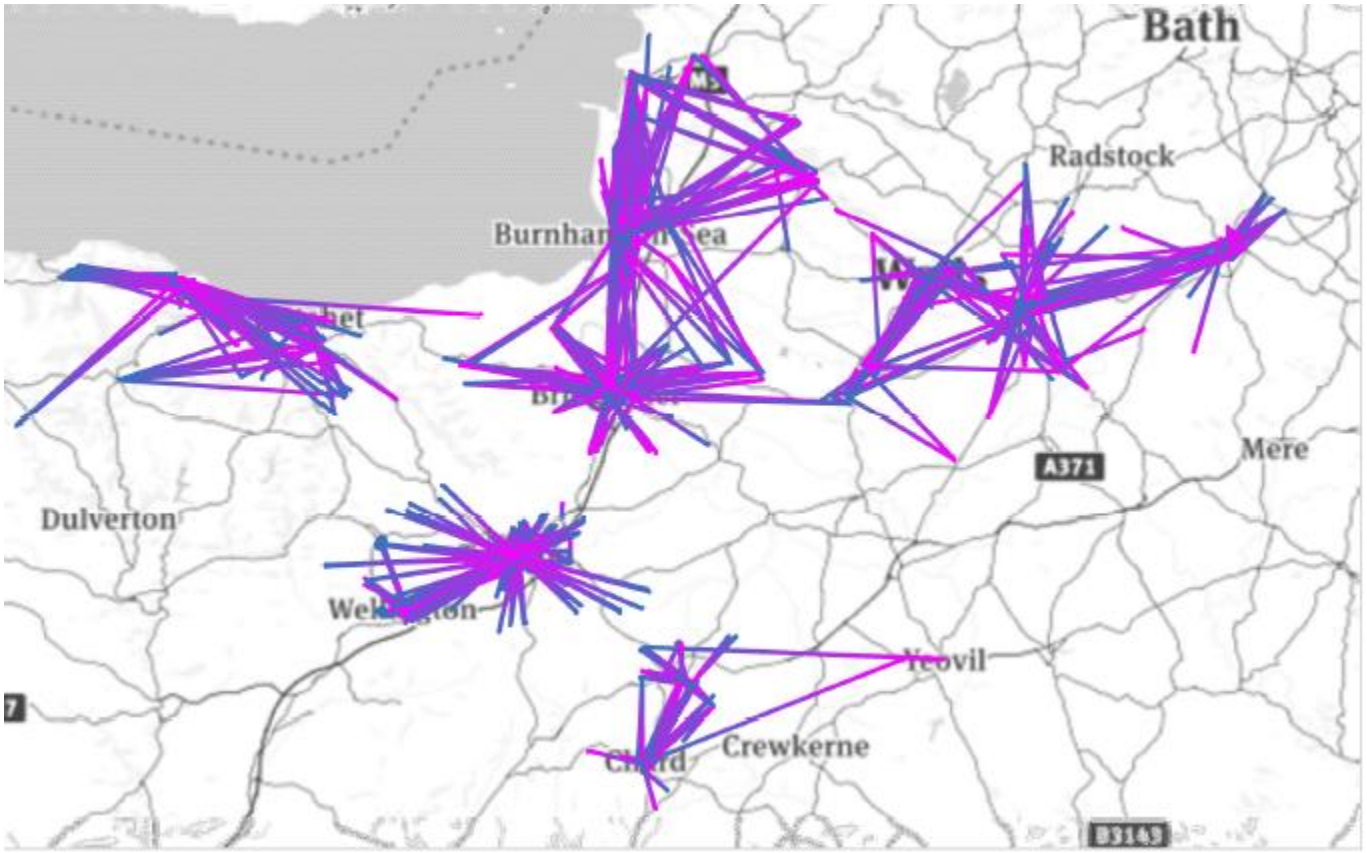
Source: ONS Census 2011

2) *Information held by the County Council on the usage of Slinky services*

During 2017-18 there were 35,538 concessionary journeys claimed by operators for demand responsive ‘slinky’ journeys. These trips were undertaken by 650 registered service users. Journeys are undertaken for shopping, education, employment/volunteering, medical and leisure activities. As detailed in the description, the full fare would be: under 3 miles – Single £2.50 and Return £4.00. Over 3 miles – Single £3.50 and Return £5.00.

The map below shows some clear patterns of destinations with the different SLINKY areas easily identified.

All SLINKY trips



The county council does not hold any detailed records about the specific protected characteristics of slinky service users, only the split between elderly/disabled and male/female for general concessions as any concessionary pass holder can use the service and we do not record this information separately.

Passenger data held for the Taunton Slinky service for July 2018 shows the following breakdown of wheelchair users/passengers who travel with mobility aids:

Description	Pax Count
Shopping Trolley	37
Walking Sticks	43
ZIMMER/WALKING FRAME	22
Crutches	1
Assistance dog	3
Front Seat	5
Pushchair	0
Wheelchair	23
Electric Wheelchair	3
Passenger Lift	0
Electric Wheelchair Transfer	0
Wheelchair Transfer	5

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

No consultation has been carried out to date. This is not a statutory service, and at this early stage we have not decided whether to carry out a full, formal consultation exercise on the proposal, or a more limited engagement exercise with providers and customers.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• Older service users who are concessionary pass holders will be impacted negatively because they will have to pay a charge for a service which was previously free. • Some older service users may opt to use other forms of transport and cease to use the service, or travel less frequently. This could have a moderate impact on the wellbeing of older people, increasing social isolation, making access to services less convenient, and reducing opportunities for positive activity, employment etc.. • Some older service users may not be able to afford to use the service, and may have no alternative transport option. For these service users there would be a more significant impact on wellbeing and social isolation. For some service users the impact could be critical. • Users eligible for health transport will be able to access a free service through the Patient Transport Advisory centre or if not eligible users on a low income will be able to reclaim their travel costs through the Health Travel Cost Scheme (HTCS)	☒	☐	☐
Disability	• Disabled service users who are concessionary pass holders will be impacted negatively because they will have to pay a charge. • Some disabled service users may opt to use other forms of transport and cease to use the service, or travel less frequently. This could have a moderate impact on the wellbeing of disabled	☒	☐	☐

	people, increasing social isolation, making access to services less convenient, and reducing opportunities for positive activity, employment etc.. • Some disabled service users may not be able to afford to use the service, and may have no alternative transport option. For these service users there would be a more significant impact on wellbeing and social isolation. For some service users the impact could be critical. • Users eligible for health transport will be able to access a free service through the Patient Transport Advisory centre or if not eligible users on a low income will be able to reclaim their travel costs through the Health Travel Cost Scheme (HTCS)			
Gender reassignment	• No impact identified.	☐	☒	☐
Marriage and civil partnership	• No impact identified.	☐	☒	☐
Pregnancy and maternity	• No impact identified.	☐	☒	☐
Race and ethnicity	• No impact identified.	☐	☒	☐

Religion or belief	• No impact identified.	☐	☒	☐
Sex	• There are a larger number of female registered users than male therefore the change to a half fare is likely to impact more on older women who are not able to drive	☒	☐	☐
Sexual orientation	• No impact identified.	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Concessionary pass holders on low incomes will be less able to afford the proposed charges and would be impacted more significantly than other groups. • Users requiring access to health services who are on low income can reclaim their travel costs via the HTCS • Carers are likely to be impacted because the people they care for may be less able to afford independent travel, and so may be more reliant on carers for transport. • People living in rural, isolated areas who have no alternative options for transport (because scheduled public transport services are not available) are more likely to use the slinky service, and so people with this protected characteristic are more likely to be impacted. 48% of the population in Somerset live rurally.	☒	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

There is very little mitigation SCC can provide as this is a discretionary entitlement and unfortunately, due to the significant financial constraints on the authority, we have no choice but to reduce financial support in discretionary areas in order to maintain statutory services and services for vulnerable people.

For those on low income access to health can be provided through the health Cost Travel Scheme and in the spring of 2019 the SCC travel information and planning portal will allow residents to post a trip requirement on the noticeboard to enable them to share transport costs with other residents.

Completed by:	**Kim Hawes**
Date	**23rd August 2018**

Signed off by:	**Paula Hewitt**
Date	**August 2018**
Equality Lead/Manager sign off date:	**23rd August 2018**
To be reviewed by: (officer name)	**Kim Hawes**
Review date:	**March 2019**

Proposal for Change:

ECI-07b Highways – Winter & Emergency Service

Reference:	ECI-07b
Service Area:	Highways
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	EHDCFC

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

This proposal concerns roadside salt supplies for self-help usage by the travelling public in winter conditions. Current Council policy is for salt to be supplied for this operation contained in grit bins and 1 tonne dumpy bags. The proposal is to remove this provision for the winter of 2018/19.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

Pending approval to proceed.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

This is a service that has traditionally been supplied by the County Council in order to promote self-help by the travelling public, residents, local businesses etc. This approach is promoted in Council publicity material and is supported on a national basis by the Department for Transport.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Greater demand from the travelling public, residents, local businesses, District/Town/Parish Councils, Elected Members and others for additional roads to be included on the County Council's precautionary Salting Network.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact on staff.

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None – will be managed within the service area.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Removal of provision.	Winter of 2018/19

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The proposal may adversely affect the ease of use and travel across the highway network in winter conditions.

The proposal will reverse the Council's current approach to the distribution of salt for self-help usage.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Will rely upon the co-operation of the travelling public, residents, local businesses, District/Town/Parish Councils, Elected Members and others.

Any reduction in the Skanska budgets issued through the Annual Plan will affect the revenue rebate and may affect our ability to realise further MTFP savings.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Yes. This affects access to the highway network for all.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Yes. Direct communication with District/Town/Parish Councils, Elected Members and others will be required. Communicating these changes to the wider public would require press release(s) and follow up interviews through local media channels. In order to mitigate the potential impact on communities the County Council will develop a proposal to offer to top up grit bins as chargeable service. Changes to County Council publicity documents promoting the self-help approach and changes to the County Council website would be required.

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* None.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?			N/A		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£40,000*	*£*	*-£*	*£40,000*	*One-off*
2019/20	*-£40,000*	*£*	*-£*	*-£40,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-13a Reduce Road Safety: in-year saving

Reference:	ECI-13a
Service Area:	Traffic Management and Road Safety
Director:	Paula Hewitt
Strategic Manager	Bev Norman
SAP Node	EHDF

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

To reduce the traffic management and road safety revenue budget by £50,000 in 2018/19

The delivery of road safety is a **statutory duty** for the Local Highway Authority. As specified in the Road Traffic Act 1988 Section 39, highway authorities are required to prepare and carry out a programme of measures designed to promote road safety. This includes: investigating collisions arising from the use of vehicles on roads and highways within their administrative area; taking measures to prevent reoccurrence and the construction, improvement, maintenance and repair of such roads and paths, in addition to road safety education and practical training to enable safe road users.

The Act does not specify how this is achieved. The service is made up of 2 areas:

- Data and Analysis
- Road Safety Education

This saving will be delivered by holding current vacancies in the Road Safety and Data Analysis Team. In addition, the revenue budget allocated to road safety activities will be reduced. The total saving associated with these measures is £50,000.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 %

Explanation:

This proposal is based upon not recruiting to previously approved posts and reducing the budgets associated with road safety delivery. It is anticipated that whilst there will be a reduction in capacity this is unlikely to impact upon the current initiatives. Mitigation measures include seeking additional support and sponsorship for events and initiatives.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Minimal impact at this stage given that a number of key events have already taken place.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None identified for 2018/19

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

The cut would adversely affect team morale but will not result in any redundancies. These savings equate to the FTE's and vacant posts below.

The number of FTE that might be lost is: 2

The number of posts that might be lost is: 2

Other savings affect our zero hours trainers - (no posts affected)

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No additional resources required at this stage.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Service decision to reduce budgets and hold approved vacancies	September 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Risks:
The reduction in the ability to deliver road safety initiatives may risk SCC being unable to influence the decrease in the number of people hurt in road collisions, including those fatally and seriously injured.

Opportunity:
The Road Safety Team is already planning to launch a sponsorship programme to try to support our work.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None identified at this stage.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No, as the impact will not be felt at this stage.

11. Consultation and Communications plan:

Would there be a need to carry out staff/50 or stakeholder consultation? If so, how is it proposed that this happens?

None required at this stage.

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

The Road Traffic Act 1988 places a statutory duty on the Council as the Roads Authority to carry out a programme of measures to promote road safety and prevent road accidents. This applies to the existing road network and new roads.

The duty to promote road safety and research the causes of accidents does not create a duty of care between the local authority and the road user. However, the impact of this cut may reduce the local authorities' ability to fulfil the objective of section 39 – to promote road safety.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes/~~No~~]
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£50,000*	*£0*	*-£*	*£50,000*	*ongoing*
2019/20	*£0*	*£0*	*-£*	*£0*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£50,000*	*£*	*-£*	*£50,000*	

13b. One off project costs and income (not included in above):

£'000's	**N/A**	
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-10 Suspend Taunton Park & Ride service for a period of time

Reference:	ECI-10
Service Area:	Transporting Somerset
Director:	Paula Hewitt
Strategic Manager	Oliver Woodhams
SAP Node	EHDACDA

1. The proposal is to: Suspend the Park & Ride Service for a period of time.	
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Suspend the Taunton Park & Ride service from the Gateway and Silk Mills sites to Taunton town centre and Musgrove Park Hospital until finances allow for reinstatement.

The current contract to run the service is due to expire in early November 2018, therefore no notice period would be required other than to the Traffic Commissioner to deregister the service.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

This is a discretionary service used in the main for commuters to access the town centre and Musgrove Park Hospital to reduce the associated parking costs.

Therefore, should the service suspended, the cost of the provision would be saved.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

The removal of this service would impact on the current users of the service who would have to park in the town and pay a car parking charge of approximately £7 per day. The closure would also impact on Taunton Deane Borough Council (TDBC) as the current users would be using capacity in the town centre cars parks. This would increase income for TDBC but could fill the car parks leaving less capacity for shoppers and tourists.

The change could impact negatively on town centre businesses if shoppers and staff are unable to park.

This proposal could also increase congestion and pollution in the town but some of this impact could be mitigated for events such as the flower show when a separate service could be contracted (if financially viable) or underwritten by a third party.

The service is cited in the Taunton Garden Town and Access Strategies and the County Council's Transport Strategy as being key to assisting delivery of public transport in the future.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

This could have an impact on the County Hall car parking campus review which cites the Park and Ride service as an option for staff.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

County Council staff who use the Park and Ride can currently pay for their parking through salary sacrifice at a discounted rate. Staff displaced from the Park and Ride would have to pay to park in town centre car parks.

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No additional resources required.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Cancellation of local bus Registration	September 2018
Cease service	November 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Risk

There is a risk to the delivery of the Taunton Garden Town and Access strategies.

Opportunities

There is a need to engage with TDBC to consider whether they could assist in funding the service going forward or whilst work is undertaken with operators to look at the feasibility of establishing some level of commercial service in the near future.

Future developments in and around Taunton (Junction 25, Comeytrowe and West Monkton) could reduce funding requirements and increase patronage in the future.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

- County Hall Campus review
- Taunton Garden Town Proposals

10. Initial Equality Impact Assessment:

This is a discretionary service. The main impact would be on commuters who would see an increase in costs, however impacts on vulnerable and protected groups are possible so an Equality Impact Assessment is required.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? Communication of closure would need to be undertaken and managed.

12. Legal Implications:
There may be impacts on protected groups therefore an Equalities Impact Assessment is required

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	[Enter date]
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£70k*	*£*	*-£*	*£70k*	*Ongoing*
2019/20	*£100k*	*£*	*-£*	*£100k*	*Ongoing – reduction in base budget*
2020/21		*£*	*-£*	*£*	
Total	*£170k*	*£*	*-£*	*£170k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

		Revenue						Passenger trips						Rev per Pax trip
		Days	GW	SM	Total	% Change	avg per day	% change	GW	SM	Total	%Change	avg per day	% change	
2013	Sep				£24,921.20										
	Oct				£26,713.70										
	Nov				£25,806.60										
	Dec				£27,049.00										
2014	Jan				£24,675.10										
	Feb				£21,295.00										
	Mar				£23,716.50										
	Apr				N/A										
	May	25	£13,283.00	£11,738.10	£25,021.10		£1,000.84		13,032	13,084	26,116		1045		£0.96
	Jun	25	£16,904.00	£15,450.40	£32,354.40		£1,294.18		13,888	14,060	27,948		1118		£1.16
	Jul	27	£13,933.30	£12,145.00	£26,078.30		£965.86		13,377	13,284	26,661		987		£0.98
	Aug	25	£12,862.90	£11,558.70	£24,421.60		£976.86		12,390	12,804	25,194		1008		£0.97
	Sep	26	£13,920.20	£12,560.10	£26,480.30	6.26%	£1,018.47		13,424	14,441	27,865		1072		£0.95
	Oct	27	£13,351.50	£12,490.90	£25,842.40	-3.26%	£957.13		13,573	14,583	28,156		1043		£0.92
	Nov	25	£12,763.00	£12,506.40	£25,269.40	-2.08%	£1,010.78		13,002	13,844	26,846		1074		£0.94
	Dec	25	£13,688.60	£12,816.00	£26,504.60	-2.01%	£1,060.18		14,156	14,514	28,670		1147		£0.92
2015	Jan	26	£12,783.70	£12,033.70	£24,817.40	0.58%	£954.52		12,757	13,584	26,341		1013		£0.94
	Feb	24	£13,032.60	£10,809.00	£23,841.60	11.96%	£993.40		12,782	12,718	25,500		1063		£0.93
	Mar	26	£13,288.70	£12,068.40	£25,357.10	6.92%	£975.27		12,254	13,639	25,893		996		£0.98
	Apr	24	£13,441.80	£11,628.20	£25,070.00	N/A	£1,044.58		12,209	12,954	25,163		1048		£1.00
	May	24	£12,775.90	£12,041.50	£24,817.40	-0.81%	£1,034.06	3.32%	11,312	12,292	23,604	-9.62%	984	-5.85%	£1.05
	Jun	26	£13,967.10	£12,735.40	£26,702.50	-17.47%	£1,027.02	-20.64%	12,362	13,053	25,415	-9.06%	978	-12.56%	£1.05
	Jul	27	£14,003.40	£13,303.60	£27,307.00	4.71%	£1,011.37	4.71%	12,702	13,253	25,955	-2.65%	961	-2.65%	£1.05
	Aug	25	£14,005.60	£12,518.40	£26,524.00	8.61%	£1,060.96	8.61%	12,744	13,717	26,461	5.03%	1058	5.03%	£1.00
	Sep	26	£15,182.00	£14,228.90	£29,410.90	11.07%	£1,131.19	11.07%	13,317	14,167	27,484	-1.37%	1057	-1.37%	£1.07
	Oct	27	£14,463.40	£12,744.60	£27,208.00	5.28%	£1,007.70	5.28%	12,544	13,329	25,873	-8.11%	958	-8.11%	£1.05
	Nov	25	£15,212.90	£14,093.90	£29,306.80	15.98%	£1,172.27	15.98%	13,087	13,486	26,573	-1.02%	1063	-1.02%	£1.10
	Dec	24	£15,113.10	£14,248.60	£29,361.70	10.78%	£1,223.40	15.40%	13,438	13,602	27,040	-5.69%	1127	-1.76%	£1.09
2016	Jan	25	£12,484.10	£13,369.90	£25,854.00	4.18%	£1,034.16	8.34%	11,469	12,174	23,643	-10.24%	946	-6.65%	£1.09
	Feb	25	£12,822.60	£11,189.00	£24,011.60	0.71%	£960.46	-3.32%	11,325	11,145	22,470	-11.88%	899	-15.41%	£1.07
	Mar	25	£12,341.40	£12,404.60	£24,746.00	-2.41%	£989.84	1.49%	11,299	11,915	23,214	-10.35%	929	-6.76%	£1.07

	Apr	26	£14,213.20	£12,315.60	£26,528.80	5.82%	£1,020.34	-2.32%	11,926	12,349	24,275	-3.53%	934	-10.95%	£1.09
	May	24	£14,137.20	£12,632.20	£26,769.40	7.87%	£1,115.39	7.87%	11,934	12,471	24,405	3.39%	1017	3.39%	£1.10
	Jun	26	£14,357.90	£12,827.30	£27,185.20	1.81%	£1,045.58	1.81%	12,414	12,611	25,025	-1.53%	963	-1.53%	£1.09
	Jul	26	£14,007.00	£12,723.50	£26,730.50	-2.11%	£1,028.10	1.65%	11,662	12,401	24,063	-7.29%	926	-3.72%	£1.11
	Aug	26	£15,291.80	£14,709.70	£30,001.50	13.11%	£1,153.90	8.76%	16,232	16,721	32,953	24.53%	1267	19.74%	£0.91
	Sep	26	£15,479.30	£14,007.40	£29,486.70	0.26%	£1,134.10	0.26%	16,342	16,812	33,154	20.63%	1275	20.63%	£0.89
	Oct	26	£15,404.90	£14,044.20	£29,449.10	8.24%	£1,132.66	12.40%	16,254	16,333	32,587	25.95%	1253	30.79%	£0.90
	Nov	26	£17,074.10	£15,433.10	£32,507.20	10.92%	£1,250.28	6.65%	18,565	18,788	37,353	40.57%	1437	35.16%	£0.87
	Dec	25	£16,041.60	£15,147.70	£31,189.30	6.22%	£1,247.57	1.98%	16,703	16,916	33,619	24.33%	1345	19.36%	£0.93
2017	Jan	25	£15,568.30	£14,226.50	£29,794.80	15.24%	£1,191.79	15.24%	16,722	16,014	32,736	38.46%	1309	38.46%	£0.91
	Feb	24	£13,720.90	£12,924.00	£26,644.90	10.97%	£1,110.20	15.59%	15,393	14,984	30,377	35.19%	1266	40.82%	£0.88
	Mar	27	£15,410.00	£13,916.60	£29,326.60	18.51%	£1,086.17	9.73%	16,899	17,236	34,135	47.04%	1264	36.15%	£0.86
	Apr	23	£13,492.00	£12,425.00	£25,917.00	-2.31%	£1,126.83	10.44%	14,259	14,635	28,894	19.03%	1256	34.55%	£0.90
	May	25	£16,354.45	£14,457.85	£30,812.30	15.10%	£1,232.49	10.50%	16,862	17,225	34,087	39.67%	1363	34.09%	£0.90
	Jun	26	£16,888.30	£15,319.50	£32,207.80	18.48%	£1,238.76	18.48%	16,784	16,993	33,777	34.97%	1299	34.97%	£0.95
	Jul	26	£16,082.40	£13,819.50	£29,901.90	11.86%	£1,150.07	11.86%	16,043	16,073	32,116	33.47%	1235	33.47%	£0.93
	Aug	26	£16,057.55	£15,472.10	£31,529.65	5.09%	£1,212.68	5.09%	16,893	17,763	34,656	5.17%	1333	5.17%	£0.91
	Sep	26			£24,767.30										
	Oct	26													
	Nov	26			£21,813.90										
	Dec	25													
2018	Jan	23			£24,024.40										

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V3**	**Date Completed**	**23 August 2018**

Description of what is being impact assessed

This EIA assesses the impacts of proposal ECI10 under the Financial Imperative programme: "Suspend (Taunton) Park & Ride service for a period of time."

The proposal is to suspend Taunton's Park & Ride service from the Gateway and Silk Mills sites to Taunton town centre and Musgrove Park Hospital until finances allow for reinstatement. At this stage, we are unable to specify the review period and the duration of the closure if the proposal is taken forward. The current contract to run the service is due to expire on the 6th of November 2018, therefore no notice period would be required other than to the Traffic Commissioner to deregister the service.

This is a discretionary service used in the main for commuters to access the town centre. The service runs in a figure of 8 to and from the sites with Castle Green, in the centre of Taunton used as a midpoint. Last year, in order to reduce the cost of the contract First Bus amalgamated their public service bus from Taunton in to the Park & Ride allowing passengers (not using the Park & Ride sites) to board the bus at Castle Green and alight at Musgrove Park Hospital. On average 163 people a day use this service. At this point it is unclear as to whether First Bus would reinstate their public service to Musgrove Park Hospital; however they have taken this away from consideration.

Should the service cease, the cost of the contract, currently £140k per annum, would be saved, along with some further costs associated with managing the park and ride sites.

The service reduces congestion and vehicle emissions as well as enabling more affordable car parking for users on low incomes (daily charges in the town centre car parks are approximately £7 per day). There is currently capacity in the town centre car parks to facilitate this additional traffic but if all those using the site choose to park in the town centre there will be very little remaining capacity of any increase in shopper requirements.

The Park and Ride fares for passengers travelling from the car parks only are:

Adult Day Return £2.40
Child Day Return £1.40
Shopper Special Ticket £1.70 per car (valid for 5 people travelling in the same car)
Weekly Ticket £10
Monthly Ticket £33
Annual Season Ticket £330

A number of changes have taken place to reduce the cost of the park & ride service over time which includes new service providers, reductions in frequency and the implementation of CCTV to remove the need for customer service assistants at the sites. Options for commercial use of the site have also been explored, but are not considered viable in the near future.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

The most recent available usage and income dates (see Appendix) show a significant number of journeys undertaken by users of the scheme. The number of passenger journeys undertaken on the entire Park & Ride system (both sites) between May 2016 and August 2017 (the most recent data available) ranged from 22,470 to 37,535 per month, an average of 28,157.

We do not hold information on the protected characteristics of users of the park and ride service.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

As this is a non-statutory service we do not plan to carry out any public consultation on the proposal. Once a decision is taken, appropriate engagement will be planned and carried out in line with Council and statutory requirements.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• Passengers travelling by car to use the Park & Ride Facilities to park their cars and travel into town or Musgrove Park Hospital and local residents using the service to access Musgrove Park Hospital • Working age population affected, younger workers would likely face increased parking charges • Older passengers accessing the hospital are likely to face increased parking charges	☒	☐	☐
Disability	• Passengers travelling by car to use the Park & Ride Facilities to park their cars and travel into town or Musgrove Park Hospital and local residents using the service to access Musgrove Park Hospital • Disabled passengers accessing the hospital are likely to face increased parking charges	☒	☐	☐
Gender reassignment	• Considered with no impact highlighted.	☐	☒	☐

Marriage and civil partnership	• Considered with no impact highlighted.	☐	☒	☐
Pregnancy and maternity	• Considered with no impact highlighted.	☐	☒	☐
Race and ethnicity	• Considered with no impact highlighted.	☐	☒	☐
Religion or belief	• Considered with no impact highlighted.	☐	☒	☐
Sex	• Women are more likely to be on lower paid jobs so increasing parking charges could make employment no longer viable due to extra cost	☒	☐	☐
Sexual orientation	• Considered with no impact highlighted.	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Low income individuals and families affected as they may not be able to afford town centre parking.	☒	☐	☐

	• Car owners on low incomes working in Taunton Town centre are likely to face increased parking charges if they park in the town centre as an alternative to using the park and ride.				

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Age Passengers travelling by car to use the Park & Ride Facilities to park their cars and travel into town or Musgrove Park Hospital and local residents using the service to access Musgrove Park Hospital. There is sufficient available car parking in the town centre and at Musgrove Park Hospital to accommodate cars. Taunton Deane Borough Council already provides sufficient car parking spaces to accommodate cars displaced from the Park & Ride Sites. Discussions will take place with First Bus over the potential to reinstate their public bus service to and from Musgrove Park Hospital for bus users who use the bus from the town centre and not as part of the Park & Ride service; alternatively service 21 from the town centre stops close by to Musgrove Park Hospital.	Complete	Somerset County Council	We will monitor the effects of additional cars seeking parking in the town centre through our regular contacts with Taunton Deane Officers.	☒
Disability Passengers travelling by car to use the Park & Ride Facilities to park their cars and travel into town or Musgrove	Complete	Somerset County Council	We will monitor the effects of additional cars	☒

Park Hospital and local residents using the service to access Musgrove Park Hospital. There is sufficient available car parking in the town centre and at Musgrove Park Hospital to accommodate Taunton Deane Borough Council already provides sufficient car parking spaces to accommodate cars displaced from the Park & Ride Sites. Discussions will take place with First Bus over the potential to reinstate their public bus service to and from Musgrove Park Hospital for bus users who use the bus from the town centre and not as part of the Park & Ride service; alternatively service 21 from the town centre stops close by to Musgrove Park Hospital.			seeking parking in the town centre through our regular contacts with Taunton Deane Officers.	
Those on low incomes Individuals and families affected as they are more likely to be using the bus network and less likely to have a car. Discussions will take place with First Bus over the potential to reinstate their public bus service to and from Musgrove Park Hospital for bus users who use the bus from the town centre and not as part of the Park & Ride service; alternatively service 21 from the town centre stops close by to Musgrove Park Hospital.	Complete	Somerset County Council		☒
Those on low incomes Car owners on low incomes working in Taunton Town centre are likely to face increased parking charges if they park in the town centre as an alternative to using the park and ride.	Complete	Somerset County Council		☒

It is not possible to mitigate the impact of higher commuting costs for workers who currently use the Park and Ride service but will have no choice but to park in the town centre.				
	Select date			☐

If negative impacts remain, please provide an explanation below.

It is not possible to mitigate the impact of higher commuting costs for workers who currently use the Park and Ride service but will have no choice but to park in the town centre.

Further work is required with First Bus to facilitate possible reinstatement of their public service to Musgrove to mitigate the loss of the Park & Ride service for residents boarding in the town to access Musgrove Park Hospital.

Completed by:	**Kim Hawes**
Date	**23/08/2018**
Signed off by:	**Paula Hewitt**
Date	**August 2018**
Equality Lead/Manager sign off date:	**23/08/2018**
To be reviewed by: (officer name)	**Kim Hawes**
Review date:	**March 2019**

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Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V1**	**Date Completed**	**28/08/18**

Description of what is being impact assessed

ASC-10 CAF-18 CORP-01 ECI-06

A temporary change, in 2018 and 2019, requiring all Somerset County Council Employees, excluding Schools and some other identified groups and exempt employees, to take two days compulsory unpaid leave plus 1 day working from home, leave or flexi over the Christmas period. Exempt groups are:

- Centrally employed teachers
- Employees engaged on annualised hours contracts, unless they are scheduled to work on the unpaid days, in which case they would not be paid
- Employees on contractual or statutory family absence and reduced sick pay will be excluded.

There will also be some posts that would require employees to work during the shutdown. It is expected that these employees will take the 2 days at another time, however where this would involve seeking casual/relief cover or paying additional hours the relevant Strategic Manager would be able to request an exemption for the employees that work.

Employees who have already purchased leave will also be excluded but will be given the opportunity to request 2 further unpaid days during the shutdown period. They will be expected to take other leave if they do not take up this option.

Day & Date	**Bank Holidays & proposed compulsory unpaid leave**	**Office Open/Closure**
Monday 24th December 2018		Offices Closed Proposed leave/flexi/TOIL or work at home
Tuesday 25th	Christmas Day Bank	Offices closed.

December 2018	Holiday	
Wednesday 26th December 2018	Boxing Day Bank Holiday	Offices closed.
Thursday 27th December 2018	compulsory unpaid leave day 1	Proposed offices closed – Unpaid Leave.
Friday 28th December 2018	compulsory unpaid leave day 2	Proposed offices closed – Unpaid Leave.
Monday 31st December 2018		Offices open
Tuesday 1st January 2019	New Year Day Bank Holiday	Offices closed.
Wednesday 2nd January 2019		Offices open

Dates for 2019 will be confirmed as soon as possible.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

Employee data taken from SAP HR to establish employees who are likely to be affected. This totalled 3307 but this is likely to reduce due to exemptions.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

Unions were initially briefed on the proposal on July 5th and ongoing negotiations are continuing.
Trade Unions have been briefing their members through a series of meetings across the County.

Details of the proposal have also been shared with the wider staff via the August Core Brief.
It is anticipated that the Unions will ballot their members in September.

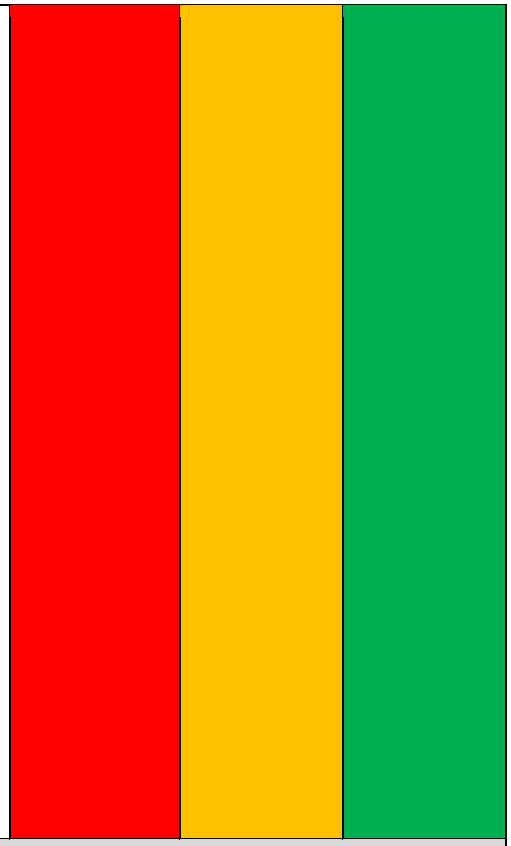
Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	It is acknowledged that older members of the workforce will be impacted more significantly if they are in the Local Government Pension Scheme, have an entitlement to a final salary pension and their final years pay includes the period of unpaid leave. It is also acknowledged that the older the employee the more it will cost to buyback lost service to mitigate the statement above. It is acknowledged that employees of any age bracket can have varying disposable income but that younger staff are more likely to be on a lower wage and could therefore be more affected by this.	☒	☐	☐
Disability	It is acknowledged the employees with a disability may not have access to specialist equipment and adaptations that have been provided in the workplace. They may therefore not be able to work from home or have available leave or flexi to cover the 24th December and may therefore be required to make up hours at another time.	☒	☐	☐

	It is acknowledged that employees with a disability may have other costs that relate to their disability and are therefore on a tighter budget and have less disposable income. It is acknowledged that we have employees dealing with mental health issues and the addition of both financial pressures and social isolation could have a negative impact on mental health and wellbeing.			
Gender reassignment	No negative impact in relation to gender reassignment has been identified.	☐	☒	☐
Marriage and civil partnership	It is acknowledged that there are multiple cases where 2 or more members of the same household will be financially impacted by this proposal. It is acknowledged that domestic violence increases over the holiday period and adding further days to the time employees will be absent from work could impact employees.	☒	☐	☐
Pregnancy and maternity	Employees on maternity absence will be exempted form the proposal. It is acknowledged that those who are pregnant, but not yet on maternity leave, could be impacted if the period on unpaid leave falls in the pay period used to assess statutory maternity pay. (Contractual pay entitlement will not take the unpaid leave into consideration.)	☒	☐	☐
Race and ethnicity	No negative impact in relation to race and ethnicity has been identified.	☐	☒	☐

Religion or belief	We acknowledge that there may be employees who do not celebrate Christmas and would prefer not to be absent at this time and that employees may consider that the shutdown is linked to a Christian festival	☐	☒	☐
Sex	It is acknowledged that more than 75% of employees impacted by this proposal are female and that: - women are likely to have more caring responsibilities for dependents than men - more women are the primary parent, in single parent situations, than men - women are more likely to be on a lower income	☒	☐	☐
Sexual orientation	No negative impact in relation to sexual orientation has been identified.	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	**Carers** It is considered that carers may see the proposal positively as they will have more time to fulfil their responsibilities and to be with family and friends It is acknowledged that providing care can incur travel costs and the proposal could impact carers who incur such costs over and above their normal home to work costs. **Military status and veterans** No negative impact in relation to military status or veterans has been identified. **Homeless** We are not aware that we have any employees in this category. **Low Income** We do not have the financial information of employee's household	☒	☐	☐

	income however Somerset as a County does have areas of deprivation and low income and therefore we are likely to have some employees who would be considered low income. It is acknowledged that reducing income of anyone could prove difficult, but the low-income group are more likely to be impacted It is acknowledged that employees who are low income may not be able to afford Wi-Fi and therefore could find it difficult to work from home. It is acknowledged that we are likely to have employees who are in financial hardship, managing debt and voluntary arrangements. **Rurali**ty It is acknowledged that we have employees who live in the countryside and may be isolated because of this proposal being implemented. It is acknowledged that employees living in some areas may not have access to Wi-Fi and would find it difficult to work from home.			

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Raise awareness of pension position for all employees, but especially the impact on those nearing retirement and highlight the opportunity to buyback the lost service, which can be repaid over 1 or 12 instalments. Communication if proposal is agreed.	31/10/2018	Rachel Ellins	Review buyback position in January 19	☐

Advise managers that they need to ensure that employees who will be working from home are able to do so and to look at options if this is an issue, such as different work that can be completed at home or making up time over a reasonable period. Communication if proposal is agreed.	31/10/2018	Rachel Ellins	Personnel issues raised with HR.	☐
Ensure all employees are aware of opportunity to spread pension buy back costs over 12 months and to put in a hardship request to spread the cost of the 2 days unpaid leave over a longer period than 4 months. Cases will then be reviewed on a case by case basis. This is in the FAQ but will be communicated further if the proposal is agreed	31/10/2018	Rachel Ellins	Volume of requests and issues raised with HR	☐
To mitigate the potential mental health issues and to support domestic violence victims, we will use our health and wellbeing channels to raise awareness of Care First, mental health champions and any other relevant channels of support.	31/10/2018	Rachel Ellins / Michelle Anderson	Personnel issues raised with HR	☐
We will review the position of known pregnant employees to establish whether there will be any impact on their statutory pay and will consider how we can manage this. This is expected to be low numbers and will apply to employees whose expected date of confinement is on or between 17th March to 13th April 2019. This will be communicated if the proposal is agreed.	17/12/2018	Rachel Ellins	Identification of employees impacted and possible adjustment to recovery	☐
The shutdown is at Christmas time because this enables the minimum number of days to be included in the proposal whilst enabling premises costs to be saved for a longer period.	31/10/2018	Rachel Ellins	Volume of issues raised with HR	☐
.	Select date			☐
If negative impacts remain, please provide an explanation below.				

We cannot totally remove the impact that the implementation of this proposal will have on employees but the actions will ensure employees are aware of the support and options available to them.

Completed by:	**Rachel Ellins**
Date	**28/08/18**
Signed off by:	**Chris Squire**
Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Rachel Ellins**
Review date:	**March 2019**

Proposal for Change:

ASC-10, CAF-18, Corp-01, ECI-06 Compulsory Staff Leave

Reference:	ASC-10, CAF-18, Corp-01, ECI-06
Service Area:	All SCC Services
Director:	Chris Squire
Strategic Manager	Rachel Ellins
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Consideration of a two-year temporary change to staff terms and conditions for the leave years 2018/19 and 2019/20 to take 2 days compulsory unpaid leave and 1 day forced leave/flexi/TOIL (that could be accrued over a number of weeks) or work at home to facilitate a Christmas shutdown of all Council offices, departments and establishments.

For 2018/19, the following dates would be affected:

Day & Date	Bank Holidays & proposed compulsory unpaid leave	Office Open/Closure
Monday 24th Dec 2018	Offices Closed Proposed leave/flexi/TOIL or work at home	
Tuesday 25th Dec 2018	Christmas Day Bank Holiday	Offices closed.
Wednesday 26th Dec 2018	Boxing Day Bank Holiday	Offices closed.
Thursday 27th December 2018	Compulsory unpaid leave day 1	Proposed offices closed – Unpaid Leave.

Friday 28th December 2018	Compulsory unpaid leave day 2	Proposed offices closed – Unpaid Leave.
Monday 31st December 2018	Offices open	
Tuesday 1st January 2019	New Year Day Bank Holiday	Offices closed.
Wednesday 2nd January 2019	Offices open	

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

N/A *%*

Explanation:

Currently in consultation with Unions and the results of any ballot cannot be pre-determined.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Inability to contact services during closedown, however emergency statutory services will have a process in place to ensure continuity of service.
Will impact Peninsula Pensions in relation to employee buy back of pensionable service.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

As above and each service area will need to consider business continuity planning where required.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Almost all employees and workers no matter where they are based would be affected (including locums, agency workers and casual / relief workers). There may also be a relatively small number of posts that would require employees to work during the shutdown. It is expected that these employees will take the 2 days at another time, however where this would involve seeking casual/relief cover or paying additional hours the relevant Strategic Manager would be able to request an exemption for the employees that work. Further information on how exemptions would be managed will be provided if the proposal is progressed.

An emergency situation could also require employees who anticipate not being at work being required to change their plans. In this situation it is expected that these employees will take the 2 days at another time.

Staff that would not be impacted by the proposed change:

- Centrally employed teachers and employees engaged on annualised hours contracts, unless they are scheduled to work on the unpaid days, in which case they would not be paid and relevant managers would need to advise HR Admin and Payroll if any adjustment should be made to pay.
- School staff are not included in our negotiations.
- Employees on contractual or statutory family absence and reduced sick pay will be excluded.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

- HR senior management leading the consultation and negotiation process with trade union representatives.
- If this proposal is accepted, HR resource would be required to adjust pay and manage related processes to implement. Estimated one week of work for 2 FTE at Grade 13 and 11, sunk costs within existing resource.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Consultation on proposal	Aug – Sept 2018
Results of ballot	Est Sept / Oct 18
Implementation of pay adjustments (in event proposal accepted)	Dec 18
Managing residual processes (e.g. pensions buyback) (in event proposal accepted)	Jan 18 then ongoing

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

There is an overall risk that this proposal does not come to fruition and these savings cannot be realised.

Other risks:

- Emergency situation negates estimated savings (e.g. winter weather crisis, flooding etc.)
- Resident criticism that the services are unavailable.
- Impact on staff moral and loss of goodwill.

Opportunities are as stated, no further stretch targets have been identified in relation to this proposal.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

There is a single dependency on the ballot results. If the proposal is approved, services will need to manage their individual business continuity planning.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Yes, this proposal impacts almost all Council employees, and an EIA does need to be completed.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Yes, consultation and negotiations are being managed as part of the overall discussions with Unions relating to cost-saving proposals.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Contractual changes.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£453,800**	*£*	*-£*	*£453,800*	*One-off*
2019/20	*£0*	*£*	*-£*	*£0*	*One-off*
2020/21	*£-453,800*	*£*	*-£*	*£-453,800*	
Total	*£453,800*	*£*	*-£*	*£453,800*	

*This is a conservative estimate of savings for ASC-10, CAF-18, Corp-01, ECI-06 as follows:
Adults - £78,000
Children's - £200,000
Corporate - £90,800
ECI and Property - £85,000

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

C&C-01 Use external income to fund Communications Team post

Reference:	C&C-01
Service Area:	Customers & Communities
Director:	Simon Clifford
Strategic Manager	Jan Stafford
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
X	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
	Use additional one-off income for communications activity to fund existing posts within the Communications Team structure for 18/19 only.

2a.	Confidence level
	Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.
	100 *%*
	Explanation: Income from the Clinical Commissioning Group (CCG) & Hinkley has been secured and this can be used to fund the communications activities in-year

3.	Impact on residents, businesses and other organisations:
	Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?
	None

4. Impact on other services we provide:
Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)? None.

5. Impact on staff:
Potential for increased workload amongst Communications Team

6. Resources and support needed to make the change:
Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13. None.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
Income can be used to fund activity for remainder of financial year once decision has been made	Sept 2018

8. Risks and opportunities:
(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working? **Risks** The income may be withdrawn from the CCG however a commitment has been given for funding in-year.

9. Dependencies:
Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out. N/A

10. Initial Equality Impact Assessment:
Is the equality duty relevant? No

11. Consultation and Communications plan:
Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? None.

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* None.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£38,000*	*-£*	*£38,000*	*One-off income*
2019/20	*£*	*-£38,000*	*-£*	*-£38,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£0*	*-£*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

C&P-01 Review of Commercial & Procurement structure

Reference:	C&P-01
Service Area:	Commercial & Procurement
Director:	Simon Clifford, Director of Corporate Affairs
Strategic Manager	Marie Stretch & Carly Wedderburn
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To review posts within Commercial & Procurement (C&P) by reducing, refocusing the procurement function and support activity. It is estimated this will deliver in year savings for 18/19 and 19/20.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

75/90 %

Explanation: 75% confidence in in year savings as dependent on implementing changes November – January 2018. If implementation dates are delayed in year savings will reduce. 90% confident in 19/20 savings due to reasons outline below.

A restructure could have a significant impact on levels of service delivery, from a procurement and support function.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

N/a

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

As a result of this proposal the levels of service offered by C&P will/may reduce. Work activity will have to be refocused on high priority areas and C&P would need SLT to agree and support this structure.

This review is enabled because of the current procurement/commissioning activity reduction e.g. ICT procurement activity has declined in line with reduced demand and requirements.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Savings will be made through a review and restructure of the service.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

HR – support will be required to prepare for consultation with staff and any resulting recruitment and redundancy processes.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Consultation process	Early Sept – mid October
Follow-up activities as a result of the consultation process	End of consultation period - Nov

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

- Reduced levels of service delivery
- Unknown commissioning intentions may lead to an influx of procurement support required, at short notice this may need interim or a recruitment process in order to deliver procurement activity

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

N/A

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Staff consultation process may be required.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

C&P would always conduct service in adherence to the relevant legislation and if they are not able to do so would raise as an immediate risk through to SLT and gain agreement on future resources support if required.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£75,600**	*£*	*-£*	*£75,600**	*In year*
2019/20	*£324,400*	*£*	*-£*	*£324,400*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£400,000*	

*Amount will depend on speed of implementation.

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change

CAF-12 Early Years Staffing Restructure

Reference:	CAF-12
Service Area:	Children's Services – Education and Support Services for Education (SSE)
Director:	Julian Wooster
Strategic Manager	Dave Farrow/Ian Rowswell
SAP Node	
Cabinet request	Cabinet Decision to consult for structure change

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Structures

Agreed that merging SSE Early Years Improvement Team and the EY Commissioning team together can facilitate more effective and more efficient practice and ways of working. Further work is required to work this through- determine the new structure, consult with staff and implement and would suggest this takes effect from 1 April 2019.

We believe this would produce savings at Service management level and at Improvement officer level totalling approx. £80,000 per year for 2019/20.

2a.	Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 %

Explanation:

Restructure savings are dependent upon staff consultation.

3. Impact on residents, businesses and other organisations:

The Early Years sector in Somerset is one of the lowest funded in the Country with 97% of funding passed on through a formula allocation. Withdrawing subsidies for training and requiring settings to pay for services will place additional financial pressure on some providers and may make some settings unviable.

4. Impact on other services we provide:

There is a risk that provision of less support to Early Years settings will result in them providing less effective childcare and education to young people. This would become evident in an increase in early years settings that require improvement and in the educational attainment of children transitioning to Primary schools.

We could see an increase in safeguarding issues if settings have received less support and feel less confident in these key issues.

5. Impact on staff:

Savings will be achieved through restructuring and deletion of posts.

6. Resources and support needed to make the change:

HR and finance support will be needed to design, cost and implement restructuring.

Business/Admin/Project support would be needed to manage the process to help ensure compliance with SCC policies and practices.

No additional post requited but some support from other teams would be needed.

7. Timescale to deliver and major milestones: To include date of implementation, key decision points and governance meetings	
Planned accomplishments to track progress [Milestone]	[Date]
Proposed structure and functions to be delivered finalised	*30 September 2018*
Completion of HR Business case	*October 2018*
Consultation with staff completed	*30 November 2018*
Redundancy/appointment process competed	*31 March 2019*

8. Risks and opportunities:

Opportunities – bringing two teams together will create efficiencies and improve effectiveness.

9. Dependencies:

Dependant on:
- the support of those staff and services identified above.
- capacity of managers affected to be involved in further work to investigate further, design and cost structures etc.

10. Initial Equality Impact Assessment:

N/A

11. Consultation and Communications plan:

Yes – will need to take place with the Early Years sub group in September and Schools Forum in October, staff and providers once structure is finalised and end before Christmas.

12. Legal Implications:

There will be a statutory processes to follow in relation to implementing staffing changes

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			[Yes/No]		
If no, when is evidence expected?			[Enter date]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£*	*-£*	*£*	*Ongoing*
2019/20	*£80,000*	*£*	*-£*	*£80,000*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	*Ongoing*
Total	*£80,000*	*£*	*-£*	*£80,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

CAF-17 Youth Offending Team – Vacancy

Reference:	CAF-17
Service Area:	Children's
Director:	Claire Winter
Strategic Manager	Lise Bird
SAP Node	
Decision required	For information only

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
This savings proposal is a deletion of a post that has been vacant since last year.	

2a.	Confidence level
Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.	
100 *%*	
Explanation:	
Removal of a post which has been vacant since last year.	

3. Impact on residents, businesses and other organisations:
N/A

4. Impact on other services we provide:
N/A

5. Impact on staff:
N/A – No impact as service will continue to be delivered as is.

6. Resources and support needed to make the change:
N/A

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
N/A	

8. Risks and opportunities:
N/A

9. Dependencies:
N/A

10. Initial Equality Impact Assessment:
N/A

11. Consultation and Communications plan:
N/A

12. Legal Implications:
The post is included in the 18/19 Youth Justice Plan YOT structure. The change should be notified and agreed at the next Somerset Youth Justice Partnership Board meeting.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£20,000*	*£*	*-£*	*£20,000*	
2019/20	*£12,000*	*£*	*-£*	*£12,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£32,000*	*£*		*£32,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-07k ECI Operations – Highways Staff: Continuing to hold/delete vacant posts

Reference:	ECI-07k
Service Area:	Highways Maintenance (Operations)
Director:	Paula Hewitt
Strategic Manager	Andrew Turner
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Savings will be made by continuing to hold/delete vacant Highways posts in ECI Operation.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation: All posts referred above are current vacancies.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No direct effect on communities.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

The workload is likely to be distributed across existing staff.

It is also likely that more work will be distributed through engineering consultancy contracts.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No direct impact as a consequence.

The number of FTE that might be lost is: *0*
The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No resource/support needed to make the change.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Vacancies to be held until end of 2018/19 financial year pending further review.	End of March 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Increased workload for existing teams.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:
Is the equality duty relevant? None

11. Consultation and Communications plan:
Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? Light touch communications proposed with existing staff to ascertain the resourcing implications moving forward. This will include implementing organisational remedial measures.

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* N/A

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£88,000*	*£*	*-£*	*£88,000*	*One-off*
2019/20	*-£75,000*	*£*	*-£*	*-£75,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£13,000*	*£*	*-£*	*£13,000*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£

2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-17 Restructuring in Community Infrastructure Commissioning

Reference:	ECI-17
Service Area:	Community Infrastructure Commissioning
Director:	Paula Hewitt
Strategic Manager	Barry James and Paul Hickson
SAP Node	**EEDA – 3 posts**

1.	**The proposal is to:**
	Managing Demand – N/A
X	**Increasing Productivity** –
	Service Delivery Models – N/A
X	**Reductions in Services** – This decision will constitute a reduction in commissioning resource, strategic management, planning management/senior level experience.

2. Outline of the proposed change:

This proposal constitutes restructuring in Community Infrastructure Commissioning: Savings will be achieved through restructuring and deletion of posts.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

With the current focus on the financial imperative there should be no reason why these savings cannot be delivered.

3. Impact on residents, businesses and other organisations:

The impact upon residents, businesses and other organisations can be managed.

The reduction in senior resource in planning control means that expectations on the service will have to be managed. One of the posts spends a significant amount of time working on planning issues and the shift will need to be moved to the new Service Manager as the focal point for the service and main contact for residents, businesses and other organisations. However, there may be a positive result with

a single Service Manager over both aspects of planning with the ability to direct and flex resources and to ensure both areas work to meet customer expectations as much as is practicable. Consistent management across both areas would be a positive outcome for customers and the service.

In bringing together a merged Planning service, resources under the management level will require careful consideration. A resource paper has been submitted relating to Planning Control and one is being prepared for Planning Policy, essentially indicating that additional resource is required to meet the expectations of customers and to fulfil the statutory roles the service has to continue to deliver.

Communication will be needed to ensure businesses are clear of what is happening in the service and the level of service that can be expected. The minerals and waste industries will need to be informed of changes, as will internal customers of the services, including the Waste Partnership.

Other organisations may be able to benefit from professional services available from the Planning Control service.

The de-commissioning of leisure could benefit other leisure organisations and provide an opportunity for alternative providers.

4. Impact on other services we provide:

Changes in planning will impact upon SCC's own developments – highways developments, schools/education, social care.

Legal support is provided and restructuring in planning could also see an increase in the requests/demands on legal services.

5. Impact on staff:

The number of FTE that might be lost is: 3

The number of posts that might be lost is: 3

6. Resources and support needed to make the change:

To facilitate this restructure there is a requirement for a Grade 7 to be upgraded to a Grade 6 to take on extra areas of responsibility.

There will be a need for HR resource and in-service management resource to conduct proper process to the restructure.

Some finance support will be required however figures have already been provided and therefore this could be actioned quickly, thus helping facilitate maximum in-year saving.

Time will need to be spent and communications planned for engagement with individuals affected and HR/Unions.

7. Timescale to deliver and major milestones: To include date of implementation, key decision points and governance meetings	
Director sign-off	Late-summer
Staff members affected informed	Late-summer
Engagement with Trade Union(s)	September
- notice of impending redundancy at end of September	As soon after decision as possible
- final day of postholder and position removed from the structure thereafter	30th September 2018
– formal notice of impending redundancy	By mid-December 2018
– final day	31st March 2019
Planning – new job description created	By mid September
Planning – interim arrangement put in place	10th October
Planning – process of making new Service Manager permanent	October to January
Planning – permanent Service Manager post in place	1st April 2019

8. Risks and opportunities:

There is a risk to the planning service of losing post 1 however the postholder accepts the need to make difficult decisions and suggests the deletion of this post and the creation of the new post for Planning. By fast action to make post 1 redundant the maximum in-year saving can be achieved.

The loss of a post 2 also means the reduction of senior experience in the service. However, in the financial circumstances currently in place, customer expectations and service standards have to be re-assessed in order to deliver required savings.

This will require some restructuring of the services and structures below.

The loss of the post in commissioning is not considered to present any significant risk as the Leisure contract will expire on the same day as the final day of the postholder. (This saving is already captured in the TAP saving)

9. Dependencies:

The end of the leisure contract is a dependency but has negligible, if any, impact upon this decision.

The timescales relating to the new are dependent on the existing taking on the post on an interim basis, working towards the new structure in April 2019. If the postholder is not willing to take the role on, then additional redundancy and recruitment procedures may be required.

10. Initial Equality Impact Assessment:

Not identified as being required.

11. Consultation and Communications plan:

The proposed HR changes will require consultation with individuals and with the relevant Union(s).

Communications with Members, other service areas and key stakeholders and customers will be required given the restructuring.

12. Legal Implications:

Relevant HR processes will need to be followed, but apart from this there are no identifiable legal implications.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	YES – See spreadsheet for details
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£62k*	*£*	*-£*	*£62k*	*Ongoing*
2019/20	*£72k*	*£*	*-£*	*£72k*	*Ongoing*
2020/21	*£0*	*£*	*-£*	*£0*	
Total	*£134k*			*£134k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£

	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-20a Libraries Service Redesign – additional use of capital receipts flexibilities

Reference:	ECI-20a
Service Area:	Community & Traded Services: Libraries
Director:	Paula Hewitt
Strategic Manager	Oliver Woodhams
SAP Node	EHDAFB

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
✓	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
	ECI 20: This proposal is to deliver an in-year saving through further transformation costs being funded through capital receipts in 2018/19 (in addition to assumptions already being factored into the corporate budget monitoring position).

2a.	Confidence level
	Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.
	70 *%*
	Explanation:
	A detailed analysis of programme activity and associated staffing costs is being developed but has not been finalised; until this is complete confidence of the achievability of the saving is limited to the level indicated.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

There is no impact for this proposal.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

There is no impact for this proposal, other than a limited degree of support work from finance colleagues.

5. Impact on staff:

There is no impact on staff arising directly from this proposal.

The number of FTE that might be lost is: 0

The number of posts that might be lost is: 0

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

No significant resources / support required.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Completion of activity / staff cost analysis	*Sept. 2018*
Accounting / financing entries made to realise revenue saving	*March 2019*

8. Risks and opportunities:
No significant risks.

9. Dependencies:
The saving is dependent on the availability of Capital Receipts funding.

10. Initial Equality Impact Assessment:
The equality duty is not relevant.

11. Consultation and Communications plan:
None required.

12. Legal Implications:
No legal implications identified.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes/No] **YES**
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£65k*	*£*	*-£*	*£65k*	*One-off*
2019/20	*£-65k*	*£*	*-£*	*£-65k*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£*	*(no ongoing saving)*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£65k
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs (TBC by HR)	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£-65k

Proposal for Change:

ECI-22 Recharging time to capital projects

Reference:	ECI-22
Service Area:	Corporate Property, ECI
Director:	Paula Hewitt
Strategic Manager	Claire Lovett
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
X	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

Previously, we have applied a cautious approach to the charging of staff time to capital projects, leaving an element of the work funded through revenue. This is due to the risk that if the relevant project does not result in a capital asset or improvement to the same, the costs can revert to revenue budgets with the following consequences:

1. Due to the likelihood of any reversion of costs taking effect at or close to year end, there is little opportunity to recover the position, which can lead to overspends.
2. Forecasting becomes less robust due to uncertainty over the treatment of such costs leading to poor predictability of out-turn.

However, given the current circumstances and the Financial Imperative, this proposal would see a new approach with appropriate staff time and travel being recorded against the capital projects to which it relates, to ensure that every opportunity to capitalise costs is taken up.

2a.	Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 *%*

Explanation: It is not possible to say with any greater confidence what the level of additional charging might be as the time currently not charged to capital projects is not consistently recorded.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

We would not anticipate any adverse impacts on the public, local businesses or organisations from this proposal.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

This proposal does not include any loss of posts.

The number of FTE that might be lost is: 0

The number of posts that might be lost is: 0

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Immediate implementation with impact felt by year end	April 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

None.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Clearly if major capital projects are stopped or delayed as a result of the wider Financial Imperative work there may be less staff time to be charged to capital in any event.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No public or staff consultation would be necessary or proposed.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	No
If no, when is evidence expected?	Year end
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£20k*	*£0*	*-£0*	*£20k*	*Ongoing*
2019/20	*£0k*	*£0*	*-£0*	*£0k*	
2020/21	*£0k*	*£0*	*-£0*	*£0k*	

Total	*£20k*	*£0*	*-£0*	*£20k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2019/20	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
	TOTAL	£0

Proposal for Change:

ECI-24 Hold Corporate Surveyor vacancy for two months

Reference:	ECI-24
Service Area:	Corporate Property, ECI
Director:	Paula Hewitt
Strategic Manager	Claire Lovett
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
✓	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
✓	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To delay recruitment to the soon to be vacant Corporate Surveyor post for two months. This post is essential to the delivery of our asset rationalisation programme and therefore the delivery of ongoing savings, as well as to the safety and integrity of our property assets. It is not therefore reasonably possible to halt recruitment, but we could look to delay for two months.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation: There should be no risk to delivery as this proposal simply requires us to delay action.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

We would not anticipate any adverse impacts on the public, local businesses or organisations from this proposal, provided it is limited to the two months referred to.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

It is likely that we will be unable to provide the level of technical support presently provided to services in connection with property related projects and delays in delivery will be experienced.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

This proposal does not include any loss of posts.

The number of FTE that might be lost is:	0
The number of posts that might be lost is:	0

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Immediate implementation	December 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

No significant risks if period of unfilled post remains short, but see section 4 for potentially adverse consequences for project delivery.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

This proposal relies upon Member and SLT support as it will not be possible to deliver all planned activity as quickly.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No public or staff consultation would be necessary or proposed.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None so far as we are aware.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£3k*	*£0*	*-£0*	*£3k*	*One-off*
2019/20	*-£3k*	*£0*	*-£0*	*-£3k*	
2020/21	*£0*	*£0*	*-£0*	*£0*	
Total	*£3k*	*£0*	*-£0*	*£3k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0

2019/20	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
	TOTAL	£0

Proposal for Change:

ECI-29 Deferral of professional training

Reference:	ECI-29
Service Area:	Corporate Property, ECI
Director:	Paula Hewitt
Strategic Manager	Claire Lovett
SAP Node	

1.	The proposal is to:
✓	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

A budget is in place and informal commitments to staff have been given that certain training can be paid for in this financial year. This follows several years of failing to invest in training and it was thought that prudent management of group budgets would allow us to relax this restriction this year. However, in the current circumstances, this budget could be given up this year and the training deferred to the next financial year.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation: To a certain extent this is easy to deliver insofar as it simply relies on us not booking the relevant courses. We would, however, wish to confirm that there are no unintended consequences. For example, are any staff at risk of losing professional accreditations, could any of what we understand to be informal commitments turn out to be contractual in nature etc? This will be reviewed.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Not so far as we are aware at present.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

This proposal does not include any loss of posts.

The number of FTE that might be lost is:	0
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Immediate implementation for delivery in year.	March 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

See section 2a.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No public or staff consultation would be necessary or proposed.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None so far as we are aware.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes.
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£5k*	*£0*	*-£0*	*£5k*	*One-off*
2019/20	*-£5k*	*£0*	*-£0*	*-£5k*	
2020/21	*£0*	*£0*	*-£0*	*£0*	
Total	*£0*	*£0*	*-£0*	*£0*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2019/20	Capital Costs	-£0

	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
	TOTAL	£0

Proposal for Change:

ICT-01 ICT Resources

Reference:	ICT-01
Service Area:	ICT – Contractors, Posts, Service Desk
Director:	Simon Clifford
Strategic Manager	Andy Kennell
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Review resource requirements within parts of the service including permanent and contract posts and reduce the service desk offering to minimum service levels. To realise these changes some existing contracted staff will be ceased and or re-deployed and some services may be provisioned from a third party.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

70 *%*

Explanation: 70% confidence in ability to realise these savings. Head of Service post already taken. Reduction in service desk service levels could result in longer resolution times for staff negatively affecting productivity.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

- Employees across SCC are likely to experience longer resolution response times.
- The reduced service desk offering is likely to result in a decrease in first time fix and an increase in second line queries for ICT, increasing workload for existing staff

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Staff across the service will need to be used more flexibly.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

HR – some HR support re. flexible use of existing resource

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Contractor end date	30th September 2018
Implementation date	Phased with completion Jan 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

- Employees across SCC are likely to experience longer resolution response times.
- The reduced service desk offering is likely to result in an increase in second line queries for ICT, increasing workload for existing staff
- Increasing use of third party provision would remove reliance on contractors and provide cover all year round. This would reduce current risk during periods where staff resource is stretched (leave or absence) and improve resilience.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Flexible use of resources

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

N/A

This proposal will not remove access to ICT support through the telephone or the current process and practices in place to support disabled staff with their accessibility software and support.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Communication with affected staff will be required.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£59,067*	*£*	*-*	*£59,067*	*In-year saving*
2019/20	*£129,636*	*£*	*-*	*£129,636*	*ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£188,703*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£

	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

Leg-01 Workforce related savings

Reference:	Leg-01
Service Area:	Legal Services
Director:	Chris Squire, Director of HR&OD
Strategic Manager	Honor Clarke
SAP Code	106110/106450

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

a) To remove 1 vacant post from the Legal Services structure.
b) To review workload within the team with a view to remove an additional post.
c) Review research publications/tools, cutting where possible, certainly cutting one of the encyclopaedias for children law. If research tools are cut too far, there is a risk that inaccurate advice would be given to the Council, so this will need to be managed carefully.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

85 *%*

Explanation:

Proposal a) and b) will deliver a saving, however c) will not deliver a long term saving but may achieve a short-term saving. Therefore 19/20 confidence is lower (75%)

3. Impact on residents, businesses and other organisations:
There is no impact outside of the Council.

4. Impact on other services we provide:
There may be an impact on other services, mainly Children's Social Care and the ability of Legal Services to provide a timely response. To mitigate risk associated with this, Legal Services will ensure safeguarding cases are prioritised.

5. Impact on staff:
If posts are removed from the structure, additional pressure will be placed on the remaining staff. One of the potential posts to be removed has been held vacant since 1st April 2018, planned leave has occurred since that time and the team coped for a week, therefore the post can be removed from the structure. Any additional restructuring within the team as a result of reviewing workload will be managed in accordance with HR policy.

6. Resources and support needed to make the change:
Resource may be needed from HR if a restructuring situation arises as a result of the workload review

7. Timescale to deliver and major milestones: To include date of implementation, key decision points and governance meetings	
The vacant post can be removed from the structure with immediate effect.	01/09/2018
A review of workload, to be undertaken by 1st October 2018.	01/10/2018

8. Risks and opportunities:
There is a risk that work may not be completed in a timely manner, however this would need to be monitored. The service will ensure safeguarding cases are prioritised.

9. Dependencies:
There are no interdependencies.

10. Initial Equality Impact Assessment:
N/A

11. Consultation and Communications plan:
Staff may need to be consulted with on the wider workload review but otherwise there is no need for wider consultation.

12. Legal Implications:
None identified however legal implications will be considered as a result of the workload review.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?			[Enter date]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£16,407 £1,002 (publications)*	*£*	*-£*	*£17,409*	*Ongoing*
2019/20	*£27,897*	*£*	*-£*	*£27,897*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£45,306*	

13b. One off project costs and income (not included in above):		
£'000's		**N/A**
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ASC-01 Changes to the Discovery Learning Disability Contract

Reference:	ASC-01
Service Area:	Adult Social Care
Director:	Stephen Chandler
Strategic Manager	Steve Veevers
SAP Node	
required	Decision to be taken by Cabinet

1.	**The proposal is to:**
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Changes to the Discovery Learning Disability Contract, specifically the removal of the current Crisis Service and a reduction in the short breaks service.

Discovery currently provide a Crisis service as part of their wider contractual delivery of the whole contract. The crisis service is made up of:

- Accommodation based crisis; 5 units of registered residential care
- Outreach support that is provided to people who are in the community and in need of additional interventions.

This proposal is to remove this element out of the Discovery contract, as alternative provision will be available.

Discovery provides three respite centres in the county, with a total capacity of 24 beds, broken down into 10, 8 and 6.

Two of the respite centres have an occupancy of around 75%, meaning that over a monthly period of 548 bed days, there are on average 136 lost bed days.

The smallest centre only has an occupancy level of 42%, meaning of the 182 available bed days, there are on average105 lost. This data tells us that the two other services would be able to absorb the demand for the proposed reduction, although it may mean people having to travel further or change the days that they have respite.

The short breaks service is deemed to be a respite service for people with a learning disability, but also a service for carers to have a break from their caring role. Therefore, this reduction to the available services will also impact on carers.

2a. Confidence level

100 *%*

Explanation:

Complete confidence in deliverability

3. Impact on residents, businesses and other organisations:

All impacts have been considered in section 10.

4. Impact on other services we provide:

All impacts have been considered in section 10, however key points for impacts on residents, businesses and other organisations include but not limited too;

- Changes to the crisis service could to lead to a potential increase in the LD purchased spend budget
- Short Breaks - carers services/knock on to other packages of care

5. Impact on staff:

No impacts on SCC staff regarding job losses, however, Discovery Staff/Social Workers will need to reprioritise workloads. May also result in potential relocation of working base.

The number of FTE that might be lost is: *0*
The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

As part of the de-commissioning of these schemes there may be a requirement of Social Worker resource required to complete reviews of the people currently supported.

There will need to be a light touch consultation, for each of the schemes regarding the changes that are being proposed. Support from business change and programme office for some of the communication and response coordination.

Support required from Commercial & Procurement and Legal.

7. Timescale to deliver and major milestones:
To include date of implementation, key decision points and governance meetings

Crisis service	Achievable by end of Sept
Short Breaks 19/20 as implementation	estimated as 5 to 6 months from decision point

8. Risks and opportunities:

No risks with the realignment of budgets. However, there could be the following risks;

- The crisis services can be jointly commissioned with the CCG and funded through NHS England to change the model and scope of provision supporting people in crisis. Funding has been secured for year 1 and a sustainable model will be worked up during the next 9 months.
- Short breaks - There is capacity in the remainder of the Discovery contract and other providers, to meet current and future demand.

9. Dependencies:

None

10. Initial Equality Impact Assessment:

A separate Impact Assessment has been completed.

11. Consultation and Communications plan:

For short breaks, a plan for engagement with users mirroring the methodology of the Sheltered Housing consultation, although with shortened timescales. Communications regarding changes will be sent as part of a wider engagement pack, but will ensure that key stakeholders (including members, district and boroughs) are also picked up.

No consultation requirements for the Crisis service.

12. Legal Implications:
Legal implications; • Crisis service - Contractual change required • Short breaks - Contractual change required

13a. Financial Implications – net change to service budget in each year:					
• Crisis Service has an annual spend of £550k, if proposal implemented by end of Sept, 250k can be achieved in year. • Short breaks - 200K possible saving per annum,					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£20,000*	*£*	*-£*	*£20,000*	
2019/20	*£750,000*	*£*	*-£*	*£750,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£770,000*	*£*	*-£*	*£770,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**V1.1**	**Date Completed**	**22/08/2018**

Description of what is being impact assessed

ASC-01

Changes to the Discovery Learning Disability Contract, specifically the removal of the current Crisis Service and a reduction in the short breaks service.

Discovery currently provide a Crisis service as part of their wider contractual delivery of the whole contract. The crisis service is made up of:

- Accommodation based crisis; 5 units of registered residential care
- Outreach support that is provided to people who are in the community and in need of additional interventions.

This proposal is to remove this element out of the Discovery contract, as alternative provision will be available.

Discovery provider three respite centres in the county, with a total capacity of 24 beds, broken down into 10, 8 and 6.

Two of the respite centres have an occupancy of over 75%, meaning that of the 18 beds over a monthly period of 548 bed days, there are 136 (lost) bed days.

The smallest centre only has an occupancy level of 42%, meaning of the 182 available bed days, 105 are lost (76 used). This would mean that the two other services would be able to absorb the demand for the proposed reduction, although it may mean people having to travel further or change the days that they have respite.

The short breaks service is deemed to be a respite service for people with a learning disability, but also a service for carers to have a break from their caring role. Therefore this reduction to the available services will also impact on carers.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

Discovery contractual delivery data has been used to track and monitor the utilisation of the three short break respite services. This has shown that one service has consistently low levels of occupancy, with an average of 42% over the last 3 months.

Usage data indicates that the service is used by a consistent group of users, with an equal spread of women, men and age ranges. Carers, who also benefit from the short break service predominantly are of an older group, looking after their adult children with a disability.

The Crisis service has long term supported 2 people over the last 12 months, who are being supported to move out of this service to better, community options.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

People who currently access the short break service have not been consulted before the decision, but the service that is being proposed was a temporary option for people to move to whilst changes were proposed. A continuation of those discussions will happen following this decision.

All of the people using the crisis service have been consulted with regarding the closure and are fully aware.

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• There is no direct impact on this group	☐	☒	☐
Disability	• People with a learning disability will have access to fewer respite options via the Discovery contract. • People may have to travel further to access respite provision	☒	☐	☐
Gender reassignment	• There is no direct impact on this group	☐	☒	☐
Marriage and civil partnership	• There is no direct impact on this group	☐	☒	☐

Pregnancy and maternity	• There is no direct impact on this group	☐	☒	☐

Race and ethnicity	• There is no direct impact on this group	☐	☒	☐
Religion or belief	• There is no direct impact on this group	☐	☒	☐
Sex	• There is no direct impact on this group	☐	☒	☐
Sexual orientation	• There is no direct impact on this group	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• Carers may be impacted on the reduction of respite / short break services in the county, either through availability, distance they may have to travel or the duration of services.	☒	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Continuation of consultation regarding the provision of a third respite service in the Discovery contract	30/09/2018	Steve Veevers	Discovery contract monitoring	☐

Review the utilisation of the remaining short break service	30/09/2018	Steve Veevers	Discovery contract monitoring	☐
Expand the range of respite options available to people for holiday / short breaks	31/12/2018	Steve Veevers	Commissioning plan	☐
Crisis service is to be re-commissioned jointly with CCG and NHS England.	30/11/2018	Eelke Zoestbergen / Steve Veevers	Commissioning Plan	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
If negative impacts remain, please provide an explanation below.				

Carers and people with a learning disability will be negatively impacted by the reduction of available, contracted respite services, but the data would suggest that there is enough capacity to meet the demand.
The reduction will inevitably mean that some people may need to move days of respite, frequency or regular pattern.

The crisis service closing will have an impact on the people currently supported by the service, but there has been a transition plan in place for some time for the provider, people supported and families.

Completed by:	**Steve Veevers**
Date	**22/08/2018**
Signed off by:	**Stephen Chandler**
Date	**August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Steve Veevers**
Review date:	**March 2019**

To Note (Decision taken)

Decision Report – Cabinet Member non-key decision
20th August 2018

Transformation of Specialist Dementia Day Services in Somerset

Cabinet Member(s): Cllr. David Huxtable – Cabinet Member for Adult Social Care
Division and Local Member(s): All
Lead Officer: Stephen Chandler – Director of Adult Social Services
Author: Heather Brumby – Senior Commissioning Officer
Contact Details:

	Seen by:	**Name**	**Date**
	County Solicitor	Honor Clarke (Russell Inglis on Honor's behalf)	20/8/18
	Monitoring Officer	Honor Clarke (as Deputy Monitoring Officer) (Russell Inglis on Honor's behalf)	20/08/18
	Corporate Finance	Peter Lewis	21/08/18
	Human Resources	Chris Squire	20/08/2018
	Procurement	Simon Clifford	On leave
	Senior Manager	Stephen Chandler	20/08/2018
	Local Member(s)	All	20/08/2018
	Cabinet Member	Cllr. David Huxtable	20/08/2018
	Opposition Spokesperson	Cllr. Bill Ravens	Sent on the 14/8/18
	Relevant Scrutiny Chairman	Cllr Hazel Prior-Sankey for Scrutiny Adults and Health	20/08/18
Forward Plan Reference:	N/A		
Summary:	The attached report *"The Future of day time activities and respite for people with dementia and their carers in Somerset"* outlines findings from a service review and sets out a plan for the transformation of day services for people with dementia in Somerset. There are over 5,300 residents of Somerset diagnosed with dementia and we know from the figures collated nationally, that		

	the number of people being diagnosed with dementia is rising. Somerset is one of the most prevalent areas for diagnosis[1] in the UK. Day time activities for people with dementia and memory problems play a key role in maintaining quality of life. Keeping active and occupied can also reduce admissions to hospital and long term care[2]. The research has shown the current service configuration is not fully accessible to all who need it. The current block funded service model commits the whole budget for one service type, meaning there is little choice but to attend a Day Centre if the client is eligible.
Recommendations:	**That the Cabinet Member for Adult Social Care:** 1. authorises the Director of Adult Social Services to take such steps as are necessary to facilitate the cessation of Specialist Dementia Day Services provided by Somerset Partnership NHS Trust on or before the contract expiry date (31 January 2019) as outlined in this report and specifically outlined in appendix 1.2 (this includes a proposal for early closure of some under-utilised centres, which will also allow the Council to pilot new service delivery models). 2. authorises the Director of Adult Social Services to take such steps as are necessary to transform the current Specialist Dementia Day Services from a block-funded contracted service to a personalised community-based model as outlined in appendix 1.3 of the attached report.
Reasons for Recommendations:	The recommendations are the conclusions of a review carried out because: ▪ the current contract for Specialist Dementia Day Services provided by Somerset Partnership NHS Trust ends on the 31st January 2019. ▪ There has been both legislative and policy changes since the service was first contracted over 15 years ago, locally[3] and nationally[4].

[1] Sources of data: Prevalence rate of dementia is estimated to be more around 9,000. By 2035, it is anticipated this number will double to around 18,000. www.alzheimers.org.uk Somerset Dementia Health Needs Assessment, Somerset Dementia Strategy, Somerset Intelligence

[2] https://www.scie.org.uk/dementia/living-with-dementia/keeping-active/

[3] Including the priorities set out by Somerset's County Council County Plan, Market Position Statement and Somerset's Dementia Strategy http://www.somersetintelligence.org.uk/dementia.html.

[4] Care Act 2014 - http://www.legislation.gov.uk/ukpga/2014/23/contents/enacted. Prime Ministers Challenge 2020 https://www.gov.uk/government/news/prime-minister-s-challenge-on-dementia.

	▪ The way people with dementia want to access services has changed, which is reflected in reduced referral numbers into the service.
Links to Priorities and Impact on Service Plans:	**Promoting Independence and Person-Centred Approaches in Adult Social Care 2018/19 Strategy** There are six key areas of work in the strategy, most appropriate two for this project are: 1. Prevention and early intervention a. Objective 1e: People are able to make informed choices and know where to go for information and advice b. Objective 1f: People have the support and tools required to develop their own network of support c. Objective 1g: Partners support the Community Connect approach and work together to promote independence, empower communities and ensure people can be supported in their community wherever possible **County Plan 2016 – 2020 Targets** Adults' Social Care • Helping vulnerable and elderly people • Keep vulnerable and elderly people safe Adults' health and wellbeing • Long-term prevention • Joining-up Building up our communities • We will work with the voluntary, community and social enterprise sector to have more volunteers, help and support available within Somerset's communities. **SCC Market Position Statement** www.somerset.gov.uk/EasySiteWeb/GatewayLink.aspx?alId=124623 The draft statement outlines the following priorities which link into the future model of support for people with Dementia: • We want to ensure that people have access to good information and advice that helps keep them out of the formal care and support system as we know that living independently is what people want and that it leads to better health and social care outcomes for them. • The Sustainability and Transformation Plan (STP) (http://www.somerset.gov.uk/stp/) will be adopted across the health and wellbeing system in the County. In the health and social care system we need to ensure that prevention and

	maintaining personal and family responsibility is the default in the system, that we work more effectively with the voluntary and community sectors to signpost and support people to use community solutions, and that there are specific services at sufficient scale to provide support for targeted interventions. • It is our intention to develop community resilience models which enable the third sector, carers and local communities to develop local arrangements to meet local needs and reduce the need for statutory provision. Developing a strategic approach to supporting communities to develop their capacity and resilience requires a partnership approach. **Extract from the CCG's draft proposal on their transformation work around 'People with Memory Problems':** When considering any pathway of provision, our proposed approach is to include 4 phases: • ***Staying well:*** what is done to prevent / reduce the need to access services, (inform, enable and support) • ***Getting support easily:*** Accessing services – how people get in to the right service at the right time • ***Getting Treatment*** – what do we do to support and treat the individual / family • ***Getting your life back:*** Leaving services – what and how do we support individuals to leave services in a recovery-focused approach, and promote optimum independence
Consultations and co-production undertaken:	Wide reaching public engagement has taken place through a survey and visits to existing service provision throughout the summer 2018. Two provider engagement events have been planned for the first week in September to follow on from the one held in January 2018. Additional one to one/drop-in sessions are planned during September 2018 at the following venues for the public: 10/9/18 Wincanton Library 9.30am – 1pm TBC Wells Library 1pm – 5pm 12/9/18 Yeovil Library 9.30am – 1pm 17/9/18 Wellington Library 9am – 1pm 18/9/18 Chard Library 9.30am – 1pm 19/9/18 Burnham on Sea Library 10am – 1pm 20/9/18 Bridgwater Library 9am – 1pm 21/9/18 Taunton Library 11am – 4pm 24/9/18 Minehead Talking Café (Beach Hotel) 10am – 1pm

	17/9/18 Frome Library 10am – 2pm These sessions will be used to gather further feedback around the proposed model and will utilise feedback to refine the plan. For more detail on consultation and engagement to date please see the attached report.
Financial Implications:	The financial implications of the proposals set out in this report are not yet identified as potential costings for a new model are in development. However, the focus of developing alternative solutions is to reduce the cost of the current revenue budget commitment (£422,000 approx. in 2018/19[5]) in order to support the Council's Financial Imperative Programme and contribute to the financial sustainability of the Council. There are no financial implications of undertaking the investigative work; this will be completed with existing resources.
Legal Implications:	<u>Statutory duties</u> SCC has a statutory duty to meet an adult's needs for care and support in accordance with Part 1 of the Care Act 2014. SCC will therefore need to ensure that the proposed community-based model for dementia services is capable of meeting the assessed needs of service users. In taking the decision to cease commissioning dementia day services in its current form and move to a community-based model, SCC must have due regard to the equality needs listed in section 149 of the Equality Act 2010, including the need to remove or minimise disadvantages suffered by persons who share a relevant protected characteristic. In order to comply with this duty, SCC may need to carry out an information gathering exercise to understand the likely impact of cessation of the current day services (it appears from the appendices to this report that a survey of users has been carried out). The information must be properly analysed and considered by the decision maker before the decisions in this report are taken. A failure to comply with the section 149 duty could lead to a legal challenge from service users affected by the decision. *Legal Services have not been instructed to review the current contract with the NHS Trust and therefore have not been able to comment on any contractual liabilities arising from expiry or early termination of the contract*

[5] 20/07/18 calculations by Ben Casson, Finance Manager A&H

HR Implications:	There are no direct HR implications intended to arise for the Council from options being developed as the current provider is working with their staff regarding consultation and redeployment options. However, the Council will work with the provider to ensure continuity of service during any transition to a new model.					
Risk Implications:	Likely risks have been mitigated by taking appropriate action. Ensuring current users of the service are transitioned into alternative provision is the main priority which carried the most risk. This has been mitigated through planned reassessments of need which will commence from September 2018. Risk log available upon request.					
	Likelihood	**1**	**Impact**	**1**	**Risk Score**	**2**
Other Implications (including due regard implications):	**<u>Equalities Implications</u>** Existing users of the service will be reassessed throughout September. Suitable alternative provision will be found before the end of the current service contract in February. There will be monitoring of the new model. Equalities Impact Assessment available on request.					
Scrutiny comments / recommendation (if any):						

1. Background

1.1. The report attached outlines the findings of a review carried out during 2018, on how the Council commissions day services for people with dementia. The review was carried out because:

1.1.1 the current contract for Specialist Dementia Day Services provided by Somerset Partnership NHS Trust ends on the 31st January 2019.

1.1.2 There has been both legislative and policy changes since the service was first contracted over 15 years ago, locally[6] and nationally[7].

1.1.3 The way people with dementia want to access services has changed, this is reflected by reduced referral numbers into the service

[6] Including the priorities set out by Somerset's County Council County Plan, Market Position Statement and Somerset's Dementia Strategy http://www.somersetintelligence.org.uk/dementia.html.

[7] Care Act 2014 - http://www.legislation.gov.uk/ukpga/2014/23/contents/enacted. Prime Ministers Challenge 2020 https://www.gov.uk/government/news/prime-minister-s-challenge-on-dementia.

2. Options considered and reasons for rejecting them

2.1. Do nothing – let the current service end in line with the contract and give all eligible people and existing service users a Direct Payment.

This option was not desirable as the community based provider market is not currently at a capacity to be able to accept people who have later stage dementia or more complicated symptoms of dementia.

This issue has been addressed in the proposed model by developing the provider market over a space of five years.

It is also known from the pubic engagement exercise that some existing service users do not wish to manage a Direct Payment, meaning they would be without a service post January 2019.

2.2. Recommission a like for like service.

The current service model no longer meets a majority of needs. For reasons explained in this report, commissioning block funded services of this nature is not the best way to meet needs within the budget envelope.

Research has shown that the majority of people surveyed want community based, local services – and more often wish to retain normality post diagnosis by using the same services they did before.

By putting the whole budget into one fixed contract, we are unintentionally excluding a range of people who want to have more choice and control on where they go and what they attend.

To

Appendix five

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1**	**Date Completed**	**24 July 2018**

Description of what is being impact assessed

ASC-09

The Council currently purchases specialist dementia day care services from Somerset Partnership NHS Trust.

The service was designed to provide day activities for people with later stages of dementia, whilst also providing their carer with a break from the caring role. These services typically are at a day centre between 10am and 3pm across nine fixed buildings.

A review of the service has taken place, and a new model has been drafted. This EIA is to assess the impact on the people that use the service and their carers.

The new model will be needs led. Existing services users (78 as of May 2018) of Specialist Dementia Day services will have their needs reviewed in preparation for a transition from the existing service, to alternative community based provision. Reassessments which will be taking place imminently will draft transition plans for each service user in advance of any changes.
These services are aimed in the main at over 65 year olds, with an equal mix of men and women.

Evidence

To

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here
As part of the wider project, a public engagement survey has been collated, interviews with existing service users and staff have been carried out and Officer attendance at Social Care team meetings to discuss possible service changes. Data from the Somerset Dementia Strategy has been used.

For more detail on consultation and engagement to date please see "Appendix one - Consultation and engagement report" of the main report.
Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?
All public engagement has been accessible to the public through online access, telephone access, face to face opportunities. Compass Disability Service supported the research project to ensure accessibility.
Analysis of impact on protected groups
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

To

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• Due to a larger number of service users being over 65 and assumption can be made that carers for this group are more likely to be over 65. This group is more likely to become concerned due to change in support and existing relationships.	☐	☐	☐
Disability	•	☐	☐	☐
Gender reassignment	•	☐	☐	☐
Marriage and civil partnership	•	☐	☐	☐
Pregnancy and maternity	•	☐	☐	☐

To

Race and ethnicity	•	☐	☐	☐
Religion or belief	•	☐	☐	☐
Sex	•	☐	☐	☐
Sexual orientation	•	☐	☐	☐

Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	•	☐	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete

To

People who are effected will have a review of their needs undertaken and transition place drafted with them	31/01/19	Adult Social Care managers	Through project management	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

Completed by:	**Heather Brumby**
Date	**14 August 2018**
Signed off by:	**Stephen Chandler**
Date	**August 2018**

To

Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Heather Brumby**
Review date:	**March 2019**

Proposal for Change:

Corp-02 Reduction in Contribution to Reserves

Reference:	Corp-02
Service Area:	Non-Service
Director:	Peter Lewis, Interim Director of Finance
Strategic Manager	Lizzie Watkin
SAP Node	BAK

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

To reduce the budgeted contribution to reserves in 2018/19.

Within the budget assumptions in revenue a contribution to General Reserve has been included with both a “base budget” and a “collection fund surplus” element. These are budgeted at £2m and £1.9m respectively. The General Reserve current balance is below the good practice “minimum” value of £15m for this Council.

The proposal is to leave the Collection Fund surplus in revenue and therefore not transfer this benefit to the General Reserve. This will contribute to reducing the overspend pressure in revenue by £1.9m but will reduce the end of year balance in General Reserve by the same amount. This balance must be kept under review as consideration of this forms part of the S151 Officer’s “robustness” assessment and support the judgments around “going concern”.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

This is technically easy to undertake, although there are risks associated with variances within the Collection Fund and risks to the General Reserve as noted above.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No direct impact

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No direct impact on services, other than supporting the budgets of the key services of the Council – i.e. not requiring another £1.9m of savings. The impact is on the General Reserve, which needs to be sufficient to support the Council as a going concern. Further assessments of this will be undertaken as the year progresses and as the MTFP is prepared for 2019/20 and beyond.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None, other than protecting budgets.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None – however, there will be a need in future years to add sums back into the reserves to ensure we have adequate balances for the future.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
Immediate as part of budget monitoring.	

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Risks are identified above; that the General Reserve may be inadequate to support the Council as further savings are required and financial uncertainties are faced. The Reserve will need to be reviewed frequently in the context of the challenges facing the Council.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

None required

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

None required.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes

If no, when is evidence expected?	[Enter date]
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£1,900,000*	*£*	*-£*	*£1,900,000*	*One-off**
2019/20	*£*	*£*	*-£xx*	*£xx*	
2020/21	*£*	*£*	*-£xx*	*£xx*	
Total	*£1,900,000*	*£*	*-£xx*	*£1,900,000*	

* Note that this one-off saving is not reversed out in 2019/20 as the budgeted amount was only included for one year.

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

Corp-03 Slippage of capital spend activity funded from borrowing

Reference:	Corp-03
Service Area:	Corporate Finance (Non-service)
Director:	Peter Lewis, Interim Director of Finance
Strategic Manager	Lizzie Watkin
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
To reflect the slippage in capital schemes that are to be funded through borrowing. Saving is: 2018/19 - £171k MRP (Minimum Revenue Provision) and £125k interest **Note:** this is based on the amount included in the budget for MRP and interest and comparing to the anticipated need for borrowing. A full review has taken place as to which schemes have slippage and the current contractually committed spend for 2018/19. This slippage would normally be identified as part of the monitoring of the Capital Investment Programme and reflected in the revenue budget. Future years Capital Investment Programme bids will be evaluated against a set of criteria which will ensure that there is a sound rationale and business case for each scheme and any requirement to incur new borrowing.	

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 %

Explanation:

This saving is certain due to the analysis carried out on the schemes due to be funded by borrowing. If there is any further slippage in any of these schemes there may be further savings.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Slippage in such a broad and complex Capital Investment Programme is normal and all impacts are evaluated against individual schemes as the slippage becomes evident.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

With slippage within the Capital Investment Programme there could be additional costs associated with delivering services such as additional costs for transporting children to schools and failure to deliver school places as the need occurs may result in cost pressures such as for educational placements. The current slippage is not anticipated to have any impact.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

An assessment would need to be made of staff that are employed to deliver the capital projects and if that resource requirement is still required at the same level to deliver the schemes. No impact on staff is predicted at the moment.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

At this time, no additional resources are needed to make the changes proposed.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
The assessment has been made and therefore this can be implemented immediately.	Sept 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

A key risk is that capital schemes progress at a faster pace than currently forecast and additional costs are incurred that need funding. This risk is currently assessed as not likely to occur. There will be opportunity to review slippage through the monitoring of the Capital Investment Programme and further savings may be available if further slippage is forecast.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

This saving is dependent on the slippage in the Capital Investment Programme. The CIP is monitored closely and reported to Cabinet regularly.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

None required.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

None required.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?			[Enter date]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£296k*	*£*	*-£*	*£*	*One-off*
2019/20	*£*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£296k*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-01 Libraries Stock

Reference:	ECI-01
Service Area:	Community & Traded Services: Libraries
Director:	Paula Hewitt
Strategic Manager	Oliver Woodhams
SAP Node	EHDAFB

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:
To reduce in year overspend for Libraries Stock. Changes to the way Libraries manage Stock as an Asset during this year will reduce the level of overspend from £154k to £0.

2a. Confidence level
Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level. *80* *%* *Explanation:* The proposal requires a realistic response from Property Services to provide storage capacity that is accessible and available for the necessary period.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

The proposal represents an internal change to stock processes.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Proposal requires physical capacity to store more library stock in liaison with Property Services.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Not applicable

The number of FTE that might be lost is:

The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
The processing of Libraries stock during the year will result in use of the existing revenue budget only i.e no contingency funding requirement.	*31st March 2019.*
Position will be reviewed using internal reporting systems, to ensure this can be delivered.	*January 2019.*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

RISK

- If the value of withdrawn stock exceeds the revenue budget of £276k, additional funding would be required.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Not applicable

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Not applicable

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Not applicable

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* No Legal implications.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			[Yes/No] YES		
If no, when is evidence expected?					
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings/*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£154k*	*£*	*-£*	*£154k*	*One-Off*
2019/20	*-£154k*	*£*	*-£*	*-£154k*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£0*	*£*	*-£*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-25 Increase capital receipts for 2018/19

Reference:	ECI-25
Service Area:	Corporate Property, ECI
Director:	Paula Hewitt
Strategic Manager	Claire Lovett
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
*	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

To increase the capital receipts target for 2018/19 by an additional £1million with a view to reducing pressure on revenue budgets in the short term. This would require further acceleration of our disposal programme and, as outlined previously, comes with an opportunity cost in that by selling early we may:

(a) Secure lower values than we would if the assets were retained longer e.g. while the planning position is developed or a more suitable buyer is found.
(b) Fail to benefit from opportunities for longer term conversion of capital assets to revenue income through letting or other investment opportunities.

The details of the capital disposals will be monitored closely against this additional target. Capital receipts produced through these additional disposals will be utilised to fund transformational expenditure across the authority in line with the directive from government on the use of capital receipt flexibilities.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

70 *%*

Explanation: The recent approval of additional support for the programme has increased confidence levels of disposals already targeted. However, further work is needed to assess the deliverability of this additional sum, but see dependencies below.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

We would not anticipate any adverse impacts on the public, local businesses or organisations from this proposal at present.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Not so far as we are aware at present.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

This proposal does not include any loss of posts.

The number of FTE that might be lost is: 0

The number of posts that might be lost is: 0

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None within the Corporate Property Group. We would hope to be able to deliver the additional receipts using the resource funding already approved. However, there may be implications for Legal Services' resource given the extent of the overall programme.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Immediate implementation for delivery in year.	March 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

See section 1 above.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Discussions have begun with services to identify properties that could be made vacant for additional disposal and the proposal will rely on rapid progress on plans and consultation in this arena.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No public or staff consultation would be necessary or proposed.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None so far as we are aware.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes, but require further work
If no, when is evidence expected?	N/A
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£0*	*£0*	*-£0*	*£0*	*See 13b*
2019/20	*£0*	*£0*	*-£0*	*£0*	
2020/21	*£0*	*£0*	*-£0*	*£0*	
Total	*£0*	*£0*	*-£0*	*£0*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£0
	Capital Receipts	£1m
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2019/20	Capital Costs	-£0
	Capital Receipts	-£1m
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
	TOTAL	£1m

Proposal for Change:

ICT-03 ICT Resource capitalisation

Reference:	ICT-03
Service Area:	ICT
Director:	Simon Clifford

1. The proposal is to:	
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income. How could we work across the wider local system with partners? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
Capitalisation	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Proposal is to increase the value of staff costs recharged to the ICT capital allocation (CIP) for 18/19. This will include staff recharge for all asset based projects during 18/19.

Moving a current revenue forecasted spend to capital.

2a. Confidence level

Officers should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

70 *%*

Explanation:

Based on current project pipeline and staff. Any further changes to project pipeline and resources in year will impact the amount that can be recharged

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate?

SLT decisions to date, based on ICT capacity and priority proposals have stopped or deferred a number of ICT capital projects or investments planned for 18/19. The impacts of these decisions have all been captured and submitted to SLT at point of decision. These stop/defer decisions have allowed the additional capital available for an increase in resource recharging in 18/19.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

20% FTE to manage capitalisation process. Already factored into ICT salary forecast

7. Timescale to deliver and major milestones:

To include key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Complete 31st March 19	*31st March 19*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

N/A

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/A

10. Initial Equality Impact Assessment:
Is the equality duty relevant? N/A

11. Consultation and Communications plan:
Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? No

12. Legal Implications:
Please consider • *Are there any services which could safely and legally be stopped?* • *Whether or not you require a delegation to implement* • *Any relevant standing orders or Procedure Rules that you are following (including procurement)* • *Is there a statutory duty to consult?* *None*

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*
2018/19	*£130,000*	*£*	*-£*	*£130,000*
2019/20	*£*	*£*	*-£*	*£*
2020/21	*£*	*£*	*-£*	*£*
Total	*£*	*£*	*-£*	*£*

13b. One off project costs and income (not included in above):

£'000's		
2017/18	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2018/19	Capital Costs	-£130,000
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£

	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

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Proposal for Change:

ECI-15 Commissioning Development staff: capitalisation to support forthcoming transformation work

Reference:	ECI-15
Service Area:	EC&I
Director:	Paula Hewitt
Strategic Manager	Vikki Hearn
SAP Node	112562

1.	The proposal is to:
N	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
N	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
Y	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
Y	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Capitalise (using capital receipt flexibilities) the Commissioning Development team posts from the SCC EC&I structure to undertake essential forthcoming transformation work.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 %

Explanation:

- Members may wish to retain part or all of the service currently provided. As such it will be necessary to ensure backfill / hand-offs.
- The team is also a participant in the Financial Imperative work and as such it may be considered necessary to retain some or all of the team capacity temporarily to support this and sustainability of savings through a common commissioning approach (though this in itself suggests an element of 'transformation').

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

In the absence of the Commissioning Development team providing its current service (ie it has been repurposed to transformation work) the County Council may not be in a position to promote or develop a single point of reference for SCC and partners for the capabilities that good commissioning requires. This might adversely impact on the quality of decision-making, and SCC's ability to reduce need for services / promote and increase independence. For example:

- Commissioning Development takes an active role in ensuring commissioning activity identifies community, partnership and cross organisational impact. The team maintains an active dialogue with strategic managers from across SCC, lead community members, partner and provider organisations to ensure identified impacts and opportunities are understood and capitalised upon.
- The team uses these contacts to ensure that resources are focused appropriately on populations and places in greatest need.
- The Commissioning Development Team produces and refreshes the Corporate Business Plan which provides clarity to residents, businesses and partners of our corporate priorities and enables a level of transparency and certainty in our working relationships and negotiations. Linked to this the team is responsible for the corporate Market Position Statement which enables us to communicate our commissioning intentions and direction of travel as an organisation to our markets.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

A proportion of the team's current work is transformational for the Council.

The Commissioning Development team has developed, and managed, the Commissioning Gateway process through the Commissioning Board and the Strategic Commissioning Group. This enables cross organisational challenge on all commissioning and procurement activity to ensure quality, best practice, compliance and ultimately deliver greater value for money.

The gateway is a tool as well as a process which if used correctly helps to increase the capability and therefore capacity of the organisation. The gateway requires specific management and support capacity and expertise to ensure it delivers its intended benefits.

The commissioning development team, through the learning and development opportunities it provides and develops, significantly increase the capability and therefore capacity of commissioning colleagues (and other staff members where appropriate). Development areas include the following:

- Commissioning skills and competencies

- Commissioning Principles and the Gateway approach
- Commissioning Models (including Procurement options)
- Contract Management
- Effective use of data and intelligence for system change
- Negotiation
- QI Methodology
- Building capacity
- Behavioural insights
- Risk and risk appetite
- Social Value,
- Searching for funding and bid writing
- Benchmarking.

The team is also responsible for the organisation and facilitation of the locally and nationally recognised and commended Somerset Academy programme.

The Commissioning Development team supports commissioning teams on discrete projects where the team members expertise, or increased capacity is required. These are identified through the gateway process as requiring cross organisational management. These will often involve a level of relationship management (with health or District Councils for example).

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Whilst there is no staff loss, there will be loss of capacity for current work at the rate of 2 FTE

The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Financial, HR

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Decision on capitalisation	*12/9/18 (Cabinet)*
Capitalisation of budget	*TBC*
Confirmation of detail / requirements of transformation roles	*TBC*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Some work and activity currently undertaken may need to be transferred to other teams, suspended, or ceased.

Gateway management / savings and Commissioning Board
Capacity and expertise may need to be identified across the organisation to ensure the continued management and development of the gateway process. The process ensures that all commissioning and procurement activity is scrutinised for quality, assurance, cost and compliance. The gateway and associated meetings have been a major part of the Financial Imperative Initiative.

The team also provides proactive management and support to both the Commissioning Board, Strategic Commissioning Group, and Lead Commissioners.

Commissioning Learning and Development
Corporately SCC will be unable to deliver learning and development to increase the commissioning skills and competencies of staff. The team has also identified the potential for income generation in this area, as other organisations have already show an interest in the programme offered within SCC. The Commissioning Development Team has also proactively worked with partners to deliver learning and development opportunities that can be replicated in-house. An example of this is the Health Quality Improvement (QI) Faculty.

Business Plan
The SCC Business Plan is still in its infancy and a refresh must begin within the next few months if SCC is committed to keeping it live and relevant. Capacity and capability will need to be identified elsewhere in the organisation to make this happen and avoid knock-on impacts for other teams.

Market Position Statement
This requires updating before the end of the year if we are to maintain the positive relationship we have with our markets on a corporate level. Capacity and capability will need to be identified elsewhere in the organisation to make this happen and avoid knock-on impacts for other teams.

Somerset Academy
Cohort 3 of the Somerset Academy (already funded through Health Education England) is due to start in September and will run until May 2019, followed by an evaluation period. Capacity and capability will need to be identified elsewhere in the organisation to make this happen: delivery of this will be expected and has been committed to.

Developing and promoting improved practice
The team is also responsible for collating, developing and promoting good and best practice through the development of guidance and learning/development sessions, for example social value, behavioural insights and co-production and the upcoming in-house training programme.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Some tasks currently undertaken by the Commissioning Development Team will need resourcing from elsewhere in the organisation in order for the focus of the team to be solely transformation.

The team is currently supporting the Financial Imperative Work; however this could be treated as a transformation activity.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

The proposal has been discussed with the affected staff.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Only HR requirements

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	N/A
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£25k*	*£*	*-£*	*£*	*On-going*
2019/20	*£78k*	*£*	*-£*	*£*	*On-going*

Total	*£103k*	*£*	*-£*	*£*	*On-going*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	£
	Capital Receipts	£-£25k
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	£
	Capital Receipts	-£78k £
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£103k
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£206k

Proposal for Change:

ECI-23 Reduce frequency and extent of County Hall grounds maintenance

Reference:	ECI-23
Service Area:	Corporate Property, ECI
Director:	Paula Hewitt
Strategic Manager	Claire Lovett
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
✓	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
✓	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To reduce the frequency and extent of grounds maintenance works on the County Hall site, for example, grass cutting to be undertaken at longer intervals.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation: Some further work is needed to assess the changes required to meet this savings target and to agree changes with the current contractor.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

We would not anticipate any direct adverse impacts on the public, local businesses or organisations from this proposal.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

This proposal does not include any loss of posts.

The number of FTE that might be lost is:	0
The number of posts that might be lost is:	0

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Immediate implementation with impact felt by year end	April 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

None.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Not so far as we are aware.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No public or staff consultation would be necessary or proposed.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None so far as we are aware.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	No
If no, when is evidence expected?	31st August 2018

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£3k*	*£0*	*-£0*	*£3k*	*Ongoing*
2019/20	*£0*	*£0*	*-£0*	*£0*	
2020/21	*£0*	*£0*	*-£0*	*£0*	
Total	*£3k*	*£0*	*-£0*	*£3k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0

	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2019/20	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
	TOTAL	£0

Proposal for Change:

ECI-27 Controls on Building Repairs and Maintenance spending

Reference:	ECI-27
Service Area:	Corporate Property, ECI
Director:	Paula Hewitt
Strategic Manager	Claire Lovett
SAP Node	

1.	The proposal is to:
✓	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
✓	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

It is proposed to re-impose these controls so that only those repairs and maintenance tasks which carry an immediate and genuine health and safety risk will be approved.

- During 2017/18 under the spending freeze arrangements, we imposed stringent controls on spending related to repairs and maintenance. This was intended to be a short-term measure owing to potential health and safety risks, impacts on the integrity of buildings and the medium to long term impacts of creating a backlog of maintenance tasks and carrying out of "patch" repairs.

(Subsequent savings result from the change of delivery model as set out in the Hard FM insourcing business case and decision paper and are not therefore dealt with in detail here.)

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

70 *%*

Explanation: It is difficult to predict certainty of deliverability due to the general state and condition of the estate and the potential for one-off serious failures, requiring immediate remedial attention, the likelihood increasing as measures are prolonged. The savings

estimated under this proposal are based on previous experience, but the aging estate and the impact of previous investment levels make deliverability more challenging.

(Note that the savings for 2019/20 require further validation and cannot be properly assessed until after the insourcing of the Hard FM service is fully implemented and the service embedded.)

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

We would not anticipate any adverse impacts on the public, local businesses or organisations from this proposal at present, but health and safety risks will need to be considered and monitored. As previously, we would expect colleagues in the Corporate Health and Safety Unit to be involved in assessing any cases where health and safety implications are in question.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None identified at present.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

This proposal does not include any loss of posts. However, there is potential for working environments to become less comfortable, less attractive and more frustrating over time.

The number of FTE that might be lost is:	0
The number of posts that might be lost is:	0

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Immediate implementation for delivery in year.	March 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

This approach may increase our liabilities in the medium to long term.

See also section 2, 2a and 3 above.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

It is possible that public and staff complaints will result from these measures if the impact of reduced investment in our buildings becomes more visible.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No public or staff consultation would be necessary or proposed.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None so far as we are aware.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes, but require further work		
If no, when is evidence expected?			N/A		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£70k*	*£0*	*-£0*	*£70k*	*On-going? (note risks)*
2019/20	*£90k*	*£0*	*-£0*	*£90k*	*On-going? (note risks*
2020/21	*£0*	*£0*	*-£0*	*£0*	
Total	*£160k*	*£0*	*-£0*	*£160k*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2019/20	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
	TOTAL	£0

Proposal for Change:

ECI-31 Marketing Facilities

Reference:	ECI-31
Service Area:	Registration and Scientific Services
Director:	Paula Hewitt
Strategic Manager	Genevieve Branch
SAP Node	

1.	The proposal is to:
	Manage Demand As traded services within the Local Authority, Somerset Registration Service (SRS) and Somerset Scientific Services (SSS) both rely heavily on income generated from external customers. With markets becoming increasingly competitive, the need for a structured marketing strategy, tailored to the specific requirements of each service, is necessary to ensure both services continue to maintain and grow their share of their respective markets.
	Increasing Productivity <u>Registration Service</u> The registration of births and deaths is a statutory duty for which no fee can be charged. The demand for these services increases steadily year on year. In order for the service to meet this increased workload sustainably and without additional cost there is an urgent need to redistribute tasks and duties. It is proposed that this can be done by implementing additional online facilities which enable the customer to self-serve. <u>Scientific services</u> As a result of increased productivity and alternative ways of working within Scientific Services it has been identified that the service can reduce the existing fleet of vans from 7 to 6.

2.	Outline of the proposed change:
I.	<u>SRS and SSS Shared Marketing Resource</u> In summer 2017 both services pooled resources to secure a part-time Marketing Officer on a 12 month trial basis. After 9 months the post along with subsequent outcomes and benefits was evaluated. Based on the recommendations of that review, it is proposed that the post of Marketing Officer be made permanent. If implemented, this proposal is expected to realise an additional £10,000 income across both services in 18/19 (after all resource and investment costs are taken into account). Income predictions are cautious estimates at this stage. Some of the quantifiable and assured

income projections have been taken into account with the in-year budget (outlined in 13a below)

In addition to the expected increased income, the post will be instrumental in (amongst other things) ensuring the customer offer (as described in II below – increased online facilities) remains competitive and meets evolving customer expectations.

II. Scientific Services – Fleet Reduction

The proposal to reduce the current fleet of vans from 7 to 6 could provide an in year saving of £2,000 (reduction in service costs + sale value) and ongoing savings to the service of £2,400 for maintenance costs.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

I. **SRS and SSS Shared Marketing Resource**

80 *%*

Analysis to date based on actual benefit achieved during first 9 months of trial.

II. **Scientific Services – Fleet Reduction**

90 *%*

Savings are reliant on the timely sale of the existing van at the lower end of the estimated value

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No negative impact identified for residents, businesses or other organisations has been identified.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Some minimum ICT support will be required to implement the online facilities.
There is a minimal positive impact on Finance.
There are no other identifiable negative impacts

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

I. SRS and SSS Shared Marketing Resource -- None identified if proposal accepted

II. Scientific Services – Fleet Reduction
Minimal/no impact on staff

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Resource implications outlined in sections 2 & 5 above.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Decision reports (where required)	*Late summer 2018*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

I. SRS and SSS Shared Marketing Resource

There is an opportunity for the Marketing resource to be shared with other service areas for one-off or on-going projects (Dillington, Libraries, Planning Control etc)

There is a risk of not achieving in year and forward income targets if the proposal is not accepted.

II. Scientific Services – Fleet Reduction

No significant risk

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

No significant dependencies

10. Initial Equality Impact Assessment:

Equalities Impact Assessment not required.

11. Consultation and Communications plan:

Formal consultation is not required. Communication and staff training plans will be produced during the business planning and decision -making process.

12. Legal Implications:

None

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes - partially		
If no, when is evidence expected?			End August 2018		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
Registration Service – Shared Marketing resource only					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£*	*-£*	*£*	
2019/20	*£*	*£5,000*	*-£*	*£5,000*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£5,000*	*-£*	*£5,000*	
Scientific Services					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£2,000*	*£*	*-£*	*£2,000*	*One Off*
2019/20	*-£2,000*	*£*	*-£*	*-£2,000*	
2019/20	*£400*	*£5,000*	*-£*	*£5,400*	*On going*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£2,400*	*£5,000*	*-£*	*£7,400*	

13b. One off project costs and income (not included in above): N/A		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change: Pathway to Employment

Reference:	HR-01
Service Area:	HR Services
Director:	Chris Squire, Director of HR&OD
Strategic Manager	Sari Brice/Rachel Ellins/Melissa Fairhurst/Vicky Hayter
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

The Pathways to Employment (P2E) budget is used to offer opportunities to disadvantaged/vulnerable young people with the view of increasing their employability. Citizens that have left care, have a special educational need or disability, are a young carer etc have previously been supported by a range of initiatives, from direct employment with the local authority to activity and employability weeks. The budget is used innovatively to support the maximum number of people along their 'Pathway to Employment'.

The proposal is to realise an in-year underspend on the Pathways to Employment budget by ensuring no further commitments are made. This will result in an in-year underspend of £93k (in addition to the £50k ongoing) made up of initial saving identified of £42k and a further £51k uncommitted funds against the SEND Grant.

This proposal is a one off in-year underspend rather than permanent budget reduction and on top of the P2E budget that has already been given up for 2018/19.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90%

Explanation:

90% confidence in proposal. Validation is required to ensure that all existing commitments are accounted for.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

A reduction to further commitments in the remainder of 18/19 means fewer opportunities can be offered and therefore fewer citizens supported.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

HR – implementation of the changes.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Stop further commitments against P2E budget	End Aug

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Potentially further limits (due to savings already offered up), albeit on a temporary basis (2018/19 only), the Council's ability to support and offer Pathway to Employment opportunities for young people.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/A

10. Initial Equality Impact Assessment:

N/A

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

N/A

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

N/A

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£93,000*	*£*	*-£*	*£93,000*	*One-off*
2019/20	*£*	*£*	*-£*	*£*	

2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£*	

*Validation needs to take place to ensure full amount achievable from 18/19 P2E budget

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

HR-02 Staff Awards

Reference:	HR-02
Service Area:	HR Services
Director:	Chris Squire, Director of HR&OD
Strategic Manager	Sari Brice/Rachel Ellins/Melissa Fairhurst/Vicky Hayter
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:
Not to hold the Staff Awards event this year, this will result in an in-year underspend of £5k. Resource will be used to deliver other financial imperative related activity instead e.g. car parking proposals.

2a. Confidence level
Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.
100%
Explanation:

3. Impact on residents, businesses and other organisations:
Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?
N/A

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

N/A

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Nil.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
N/A	N/A

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

- This proposal may be received negatively by some employees, which could impact on staff morale and reduced employee engagement. However, conversely some employees are likely to perceive holding the event as being in conflict to the budget cuts.
- Not holding the event will enable the staff resource to be used to support the financial imperative savings activities.
- We will look at holding the event in Spring or an alternative way of recognising achievement.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/a.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?
No.

11. Consultation and Communications plan:
Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? No.

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* N/a.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£5,000*	*£*	*-£*	*£5,000*	*One-off*
2019/20	*£*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ICT-02 ICT Contracts and Services

Reference:	ICT-02
Service Area:	Corporate Services
Director:	Simon Clifford

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income. How could we work across the wider local system with partners? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

- Ceasing a number of small ICT Contracts
- Reducing licence count on an ICT contract
- Deferring the implementation of enhanced email security

2a. Confidence level

Officers should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 *%*

Explanation:

No commitment to purchase or maintain contracts

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate?

There is no direct impact on services delivered. There is a small increase in the level of risk of infection and malware attack against the council that may gain access to mailboxes as a result of not implementing enhanced email security. This risk will be mitigated by further user training and communication around best practice use of email and manual monitoring

The service also proposes to look at similar free tools available through Microsoft and engage with SWAP in order to further analyse risks going forward.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

None

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

N/A

7. Timescale to deliver and major milestones:

To include key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Implement site-to-site VPN (assuming TDBC staff available)	*By Contract end (End Nov 2018)*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

There is a small increase in the level of risk of infection and malware attack against the council that may gain access to mailboxes as a result of not implementing advanced email security. This risk will be mitigated by further user training and communication around best practice use of email and manual monitoring

The service also proposes to look at similar free tools available through Microsoft and engage with SWAP in order to further analyse risks going forward.

9. Dependencies:
Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out. None.

10. Initial Equality Impact Assessment:
Is the equality duty relevant? None

11. Consultation and Communications plan:
Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? No.

12. Legal Implications:
Please consider • *Are there any services which could safely and legally be stopped?* • *Whether or not you require a delegation to implement* • *Any relevant standing orders or Procedure Rules that you are following (including procurement)* • *Is there a statutory duty to consult?* No legal implications. The basic exchange cloud protection (EOLP) meets the minimum requirements for PCI DSS (Payment card guidance) and PSN (Public Sector Network) but fails to meet industry best practice guidelines.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal.

Are the savings evidenced based?	[Yes/No] Yes
If no, when is evidence expected?	[Enter date] N/A

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*
2018/19	*£129,373*	*£*	*-£*	*£129,373*
2019/20	*£*	*£*	*-£*	*£*
2020/21	*£*	*£*	*-£*	*£*
Total	*£*	*£*	*-£*	*£129,373*

13b. One off project costs and income (not included in above):

£'000's		
2017/18	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£

2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

Leg-02 Increasing Legal services productivity by delivering the service to Children's Services in a different way.

Reference:	Leg-02
Service Area:	Legal Services
Director:	Chris Squire, Director of HR&OD
Strategic Manager	Honor Clarke
SAP Code	108164

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
X	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

a) No physical attendance at Children's Social Care (CSC) area threshold meetings, this will be contrary to client instructions/expectations but would save travel time and costs, increasing productive time. Attendance at the meetings would be possible via phone or skype instead to save travel time, approx. 240 solicitor hours on an annual basis; time which can be used elsewhere e.g. undertaking advocacy thereby reducing external spend.

b) No physical attendance at Public Law Outline (PLO/pre-proceedings) meetings and advocates meetings. Legal Services would be acting contrary to the statutory requirements if we failed to attend, but it would be possible to attend via phone or skype instead. Physical absence may cause communication issues, so this will need to be managed carefully, but productive time could be increased as travel time would not be needed. This will be contrary to client instructions/expectations so careful communication of the changes will be required. Upon the basis of 2 meetings per PLO, saved travel time, approx. 358 solicitor hours on an annual basis, could be used elsewhere e.g. undertaking advocacy thereby reducing external spend. It is difficult to quantify the number of advocates meetings.

The time saving exercise of no longer physically attending threshold and PLO meetings could potentially save 598 solicitor hours (80.81 days).
Counsel's fees for attendance at a half day hearing are a minimum of £360 plus VAT.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

60 *%*

Explanation:

It is not a direct saving, but there is the potential to save on external spend. It is difficult to quantify, however based on the figures above, 80 x £360, a figure in the region of £28,800 should be achievable. The £28,800 will be split over 18/19 and 19/20.

3. Impact on residents, businesses and other organisations:

There would be no external impact in respect of threshold meetings, there would be an impact on the legal representatives of other parties within the PLO process and advocates meetings. Careful communication and engagement about the change in process would be required to mitigate these impacts.

4. Impact on other services we provide:

The impact would be on CSC and it would mean that Solicitors were not physically present at 2 types of meeting with CSC, although they would be available via skype or telephone. There would need to be communications with CSC to implement this change.

5. Impact on staff:

N/A

6. Resources and support needed to make the change:

No resources would be needed but support would be needed from the Senior Management of CSC to implement and communicate the change.

7. Timescale to deliver and major milestones:
To include date of implementation, key decision points and governance meetings

The proposal could take effect immediately that it is agreed by the Senior Leadership Team.	Immediate effect

8. Risks and opportunities:
There would be an impact on the way in which Legal Services and CSC interact, but lines of communication would remain open. Work would need to take place with CSC and their management team to ensure impacts of this change in interaction are managed.

9. Dependencies:
The proposal would be a change in the way in which Legal Services interacts with CSC and as such would need engagement from the senior managers from both services.

10. Initial Equality Impact Assessment:
N/A

11. Consultation and Communications plan:
The Legal Services staff would need to be engaged in the plan and how it could lead to an increase in productivity.

12. Legal Implications:
There are no Legal implications.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	No
If no, when is evidence expected?	Until such time as the changes are implemented the savings are anecdotal.

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£16.800*	*£*	*-£*	*£16,800*	*TBC*
2019/20	*£12,000*	*£*	*-£*	*£12,000*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):

£'000's		**N/A**
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£

	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

CAF-07 Troubled Families Funding

Reference:	CAF-07
Service Area:	Children's Commissioning
Director:	Julian Wooster
Strategic Manager	Philippa Granthier
SAP Node	

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To increase income from Somerset's allocated Troubled Families Grant.

Analytical resource within the Business Intelligence team has been increased to maximise the Troubled Families grant funding. The additional capacity has been made available by:

- Creation of 1 secondment
- The redeployment of 2 x Apprentices
- The redeployment of existing analysts from Adults & Children's Services and Business Intelligence
- The redeployment of Public Health Analyst (1 day week).

The additional resource is projected to identify an additional 32 successful Payment by Results (PbR) claims per week @ £800 per claim (£25,600).

	Original position	Increased resource	Cost of additional resource	Additional Income
18/19	400 PbR claims £320,000	831 PbR claims £664,800	£64,900 (87 claims)	£599,900
19/20	400 PbR claims £320,000	697 PbR claims £557,600	£104,115 (131 claims)	£453,485

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 *%*

Explanation:

91 PbR claims have been identified in the 4-week period since the implementation of the new resource (23/07/2018). Excluding the first week for training and issues with access to systems and a 32% reduction in resource for w/c 13/08/2018 the projected PbR claims (32 week) have been achieved.

The conversion rate from 'worked with' to 'success' is currently 22% To achieve the projected success there needs to be 12,000 families in the 'worked with' cohort. This figure is achievable but
is heavily dependent on partner agency data to increase the 'worked with' numbers.

A revised SLA for schools includes the requirement that caseload data is shared with SCC. This is being monitored by Children's Commissioning and will be reviewed at each CLP review meeting.

There are currently 4,000 cases that have met the automated success and are awaiting manual check for education attendance levels, address confirmation and DWP checks. These are currently being worked through by the new resource, with a minimum of 112 checks week being competed.

Health Visiting data has recently been shared and this will further increase the 'worked with' cohort. There are 4542 unique children and 6349 parents to be matched. A process has been agreed for this data to be shared on a 3 monthly basis.

3. Impact on residents, businesses and other organisations:
N/A

4. Impact on other services we provide:
Analysts have been redeployed from other areas to support this activity and increase level of grant income coming into the county. These analysts are not being backfilled so normal operations have been reduced / stopped

5. Impact on staff:	
N/A	
The number of FTE that might be lost is:	*0*
The number of posts that might be lost is:	*0*

6. Resources and support needed to make the change:
• 1 Gr 14 (secondment) • 2 x Gr 15 Apprentices • The redeployment of existing analysts from Adults & Children's Services and Business Intelligence • The redeployment of Public Health Analyst (1 day week). These resources have been identified and are in post.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
Troubled families Recovery Plan signed off	June 2018
Troubled Families Position Statement agreed	July 2018
Decision to be taken at Cabinet	12th September 2018
Gateway review	25th September 2018
18/19 Quarterly claims submitted	29th June 2018 28th September 2018 28th December 2018 29th March 2019

End of existing TF programme and claim window closes	31st March 2020

8. Risks and opportunities:

Risks

1. The 'worked with' cohort does not increase, due to partners not sharing their data
2. The conversion rate falls and the number in the 'worked with' cohort will need to be increased.

Opportunities

1. The project with District Councils / Housing Associations / LA will improve joined up working, allow for a better understanding of poverty in Somerset and reduce homelessness. It is projected that this data will be secured prior to March 2019. This will increase the 'worked with' cohort.
2. External partners having access to the SQL data base. This will enable schools be able to identify which families in their school meet the Troubled Families criteria. This will give schools a holistic understanding of the family and will increase the 'worked with' cohort.

   The recent increased resource in Business Intelligence will allow capacity for the TF Analyst to focus on this area of work from September 2018. It is anticipated that the SQL data base work for external partners will be completed by 1st April 2019

9. Dependencies:

- Project is dependent on provision of family information from partners
- Project is dependent on analyst resource remaining in place until the end of the programme in April 2020; the gateway review in Sept will provide an early assessment of whether any further action or resource is required.

10. Initial Equality Impact Assessment:

Following discussion with the Corporate & Equalities Manager there it was agreed that there was no requirement for an EIA.

11. Consultation and Communications plan:

Following discussions with the Consultation Manager it was agreed that there was no need for consultation.

12. Legal Implications:
N/A

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes		
If no, when is evidence expected?			N/A		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Costs*	*Total*	
2018/19		*£*1 769.8	*-£* 256	*£1 513.8*	*Year on year activity / Claim cycles*
2019/20		£1 227.6	*-£* 267	£ 960.6	
2020/21		*£0*	*-£*	*£0*	
Total		*£2 997.4*	*-£ 523*	*2 474.4*	

Please note the above is the annual income expectation. For the purpose of in year savings we have put forward the following;

	2018/19	2019/20	Total
	£m	£m	£m
Troubled Families Income Generation	0.239	0.124	0.363

The above is a month 4 figure only and this figure could change on a month by month basis due to the a multitude of factors. However, the above will be considered the baseline figure and will be monitored on a monthly basis.

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£

	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

CAF-09 Income Recharging for External Secondment

Reference:	CAF-09
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Lise Bird
SAP Node	

1.	The proposal is to:
√	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

To recharge costs for a member of staff currently seconded to another local authority.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 %

Explanation:

Recharge costs have been agreed with the other local authority.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No impact.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No impact.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Finance resources to process payment.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Issue invoice	September

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

None.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

Not relevant to this proposal.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Not applicable.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

None.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes] – Finance have undertaken detailed models

	based on current residential placement costs (subject to correct data)
If no, when is evidence expected?	[N/A]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£36k*	*-£*	*£36k*	*One-off*
2019/20	*£*	*£-36k*	*-£*	*£-36k*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£0k*	*-£*	*£ok*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-11 Increasing the level of income generated by the in-house fleet through better utilisation of existing vehicles

Reference:	ECI-11
Service Area:	Transporting Somerset
Director:	Paula Hewitt
Strategic Manager	Oliver Woodhams
SAP Node	EHDACDH

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
	This proposal will increase the level of income generated by the in-house fleet through better utilisation of existing vehicles. The County Council currently operates 64 vehicles made up of a mixture of minibuses, Multi-Purpose Vehicles (MPV) and cars. Services are provided for social care, public health and schools. Some local bus services and community transport are also provided. Whilst many of the vehicles are occupied during peak times there is scope to increase income through better utilisation during off-peak times. We are currently recruiting for a new Fleet Operations Manager and this postholder will effectively manage the fleet. This will include better utilisation to generate more income through better marketing and engagement in the community.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 *%*

Explanation:

It is anticipated this amount of income generation is possible however there are restrictions to the type of work which can be undertaken at present due to licencing restrictions.

Some work has already taken place to bring social care and health transport together but until further work is undertaken in the marketplace and with communities there is a risk this level of income is not achievable.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

There is no impact to residents but there may be an impact on our transport contractors who also bid for this work, which in turn could affect their sustainability in the future.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No impact expected.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

No impact expected.

The number of FTE that might be lost is: *0*

The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Resources are already in place (other than the Fleet Operations Manager and this recruitment is underway).

Some commercial procurement expertise may be required in the future to facilitate change.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Fleet Operations Manager Commences duties	Mid-October 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

There are opportunities to increase the use of the fleet internally and externally delivering services, in particular:

- Reducing third party spend on taxis etc
- Marketing opportunities to the third sector for example social care.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

The review of Adult Social Care (ASC) transport charges to pursue full cost recovery may increase the number of people who apply to use the fleet independently and reduce the level of income received by ASC.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No impact assessment required.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Help will be required from the Communications to promote the availability of services for community groups and charities etc.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

No legal implications.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			No		
If no, when is evidence expected?			December 2018		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£50k*	*-£*	*£*	*One-off*
2019/20	*£*	*-£50k*	*-£*	*£*	
2019/20	*£*	*£100k*	*-£*	*£*	*Ongoing*
2020/21	*£*	*£0*	*-£*	*£*	
Total	*£*	*£100k*	*-£*	*£*	*Ongoing from 19/20*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-26 Income Generation through use of the Gateway Park & Ride site by EDF to facilitate a Park & Ride service to Hinkley Point

Reference:	ECI-26
Service Area:	Transporting Somerset
Director:	Paula Hewitt
Strategic Manager	Oliver Woodhams
SAP Node	EHDACDA

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

This proposal presents an income generation opportunity through the use of the Gateway Park & Ride site by EDF to facilitate a Park & Ride service to Hinkley Point.

We have been approached by Somerset Passenger Solutions (SPS) as they would like to rent a number of surplus parking spaces to enable workers at EDF to access employment on the Hinkley site.

We estimate this could generate an income of £142,500 in a full year.

We are awaiting a response to our proposed charge and if our offer is accepted it is likely to come into effect within the next few months, therefore this proposal shows a part year income for 2018/19.

Further income generation proposals are also being explored.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

50 *%*

Explanation:

This income is dependent on acceptance of our proposed terms and as yet we do not have the confidence this will be accepted.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

The only impact maybe on residents in the area as the service will run 7 days a week from early morning to late evening

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No Impact

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

N/A

The number of FTE that might be lost is:

The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

We would need to provide additional facilities for the staff on-site but at no cost to SCC.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

If agreed lead in time of 1 month to facilitate additional staff requirements	September 2018

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

Opportunity to raise additional income for SCC with further opportunity as the Hinkley C build ramps up. Discussions are also taking place to explore options around installing pay machines for parking on these sites.

If this proposal is agreed, SCC may need to implement further measures to prevent traveller incursion, which is prevalent on this site. This may incur additional costs.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

N/A

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

N/A

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Not required

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

Possible issue over lease terms if agreement is concluded. Proposal refers to possibility of traveller incursion. Responsibility for action/physical barriers will require to be addressed in lease.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?		[Yes]			
If no, when is evidence expected?		[Enter date]			
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£35k*	*-£*	*£*	*Ongoing*
2019/20	*£*	*£108k*	*-£*	*£*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£143k*	*-£*	*£*	*Ongoing*

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ECI-28 Recharge of Broughton House National Non-Domestic Rate (NNDR)

Reference:	ECI-28
Service Area:	Coporate Property, ECI
Director:	Paula Hewitt
Strategic Manager	Claire Lovett
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
✓	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

This proposal simply removes a project contingency, taking the risk of unforeseen project delays and costs.

We are currently working towards the occupation of Broughton House for commercial income. If this can be achieved within the current timetable proposed we would expect to recharge the business rates to the new tenants and the budget currently held for this sum could be reduced by £5k. Savings and income for 2019/20 have already been taken account of.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 %

Explanation: It is not yet certain that the project can and will be delivered to the expected timetable as works to the property need to be completed prior to occupation and the usual risks associated with building works of this nature therefore apply.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

We would not anticipate any adverse impacts on the public, local businesses or organisations from this proposal.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Not so far as we are aware at present.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

This proposal does not include any loss of posts.

The number of FTE that might be lost is:	0
The number of posts that might be lost is:	0

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

None.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Immediate implementation for delivery in year.	March 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

See section 2a.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

No.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

No public or staff consultation would be necessary or proposed.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

The proposed lease subject to completion of works with proposed savings, responsibility for business rates passing to prospective tenants.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes.
If no, when is evidence expected?	N/A

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£0*	*£5k*	*-£0*	*£5k*	*One-off*
2019/20	*£0*	*-£5k*	*-£0*	*-£5k*	
2020/21	*£0*	*£0*	*-£0*	*£0*	
Total	*£0*	*£0k*	*-£0*	*£5k*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£0

	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2019/20	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
2020/21	Capital Costs	-£0
	Capital Receipts	£0
	Estimate of redundancy costs	-£0
	Estimate of resource costs to deliver	-£0
	Sub-total	£0
	TOTAL	£0

Proposal for Change:

ECI-32 Review of Discretionary (Ceremony) Fees

Reference:	ECI-32
Service Area:	Registration
Director:	Alyn Jones
Strategic Manager	Genevieve Branch
SAP Node	

1.	The proposal is to:
X	**Managing Demand – Increase income** *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*

2. Outline of the proposed change:

Registration fees for the attendance of Registration Officers at marriages (or civil partnerships) taking place at approved premises are set by the Local Authority on a cost recovery basis. In Somerset, these fees were last increased in 2014 and are now due for review to take account of increased expenditure (particularly staffing) and ensure they continue to cover the costs of the services provided.

An initial calculation (based on increased staff costs alone) has indicated that an increase of £10 per ceremony is required to re-align the fees and more accurately reflect the cost.

Further analysis needs to be completed to ensure all other relevant overheads are also accurately reflected in the charges, however the outcome of this further analysis is not expected to make any material difference to the proposed fee increase, as staffing is by far the greatest determinant.

	Existing Fee	Proposed Fee
Mon - Thursday	£420.00	£430.00
Friday - Saturday	£450.00	£460.00
Sunday	£500.00	£510.00
Bank Holiday	£600.00	£610.00

The service conducts in the region of 2,000 ceremonies at approved premises each year. Taking into account the necessary lead time, if implemented from 1st April 2019, this proposal could provide an additional £20,000 of income for the financial year 19/20, enabling the service to cover increasing costs associated with staffing. It could be possible to introduce new fees earlier (say January 2019), but the nature of the service (seasonal peaks and advance payment from customers) would limit any additional income for 18/19 to around £1,000.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

The number of ceremonies conducted each year is generally stable with a small but consistent increase year on year.

The proposed percentage increase is small in comparison to existing fees, and is unlikely to attract challenge. Financial analysis supports and justifies the need for an increase to cover the cost of providing the service.

3. Impact on residents, businesses and other organisations:

The impact on residents is minimal, impacting only on those that have chosen to have a wedding in an approved premise. The increase represents a very small proportion of existing fees. Furthermore, research statistics suggest that in the vast majority of ceremonies at approved premises the registrar fees represent a very small percentage of the overall ceremony budget.

For the same reasons as above, no impact is expected for businesses or other local organisations.

4. Impact on other services we provide:

No impact expected.

5. Impact on staff:

No impact on staff expected.

The number of FTE that might be lost is:

The number of posts that might be lost is:

6. Resources and support needed to make the change:

Resource required to implement proposal is negligible.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Decision Paper	September 2018
Staff, stakeholder and customer communication	October 2018
Implementation	March 2019

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The setting of any fee on a cost recovery basis carries some risk of challenge, however it is felt that the minimal level of increase proposed, in conjunction with the financial analysis undertaken to support and justify the proposal, means that the risk is negligible.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

None

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

An impact assessment as necessary will be undertaken during the decision making process.

11. Consultation and Communications plan:

Formal consultation is not required.

12. Legal Implications:
The service has an obligation to set fees on a cost recovery basis only and this is the basis of the proposal. There are no further legal implications identified.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			Yes - partially		
If no, when is evidence expected?			[Enter date]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£1k*	*£*	*-£*	*£1k*	*Ongoing*
2019/20	*£19k*	*£*	*-£*	*£19k*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£20k*	*£*	*-£*	*£20k*	*Ongoing*

13b. One off project costs and income (not included in above):		
£'000's	**Not Applicable to this proposal**	
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

ICT-04 Review of ICT Traded Services

Reference:	ICT-04
Service Area:	ICT – Traded
Director:	Simon Clifford
Strategic Manager	Andy Kennell
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
X	**Increasing Productivity** - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
X	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Review ICT Traded Services delivery to reduce overheads and position the service to achieve an increase in income. The savings will be achieved in a number of ways.

1) Pooling resources between schools and traded and ICT reactive support teams which will release a contractor post
2) Reduce the cost of service delivery within schools and traded by reassigning 50% of a resource
3) Pooling resources between ICT Operations and Schools and Traded office 365 teams to release another contractor

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation: 90% confidence in ability to reduce overheads and reduce contractor cost due to reduced demand for service.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

No impact

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

No impact

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Current staff in the Traded Schools Engineering Team will need to be used flexibly but this will not result in any redundancies at this stage.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

Human Resources (HR) – some HR support re. flexible use of existing resource

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Contractor end date	30th September
Implementation date	1st October

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

- This arrangement will enable the Traded Service to review its offering to try to improve its viability and generate income in excess of current levels.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

- Flexible use of resource with the reactive support team

10. Initial Equality Impact Assessment:
Is the equality duty relevant? *N/A*

11. Consultation and Communications plan:
Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens? Communication with affected staff will be required.

12. Legal Implications:
Please consider *• Are there any services which could safely and legally be stopped?* *• Whether or not you require a delegation to implement* *• Any relevant standing orders or Procedure Rules that you are following (including procurement)* *• Is there a statutory duty to consult?* *None*

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	Yes
If no, when is evidence expected?	
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£44,977*	*£*	*-£*	*£44,977*	*In-year saving*
2019/20	*£*	*£*	*-£*	*£*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£

	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

SOMERSET COUNTY COUNCIL
SUMMARY OF MTFP 2018/19 SAVINGS PROPOSALS

C.2.b Summary of Proposals for Cabinet Decision to Consult by heading on the Cabinet Forward Plan

C2.b.01 Proposals for the alteration of arrangements for specialist housing and support for adults with social care needs.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-14b	Children's Services	Proposals for the alteration and/or reduction of early help services provided to children and their families - getset	Cabinet approval is being sought to launch a consultation exercise to review provision of SCC early help services. The specific changes that will be proposed in the consultation will include the proposal for SCC to no longer provide level 2 services; further proposals will be developed through an appropriate analysis and initial assessments of needs and potential equalities impact. The proposed change will be further developed through analysis of consultation feedback and presented to cabinet for decision.	0.0	0.0
CAF-16	Children's Services	Reduction in Non-statutory Early Years Activity	Reduce the level of non-statutory Early Years activity and support provided and to offer traded services where previously they have been provided free of charge.	50.0	124.0

C2.b.02 Proposals for the alteration and/or reduction of services to support vulnerable pupils.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
CAF-01	Children's Services	Dedicated Schools Grant contribution to residential placements of children looked after	The proposal is to change the way in which residential provision for school aged looked after children is funded. Under this proposal, which will need to be discussed with the Schools Forum in October 's scheduled meeting, increases the current contribution to costs from the Dedicated Schools Grant (DSG).	728.0	709.0
CAF-02	Children's Services	Dedicated Schools Grant contribution to SEND casework team for the transition to EHCPs of children with High Needs funding without a plan	This proposal is for the Dedicated Schools Grant (DSG) to contribute to the cost of additional casework as a result of the new high needs funding universal banding process. The LA and School Forum approved a new funding distribution model for children with SEND in mainstream provision to be fully implemented from September 2018.	141.0	70.0
CAF-03	Children's Services	Dedicated Schools Grant contribution to SEND casework team for the transition to EHCPs of children with High Needs funding without a plan	This proposal is for the Dedicated Schools Grants (DSG) to contribute to the additional costs for Occupational therapy seating assessments to support children in mainstream schools.	54.0	0.0
CAF-04	Children's Services	Staff savings from redeployment of responsibilities and DSG contribution to SEND strategic planning	This proposal is to achieve staff savings by redeploying responsibilities and restructuring the Inclusion Management Team to manage statutory and regulatory duties undertaken by the Local Authority for all schools.	16.0	80.0

C2.b.03 Proposals for altering the financial support and arrangements for public transport and for special educational needs (SEN) transport.

Ref.	Source Directorate	Proposal Title	Brief Summary	2018/19 Saving (£,000)	2019/20 Saving (£,000)
ECI-12	ECI	Consult on the potential reduction of financial support to the public transport and college bus network	Cabinet approval is being sought to launch a consultation exercise to review some elements of the subsidised public transport and college bus network. The specific changes that will be proposed in the consultation will be developed through an appropriate analysis and initial assessments of needs and potential equalities impact. The proposed change will be further developed through analysis of consultation feedback, and presented to cabinet for decision making following a full consultation. Any opportunities to reduce public bus subsidy costs through the re-negotiation of existing contracts and / or changes to frequencies, routing or timetables will also be reviewed and if necessary consulted on.	0.0	0.0

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Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1.1**	**Date Completed**	**22st August 2018**

Description of what is being impact assessed

CAF 1-5 DS-02 and CAF 16

Central to the following change proposals for additional savings is the refocusing of Dedicated Schools Grant (DSF) contributions to continue services currently provided by the Council:

- CAF-01 – Increasing the contribution from DSG for Looked After Children in residential Placements
- CAF-02 – Refocusing DSG for casework related to the transition to Education, Health and Care Plans for high need individual who do not currently have them
- CAF-03 – DSG to support the additional occupational therapy costs for seating assessments to support children in mainstream schools
- CAF-05 – DSG reserve contribution for project work related to Special Educational Needs and Disabilities (SEND) independent placements
- DS-02 – Additional funds from DSG to fund statutory school admissions and transport appeals undertaken by Democratic Services
- CAF-16 - Restructuring of Services Supporting the Delivery and Quality Assurance of Early Years Provision (Developing and Extending Grant)

The following areas are those which have constituted the main areas funded by the DSG (High Needs block) in 2018/19 and those that would be affected by an overspend on High Needs. In other words, the impact of this change would have the biggest impact in these areas of business.

1. **The place funding** (£6.465m) is £10,000 per commissioned place and the LA agrees the number of commissioned places in maintained special schools, ASD bases and PRUs. This cost will increase as we build capacity in our own provision to

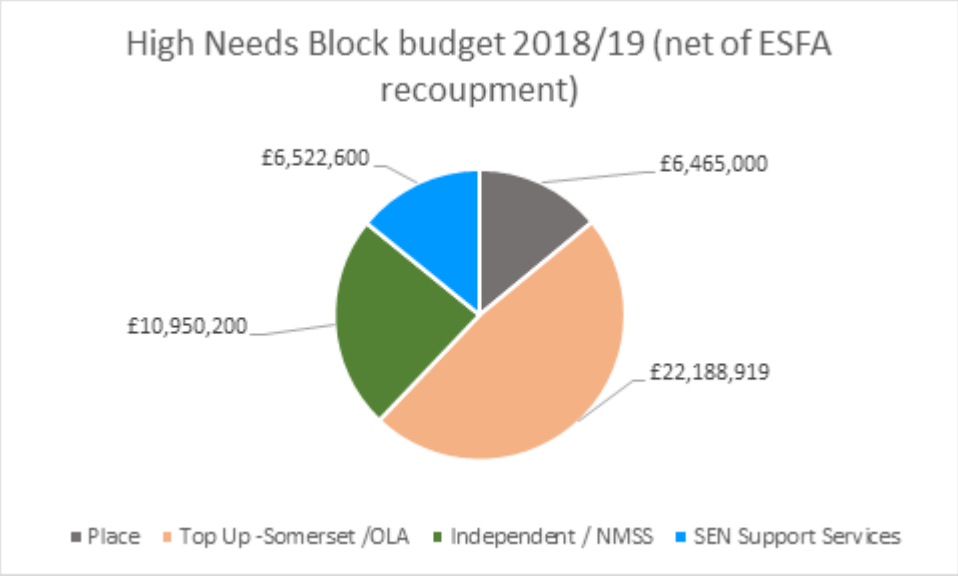
manage population demand and work to reduce the number of independent placements. It is therefore envisaged that there is unlikely to be an impact of a change of funding stream in this area

2. **Independent and Non-Maintained Special Schools (NMSS)** (£10.950m made up of the place and top up funding combined). The local authority has a responsibility to fund this fee. Possible impacts are being mitigated through a managed reduction in the number of placements and negotiation to reduce the fees involved, but if this intervention fails additional funding will be required which the DSG may not be sufficient to cover.
3. **Top up funding** (£22.189m), the additional funding paid to mainstream schools, academies, early years providers and Further Education (FE) colleges to meet the needs of the children and young people with SEND where the assessment is that the education provider should receive additional funding above the delegated allocation received for universal education and to provide SEN support. There are approximately 2,000 children and young people in receipt of this high needs top up funding and a further 1,000 in maintained and academy Special schools, resource bases and PRUs. Similar to item 2 High Needs budget pressures are being mitigated through project management actions (outlined in CAF 05). If these actions fail to produce sufficient reduction in expenditure the amount of top up funding paid through the High Needs funding banding system would need to be reviewed with some or all children and young people receiving less funding. This places additional pressure on the education provider to either fund the difference themselves or review the provision.
4. **SEND support services** (£6.523m) are a combination of services to children and young people with SEND and their parents and services to educational providers. The services funded from the budget are Early Years area (Special Educational Needs Coordinators (SENCOs), Educational Psychologists, specialist teachers and support staff for hearing and visual impairments, the learning support team and The Physical Impairment and Medical Support team (PIMS), Special Educational Needs Integration Team, also known as APC – Alternative Provision Centre (SENIT) and outreach services for PRUs and special schools. The level of service provided may be impacted by DSG budget pressures and the LA would need to consider whether to withdraw from providing discretionary services. The number of children and young people being supported by these services is considerable (thousands), the detail of which would have to be provided direct by the services.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

The pie chart reflects the planned budget for High Need DSG in 2018/19 and net of recoupment for commissioned places in academies and FE colleges where the Education and Skills Funding Agency (EFSA) pay the institutions direct.



Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

It has not been possible to consult with the Schools Forum as we are currently in the school holiday period. The first meeting of this forum will take place on the 3rd October. This meeting will be used to fully understand the impacts of these decisions.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• All impacts under this proposal are for children and young people from 18 months to 25 years old with SEND. No other age bands will be affected.	☐	☒	☐
Disability	• All children and young people impacted by these decisions will have learning or other disability which result in the need for an Education, Health and Care Plan (EHCP) or have resulted in a high need funding allocation for specific support. These decisions may result in a reassessment of eligibility / need for some children. The extend of this will be determined by the LA in consultation with the Somerset Schools Forum as they consider the overall impact.	☒	☐	☐
Gender reassignment	• N/A	☐	☒	☐
Marriage and civil partnership	• N/A	☐	☒	☐

Pregnancy and maternity	• N/A	☐	☒	☐
Race and ethnicity	• N/A	☐	☒	☐
Religion or belief	• N/A	☐	☒	☐
Sex	• N/A	☐	☒	☐
Sexual orientation	• N/A	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• There may be some people on low incomes, carers, or those living in rural settings impacted by these changes. This will be determined with a better understanding of the individuals impacted following discussions with the Schools Forum.	☒	☒	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
A full impact assessment to be conducted by the LA (as part of the deficit recovery plan) following consultation with the Schools Forum to be stared following the first meeting of the academic year.	03/10/2018	Annette Perrington	Through the Schools forum	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

Completed by:	**Vikki Hearn**
Date	**22 August 2018**

Signed off by:	**Annette Perrington**
Date	**22 August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Vikki Hearn**
Review date:	**March 2019**

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	Somerset County Council		
Version	V6.0	**Date Completed**	21 August 2018

Description of what is being impact assessed

CAF-14b

Proposals for the alteration and/or reduction of early help services provided to children and their families.

SCC wishes to undertake a public consultation on the Council no longer providing level 2 services, and how best the Council, as the lead agency, ensures effective early help across the partnership in the future.

The getset service provides family support services for families with children aged 0-19 (up to 25 for children with special educational needs and disability) (SEND). The service operates across a district area-based approach, with four teams covering East (Mendip and South Somerset) and West (Sedgemoor, Taunton and West Somerset).

- Level 2 service – covering additional needs offering:
  - Individual children and family case work
  - Delivery of group parenting programmes
  - Supporting delivery of other organisations' groups and activities run from children's centre buildings and other community buildings such as Healthy Child clinics
  - Liaison and engagement with other local community groups / activities and support development of community early help offer

The 'Effective Support for Children and Families in Somerset' guidance sets out the different levels of need which is intended to provide adults working with children and young people with a shared understanding and common language around needs and risks surrounding children and their families.

Somerset's Early Help Strategy

Our Somerset vision is that Early Help is everyone's responsibility; we want children, families, communities and agencies to work together so that families are assisted to help themselves and are supported as soon as a need arises, thereby improving the overall wellbeing and quality of life of all Somerset's children, young people and their families.

Effective early help will strengthen resilience in children and young people themselves, in their families and build capacity in communities that keep children, young people and their families healthy and safe.

Somerset's principles are:

- Sorting out problems early means that children and families do better and the costs to society are less.
- Providing help early is an important part of protecting children from serious harm or neglect ('safeguarding') and improving health.
- When individuals and communities are able to help themselves, everyone benefits.
- We want to recognise the strong contribution of volunteers, communities, local charities and support groups and businesses in Somerset.
- When we provide services we want to make sure this is based on evidence of what works.
- We want to spend more of our budgets tackling problems before they get worse, but at the moment the demand for services to tackle serious problems is growing. We need to find the right balance.

Based on the Office for National Statistics the mid-year 2017 population, estimates there to be 29,226 young children aged 0-4 and 92,478 children aged 5-19 in Somerset.

Our statutory duty

Somerset County Council has a duty under the Children Act 2004 which requires partners to co-operate to improve the well-being of children in the county, as well as discharging the Council's functions regarding safeguarding and promoting the welfare of children.

Legislation about children's centres is contained in the Childcare Act 2006 supported by statutory guidance updated in 2013.

The core purpose of Sure Start children's centres is to improve outcomes for young children and their families and reduce inequalities between families in greatest need and their peers in:

- Child development and school readiness;
- Parenting aspirations and parenting skills; and
- Child and family health and life chances.

A Sure Start children's centre is defined in the Childcare Act 2006 "as a place or a group of places":

- Which is managed by or on behalf of the local authority with a view to securing early childhood services in the local authority's area are made available in an integrated way;
- Through which early childhood services are made available (either by providing the services on site, or by providing advice and assistance on gaining access to services elsewhere); and
- At which activities for young children are provided.

It is clear from the statutory definition of a Sure Start children's centres that they are as much about making appropriate and integrated services available, than about providing premises in particular geographical areas.

Early childhood services are defined as:

- Early years provision (early education and childcare);
- Social services functions of the local authority relating to young children, parents and prospective parents;
- Health services relating to young children, parents and prospective parents;
- Training and employment services to assist parents or prospective parents; and
- Information and advice services for parents and prospective parents

Children's centres were inspected under a dedicated Ofsted inspection framework and while the framework still exists, its use has ceased. Somerset's last children's centre inspections were during 2014. The government had indicated it would consult on and update the children's centre guidance but has recently confirmed this will now not happen.

Early help arrangements which encompass the work provided in children's centres is legislated in 'Working Together to Safeguard Children' guidance and included in Ofsted's Inspection Framework of Children's Services.

Benefits of Early Help

Providing early help is more effective in promoting the welfare of children, young people and their families than reacting later. Early years interventions have been shown to have a higher rate of return per investment that later interventions through improved education outcomes, reduced health care costs and reduced crime and increased employment, economic productivity (Social Research Unit Public Health England). Early help means providing support as soon as a problem emerges, at any point in a child's life.

Effective early help relies upon families, communities and local agencies working together to identify need at an early stage and provide targeted early help services to address the assessed needs of a child, young person and their family. Interventions are focused on activity with the family to significantly improve the outcomes for them and break the intergenerational cycle that some families become entrenched in. The approach relies on getting to the cause of problems, rather than dealing with symptoms. This work is largely invisible for many years, you can't prove what you have avoided, but the costs are known. The desired outcomes is that families and communities will become more resilient and develop capabilities to prevent and resolve problems themselves.

It is estimated nationally the costs of dealing with a range of health and social problems totals:

- Youth unemployment £133 million per week
- Youth crime £1.2 billion per year
- Educational underachievement £22 billion per generation
- One year in children residential home £149,240
- One year in foster care £35,152

The desired outcomes of early help interventions are that families and communities will become more resilient and develop capabilities to prevent and resolve problems themselves.

The Cost of Late Intervention

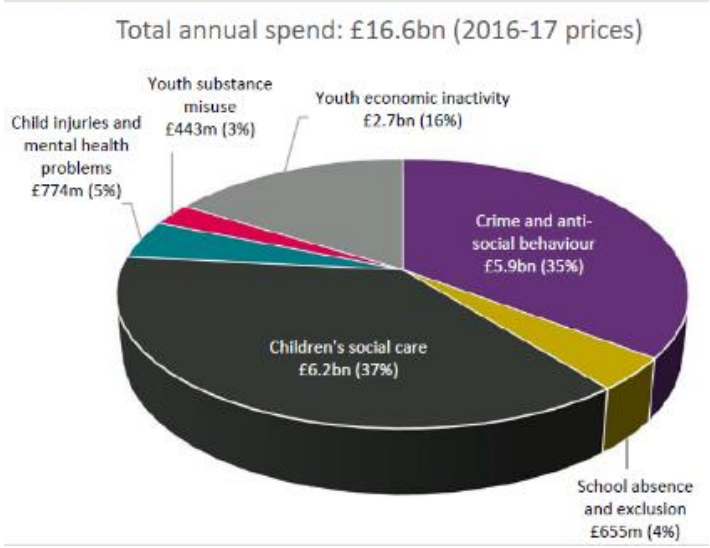
The Early Intervention Foundation (EIF) published a research paper "The Cost of Late Intervention 2016".

The report shows the fiscal cost of late intervention which estimates how much is spent each year on the following sets of issues:

- Crime and anti-social behaviour
- School absence and exclusion
- Children's social care
- Child injuries and mental health problems
- Youth substance misuse
- Youth economic inactivity

Figure 1 shows that an estimated £16.6 billion is spent by the public sector on the costs of late intervention. This works out to around £287 per person in England and Wales. The figure for Somerset is a total cost of £147 million which equates to £270 per person. This reveals the biggest financial burden from late intervention is picked up mainly by local authorities and the majority of that is within children's social care, when children come into care. This is only the fiscal cost, which ignores the impact on children, families and society at large. This underlines the need for effective, targeted early intervention to address the demand for late intervention. Outcomes for children who come into care are not as good as their peers.

FIGURE 1. LATE INTERVENTION SPEND ON EACH SOCIAL ISSUE



If children at risk can be helped early on so that their needs do not become entrenched, then they are less likely to require statutory intervention or acute services later on – freeing up resources and reducing pressure on the system. While the services themselves are valuable and important, and it is neither desirable nor possible to completely eliminate the demand for them, the current pressures on public spending mean that it important to manage the demand on these services as far as possible.

Consultation

A decision was taken by SCC cabinet in February 2018 to implement Phase 1 (April 2018) of the integrated Family Support Service (FSS). Phase 1 addresses the development of the FSS and the delivery of a co-ordinated and coherent 'early help offer' utilising technology and a wide network of local community venues such as families' homes, schools, health centres, village halls and children's centre buildings. Phase 2 (April 2019) will address the integration of Public Health Nursing (health visitors and school nurses) with Somerset County Council's getset service to sit within the Public Health Directorate of SCC.

A full stakeholder and public consultation into the development of the Family Support Service was held over 10 weeks between September and December 2017. Although consultation or engagement hasn't taken place on this proposal, some of the results from this consultation are referenced below.

The results, which reflect the views of over a thousand people, was undertaken through questionnaires, open days and discussion forums.

In general people wanted more services, particularly for younger children; delivering support groups gets people out of their homes to a group setting and encourages being in a social situation which is often seen as a lifeline, especially if families are new to an area.

Participants were asked about their current use of services and about the services they would like to see in the future. Health visiting and children's centre services were most commonly selected. In terms of issues people would like support with child development support, child behaviour problems and emotional support for children and young people were the 3 most commonly selected.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

Current Needs:

- Numbers of children aged 0-4 years, 5-19 years
- % of New Birth Visit identified as Universal , tier 2 and tier 3
- % of children eligible for targeted 2 year old funding for child care – recognition
- % good levels of development (GLD) among vulnerable groups
- Persistent absence

Current demand of getset Level 2 Service

Over the last 12 months the number of referrals to the level 2 service has declined.

Level 2 Cases (As at 23 August 2018)

The level 2 cases can be broken down further to show the split of the cases across the 4 geographical areas and the age range of the children being worked with. There are currently 346 children open from 214 families which is broken down in the table below. The vast majority (81%) of the children are aged 0 to 4.

Age	Mendip	Sedgemoor	South Somerset	Taunton & West Somerset	Grand Total
0 to 4	60	53	80	88	**281**
5 to 9	1	9	6	9	**25**
10 to 15	5	6	7	5	**23**
16 to 17	1	2	1	1	**5**
18 plus	0	0	1	0	**1**
Unborn	4	2	5	2	**11**
Grand Total	**71**	**70**	**100**	**105**	**346**

It is difficult to show the breakdown of individual families by age bands due to the range of children presenting in families.

The level 2 service deliver group parenting programmes and group activities such as:

- Stay and Play sessions (0 – 4 years) - on a weekly basis within hubs and community venues.
- Bumps to Babes sessions (Pre-Birth – Mobile) - on a weekly basis within hubs and community venues.
- Young Parents Group (Parents under 22) - on a regular basis within hubs and community venues.
- PEEP - Learning together programme supporting parents and children to learn together - weekly basis.

Getset also support groups run by health services (Health Visitors and Midwives) such as:

- Weekly Healthy Child Clinics and Breastfeeding support in all localities (Led by Public Health Nurses).
- Young parent's groups (ante and post natal) led by Public Health Nurses) delivering targeted support to young/teenage parents) Delivered on a weekly basis in areas of need

- Breastfeeding groups
- Chill and chat – Community co-facilitated group

The table below shows the breakdown of open cases by gender (As at 23 August 2018).

	Level 2
Female	131
Male	198
Transgender	0
Unborn	14

Family Support Service

In February 2018, cabinet approved that at the end of the current Somerset Partnership contract for Public Health Nursing, this service would delivered within SCC.

The 8 family centres, approved by Cabinet in February 2018, would remain with landlord arrangements overseen by Corporate Property Group. It is envisaged the staff would both be based at these family centres along with other community early help support. Somerset Choices will continue to be used as a source of information, advice and guidance for professionals and the public; Somerset Direct and the Early Help Advice Hub would also be enhanced to signpost families to support.

SCC has a number of statutory duties relating to Specialist Public Health Nursing, including the overall duties to improve the health and wellbeing of the population, protect children from harm and reduce health and social inequalities.

More specifically, the local authority is required to deliver the National Healthy Child Programme through the commissioning of both health visiting and school nursing services. Health visiting services must offer five contacts to all expectant and new parents of infants born in Somerset. In addition, the local authority is also mandated to deliver the National Child Measurement Programme, which is delivered through school nursing services.

In 2017 SCC took a decision to skill mix the Health Visiting workforce, over a period of 2 years, to accommodate national cuts to the public health grant. This has resulted in a reduction in Health Visitors and an increase in caseloads from approximately 250 0-4 year olds per health visitor to 350 0-4 year olds per health visitor. This will have released £1m from the Public Health Nursing budget, but

has put significant pressure on service delivery, although performance has been preserved. The proposed reduction to level 2 getset would mean families likely to receive no support as there is no spare capacity within PHN to take on additional tasks or functions.

Performance against mandated contacts:

Public Health Nursing provides support across all levels of need, in Q4 of 2017/18 of the 1159 new birth visits and assessments undertaken, 68% were assigned to be Universal, 27% as Universal Plus (tier 2) and Universal Partnership Plus (tier 3).

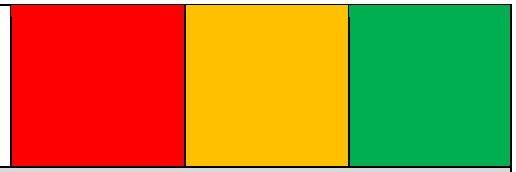
	2017/2018			
	Quarter 1	**Quarter 2**	**Quarter 3**	**Quarter 4**
Ante-natal	843	976	907	836
New birth visit	85%	85	92%	95%
6-8 weeks	93%	96%	96%	96%
12 months	71%	76%	78%	72%
2 years	76%	86%	85%	83%

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

As part of this proposal before it is finalised we will engage with service users, staff and partners to fully understand any potential impacts on them. This impact assessment will then be updated with this feedback before a final decision is made.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• There could be a disproportionate impact on young parents who are more likely to require additional support and guidance around parenting skills. • The impact of not providing support and guidance to parents/carers with children aged 0-19 could increase the need for those families. This could see an increase in families presenting for level 3 and 4 services.	☒	☐	☐
Disability	getset is open to children with special educational needs and disability (SEND). The impact of not providing support to some children and young people with SEND is that they will receive either a different, reduced or no service at all. This could further disadvantage disabled children who may not be clear or able to access alternative routes for support and guidance. Support for parents with learning disabilities or literacy skills could be reduced which would mean their ability to be able to engage in additional support and guidance would be reduced. This could also mean that they would not be able to access any additional benefits or support.	☒	☐	☐

Gender reassignment	On review of the data we don't foresee any disproportionate impacts on this group.	☐	☒	☐
Marriage and civil partnership	On review of the data we don't foresee any disproportionate impacts on this group.	☐	☒	☐
Pregnancy and maternity	There will be no getset staff to support delivery of breastfeeding groups alongside health services.	☐	☒	☐
Race and ethnicity	Reduction in support of level 2 provision could result in an increase in demand on level 3 and 4. This increase in demand could result in staff not having as much time to support service users. For service users who have English as a second language this may impact on the time available to communicate through an interpreter.	☒	☐	☐
Religion or belief	On review of the data we don't foresee any disproportionate impacts on this group.	☐	☒	☐
Sex	The majority of people affected by the proposals would be male.	☒	☐	☐
Sexual orientation	On review of the data we don't foresee any disproportionate impacts on this group.	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	The removal of level 2 support for socially isolated and vulnerable groups in Somerset could lead to increased isolation and vulnerability for these groups. The removal of level 2 support for families on low income in Somerset could lead to increased isolation and vulnerability for these groups.	☒	☐	☐

	This group is less financially able to access additional support and guidance where there is a fee attached.			

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Strengthen the team around the school approach through partners contribution and robust contract monitoring.	Ongoing	Children's Commissioners/ Early Help Board		
Users with SEND can access support and guidance from the Early Support Team and the Resources Team within the Children with Disabilities Team as well as the Early Help Advice Hub	Ongoing	Children with Disabilities Team/Early Help Advice Hub		
A co-ordinated ante natal and post natal offer of individual support around breastfeeding will be available through maternity and public health nursing services, this is tailored to individual needs and linked to specialist services (for example drugs and alcohol or children's social care) where required	Ongoing	Maternity and Public Health Nursing		
Improve the effectiveness of activity within Somerset Direct, and the Early Help Advice Hub in signposting and triage of cases to reduce high levels of "no further action". Harness the help of community services such as post offices and libraries and ensure SCC websites are up to date.	01/04/2019	Children's Commissioners		☐

A grant scheme will be set up to actively encourage and develop community support for children, young people and families with the aim that these meet local needs and are self-sustaining within 2/3 years. The scheme will be overseen by the Children's Commissioning in conjunction with the Early Help Area Advisory Boards, Public Health Nursing, SCC Community Development, and the voluntary and community sector.	01/04/2019	Children's Commissioners	Children's Commissioners	☐
Invest in an early help portal, linked to SCC's early help case management system that will allow partners to take on more early help activity and allow SCC to use data to target support and enhance troubled families claim income.	01/04/2019	ICT		☐
School readiness starts at birth, with the support of parents and caregivers, when children acquire the social and emotional skills, knowledge and attitudes necessary for success in school and life. Closely monitor take up of targeted 2 year old funding for child care.	Ongoing	Early Years Commissioners		☐
Carry out a study to assess whether a dedicated service to support mothers who have multiple removals of their children would be viable in the Somerset Context.	01/01/2019	Children's Commissioners		
Schools provide parenting support through their Parent and Family Support Advisers (PFSAs). We would need to work closely with schools to promote and support the PFSAs.	01/01/2019	Children's Commissioners		
If negative impacts remain, please provide an explanation below.				

Effectiveness of early help interventions across the partnership needs to be closely monitored, as the combined effect of the proposed reductions and mitigating actions is difficult to assess with any accuracy. It is likely that some families will receive reduced support.

Completed by:	**Children's Commissioning Team**
Date	**24th August 2018**
Signed off by:	**Julian Wooster**
Date	**30th August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Children's Commissioning Team**
Review date:	**March 2019**

Proposal for Change:

CAF-14b Proposals for the alteration and/or reduction of early help services provided to children and their families - getset

Reference:	CAF-14b
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Philippa Granthier
SAP Node	

1.	The proposal is to:
X	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
	Cabinet approval is being sought to launch a consultation exercise to review provision of SCC early help services. The specific changes that will be proposed in the consultation will include the proposal for SCC to no longer provide level 2 services; further proposals will be developed through an appropriate analysis and initial assessments of needs and potential equalities impact. The proposed change will be further developed through analysis of consultation feedback and presented to cabinet for decision.

2a.	Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

NA *%*

Explanation:

No level of savings is proposed at this point

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Any resulting changes to cease or reduce the service are likely to have a significant impact on children and families. An initial impact assessment has been produced – see below; a full impact assessment will be finalised through the consultation process.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Any resulting changes following the cessation or reduction in service are likely to

- Increase demand on children's social care teams
- Although not yet within SCC, there is likely to be increased demand on health visiting service, which have already been affected by national budget cuts.
- Result in a potential loss of troubled family grant due to reduced numbers of families being supported.

5. Impact on staff:

The consultation exercise will be a significant undertaking and need to be resourced.
Any resulting changes to cease or reduce a service will have impact on the staffing levels.

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

As noted above the proposed consultation exercise will be a major undertaking and will need to be resourced appropriately. Subject matter expert input and support will be required from communications and customer insight staff, and the consultation exercise will require change team support.

Legal support is likely to be required in due course if potential savings proposals are taken forward.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
LGA / Peopletoo review of children's services	*Early Sept 2018*
Cabinet decision to consult	*Sept 2018*
6 week consultation period	*Oct-Nov 2018*
Key decision to reduce services	*Feb 2019*
Implementation including appropriate HR processes	*Feb – April 2019*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The risks associated with a consultation exercise in itself are limited.

Whilst there is no national evaluation of the impact of early help, the general consensus is that cutting early help services is likely to result in increased demand on statutory and more costly interventions, with poorer outcomes for children and families.

There is a risk that other early help services eg public health nursing, GPs; schools, police, community and voluntary groups, will face increased demand for support without having additional resource to do so and in many cases these services have also been subject to recent national cuts.

Ofsted report published in January 2018 recognised that partners needed to do more in their early help efforts, placing too much reliance on SCC services. SCC will still provide leadership but there is more work that partners in health, police, education sectors need to be addressing themselves.

The LGA appointed Peopletoo, an independent consultant, to undertake a full service and financial review of children's services. This review is due to be completed at the beginning of September and will help to inform the consultation document. Through the Family Support Work and the Peopletoo review there is an opportunity to remove duplication and improve processes between SCC children's services teams

There is an opportunity for SCC to invest in the early help portal, re-engineer the approach at Somerset Direct and the Early Help Hub and provide an ongoing Community Development Grant Scheme to promote greater community capacity and resilience.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

The proposals for the integrated Family Support Service will need to be revisited.

10. Initial Equality Impact Assessment:

An initial assessment has been prepared – attached
A full impact assessment will be completed through the consultation process

11. Consultation and Communications plan:

A 6 week consultation period with associated communications plan is proposed

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

There are no legal implications arising from the proposal to launch a consultation however any proposed consultation process into proposals with a potential impact on vulnerable groups has a requirement to have due regard to the public sector equality duty.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	No
If no, when is evidence expected?	Following consultation outcomes

Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*

2018/19		*£*	*-£*	*£*	
2019/20	*£*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change

CAF-16 Reduction in Non-statutory Early Years Activity

Reference:	CAF-16
Service Area:	Children's Services – Education and Support Services for Education (SSE)
Director:	Julian Wooster
Strategic Manager	Dave Farrow/Ian Rowswell
SAP Node	
Cabinet request	Cabinet Decision to consult for structure and approve the removal of non-statutory activities

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

Non statutory activities
There is some scope for reducing the level of activity and support provided and to offer traded services where previously they have been provided free of charge.

This should make it possible to produce a saving of approx. £40,000 for 2019/20. It would make sense to implement these changes alongside a new structure ready for service delivery from April 2019.

In order to try and find further savings, particularly those that may be able to have some financial impact in this year we have also looked at other expenditure relating to Early Years as follows:

- End the Developing and Extending Grant – £54,000 pa – non-statutory. There are two options. Firstly we will seek the approval of the EY Subgroup of The Schools Forum and then The Schools Forum for this cost to be met from DSG achieving a full year saving of £54,000 for 18/19. If

agreement is not forthcoming we will cease to operate this scheme again in 2019/20. £30,000 has already been committed for this year so £24,000 available as a saving in 18/19

- The training subsidy - £30,000 pa – as above we will seek the approval of the EY Sub Group and then The Schools Forum for this cost to be met through DSG for this year, saving £30,000 in 18/19. If this is not forthcoming no saving will be possible this year as it has already been allocated so it will cease from 19/20, unless the Schools Forum decide that DSG can be used to fund this subsidy.
- Whilst there has been additional income from the West Somerset Opportunity Area and other DfE Grants the resulting work has been absorbed within the team resulting in a projected surplus for 18/19 for £20,000.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

50 %

Explanation:

For the savings linked to decisions being made by Schools Forum we can only give 50% confidence as agreement may not be forthcoming.

3. Impact on residents, businesses and other organisations:

The Early Years sector in Somerset is one of the lowest funded in the Country with 97% of funding passed on through a formula allocation. Withdrawing subsidies for training and requiring settings to pay for services will place additional financial pressure on some providers and may make some settings unviable.

4. Impact on other services we provide:

There is a risk that provision of less support to Early Years settings will result in them providing less effective childcare and education to young people. This would become evident in an increase in early years settings that require improvement and in the educational attainment of children transitioning to Primary schools.

We could see an increase in safeguarding issues if settings have received less support and feel less confident in these key issues.

5. Impact on staff:

6. Resources and support needed to make the change:
Business/Admin/Project support would be needed to manage the process to help ensure compliance with SCC policies and practices. No additional post requited but some support from other teams would be needed.

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]

8. Risks and opportunities:
Risks – some parts of the EY sector may not be able to cover increased costs related to lack of subsidy for training and paying full cost for services. May impact on our ability to fulfil statutory responsibilities around sufficiency of quality provision

9. Dependencies:
Dependant on: - the support of the DCS and members – particularly regarding changes that will have a negative impact on the Early Years sector. - capacity of managers affected to be involved in further work to investigate further, design and cost structures etc.

10. Initial Equality Impact Assessment:

See supporting documents:

- *Somerset Equality Impact Assessment CAF-1to5 DS-02 and CAF-16 use of DSG*
- *Somerset Equality Impact Assessment CAF-16 developing and extending grant*
- *Somerset Equality Impact Assessment CAF-16 EY training subsidy*

11. Consultation and Communications plan:

Yes – will need to take place with the Early Years sub group in September and Schools Forum in October, staff and providers once structure is finalised and end before Christmas.

12. Legal Implications:

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes/No]
If no, when is evidence expected?	[Enter date]

Please note: these figures should be cumulative (as per the approach for MTFP and savings)

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£50,000*	*£*	*-£*	*£50,000*	*Ongoing*
2019/20	*£124,000*	*£*	*-£*	*£124,000*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	*Ongoing*
Total	*£174,000*	*£*	*-£*	*£174,000*	

13b. One off project costs and income (not included in above):

£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£

	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1.0**	**Date Completed**	**21st August 2018**

Description of what is being impact assessed

CAF-016

Stopping the 'Developing and Extending Revenue Grant' for early years providers in Somerset.

The grant is offered because it helps new businesses and schools to reduce the start-up costs of provision, especially with the costs of resources and equipment.

This budget allocation is from early years revenue budget and totals £54,000 in 2018-19. The total amount available to support providers in Somerset has been gradually reduced over the last 3 years. The proposal is to stop offering this grant in 2019/20 financial year and make no further grants in this current financial year. We would continue to honour existing grant applications during this year's process but should be able to deliver an in year saving in 2018/19 of approx. £20,000 from unallocated funds. A full saving of £54,000 could be delivered from 1 April 2019.

This grant is not statutory but has been available for a number of years to support new and expanding early years providers who are creating additional places for children in Somerset. This grant supports the sufficiency duties of the Local Authority. The current criteria for the grant and amounts available Can be found at the end of this document.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

There should not be any direct impacts on any protected groups. The grant is a non-statutory offer that is available to early years providers.
There may be some indirect impacts on groups such as young children and low income families.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

There should not be any direct impacts on any protected groups. The grant is a non-statutory offer that is available to early years providers but has been reduced significantly over the past few years.

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• There is a possible indirect impact on children aged 0-5 years. The grant is not paid to parents or children, but early years providers may need to limit the number or quality of resources that they buy when setting up a nursery. This limit on budgets may mean that young children attending can't access a range of high quality books, toys and equipment to promote their development.	☒	☐	☐

Disability	• There is a possible indirect impact on children aged 0-5 years that have a disability. The grant is not paid to parents or children, but early years providers may need to limit the number or quality of resources that they buy when setting up a nursery. This limit on budgets may mean that young children with SEND attending can't access a range of high quality books, toys and equipment to promote their development.	☒	☐	☐
Gender reassignment	• There are no impacts	☐	☒	☐
Marriage and civil partnership	• There are no impacts	☐	☒	☐
Pregnancy and maternity	• There are no impacts	☐	☒	☐
Race and ethnicity	• There are no impacts	☐	☒	☐
Religion or belief	• There are no impacts	☐	☒	☐

Sex	• There are no impacts	☐	☒	☐
Sexual orientation	• There are no impacts	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• There may be an indirect negative impact on low income families. Providers may need to increase their fees to cover the additional costs of training, resources and equipment. This may make the nursery out of the price range for some low income families to access.	☒	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Providers must ensure that start-up costs are considered when deciding to open a provision. A thorough business plan must be produced to ensure that they are making the right decisions to be sustainable.	Ongoing- dependent on third parties opening	Early Years providers	Reviews process	☐
The integrated early years team will be able to signpost to appropriate support by promoting their business and sustainability advice, as well as signposting to national organisation toolkits such as PACEY.	When providers open new provision.	Early Years Team	Reviews process	
The early years team can share information and leaflets to new providers about how families can get help with the	When providers	Early Years Team	Reviews process	☐

cost of childcare. This will include promoting funding for 2 year olds and universal credit for low income families.	open new provision.			

If negative impacts remain, please provide an explanation below.

Completed by:	**Charlotte Wilson**
Date	**21-8-18**
Signed off by:	**Ian Roswell**
Date	**22-8-18**
Equality Lead/Manager sign off date:	**22-8-18**
To be reviewed by: (officer name)	**Charlotte Wilson**
Review date:	**March 2019**

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer			
Organisation prepared for	**Somerset County Council**		
Version	**1.0**	**Date Completed**	**21st August 2018**
Description of what is being impact assessed			

CAF-16
Stopping the subsidy for statutory training in the early years sector.

£30,900 from early years revenue is currently used to reduce the cost of training that Somerset Centre for Integrated Learning (SCIL) and the local safeguarding board offer in order to support Early Years providers. The subsidy means that the cost profile of training is as follows:

Course Title	Numbers agreed	Full cost per person	SLA pays	**Learner pays**	**Total amount agreed SLA**
Somerset Early Years coaching and mentoring support sessions	3 (half days)	£35	£1055	**£0**	**£1055**
Basic Awareness Child Protection	59	£65	£25	**£40**	**£1,475**
Introduction to Child Protection	270	£85	£35	**£50**	**£9,450**
Childminder designated person	96	£85	£35	**£50**	**£3,360**
Childminder LA training	70	£65	£50	**£15**	**£3,500**
Full 2 day paediatric 1st Aid / emergency paediatric	120	£110	£45	**£65**	**£5,400**
Blended Paediatric First aid	132	£90	£40	**£50**	**£5,280**
Emergency Paediatric First aid	36	£85	£40	**£45**	**£1,440**
Early Years training				Sub Total	£30,960

This subsidy is given because the local authority has a statutory duty to provide training to the childcare sector. The courses (except SEYS and childminder LA training) are required by Ofsted and are an essential cost to early years settings.

Although there is an argument that Private Voluntary and Independent (PVI) sector should be able to self-fund these courses, the funding in early years is very low and the costs of delivering the service is relatively high.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

Number of childminders = 289 (195 offering early years entitlement funding & 94 not offering)
Number of group providers = 313 (all offering early years entitlement funding)

Age	0	1	2	3	4	Total
Population (Jan 2018)	4987*	5452	5820	5817	5863	27939

*This estimate is possibly 10% higher at 5486- due to delay in some families' registration their chid with a GP.

Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

There should not be any direct impacts on any protected groups, however passing on costs to the early years sector who are already struggling to remain sustainable is likely to have indirect pressures on families using the service.

The following risks may arise:

- providers will need to raise their prices to cover the cost of essential training and this will make it less affordable for low income families

- providers may delay sending new members of staff on non-statutory and additional training in order to save money. This may leave protected groups vulnerable in not having their needs met and understood.
- providers may have to make cuts on other parts of the care and this could affect accessibility and quality of provision. This may impact on vulnerable groups and children with SEND because care costs and time needed to support these groups is higher/more intense.

Analysis of impact on protected groups

The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.

Protected group	Summary of impact	Negative outcome	Neutral outcome	Positive outcome
Age	• There is a possible indirect impact on children aged 0-5 years. Early years providers may need to limit the number or quality of resources that they buy, and the numbers of staff/ frequency of retraining that they access. • This limit on budgets may mean that young children attending can't access a range of high quality books, toys and equipment to promote their development. This is because the budget will need to be moved to cover increased costs in essential training.	☒	☐	☐
Disability	• There is a possible indirect impact on children aged 0-5 years that have a disability. Early years providers may need to limit the number or quality of resources that they buy, or the numbers of staff they can send on training to support children with SEND.	☒	☐	☐

	• This limit on budgets may mean that young children with SEND attending can't access a range of high quality books, toys and equipment to promote their development. This is because budgets will be pressurised to meet the increased costs of statutory training.			
Gender reassignment	• There may be an indirect impact on children and families with gender reassignment. This is because early years providers may not be able to afford to send staff on to training to educate them about this group's needs.	☒	☐	☐
Marriage and civil partnership	• There are no impacts	☐	☒	☐
Pregnancy and maternity	• There are no impacts	☐	☒	☐
Race and ethnicity	• There may be an indirect impact on children and families in this group because early years providers may not be able to afford to send staff on to training to educate themselves about how to meet this group's needs.	☒	☐	☐
Religion or belief	• There may be an indirect impact on children and families in this group because early years providers may not be able to afford to send staff on to training to educate themselves about how to meet this group's needs.	☒	☐	☐
Sex	• There are no impacts	☐	☒	☐

Sexual orientation	• There may be an indirect impact on children and families with gender reassignment. This is because early years providers may not be able to afford to send staff on to training to educate them about this group's needs.	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• There may be an indirect negative impact on low income families. Providers may need to increase their fees to cover the additional costs of training, resources and equipment. This may make the nursery out of the price range for some low income families to access.	☒	☐	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
Providers must ensure that training costs are considered when setting their budgets for the year. A thorough business plan must be produced to ensure that they are making the right decisions to be sustainable.	Ongoing-dependent on third parties opening	SSE early years improvement team	Monitored by Alison Jeffery	☐
The early years commissioning team can signpost to SSE early years improvement team, who can support by promoting their business and sustainability advice, as well as signposting to national organisation toolkits such as Professional Association for Childcare and Early Years (PACEY).	Ongoing-dependent on third parties opening	SSE early years improvement team	Monitored by Alison Jeffery	
Propose to the early years sub group of school's forum that the £30,000 subsidy is taken from the Dedicated School's Grant.	November 2018	Charlotte Wilson	Dave Farrow	

The early years team can signpost and share information and leaflets to providers about how families can get help with the cost of childcare. This will include info about different funding streams that can support children with SEND high needs such as disability access funds as well as universal credit for low income families.	When providers open new provision.	Early Years commissioning team / entitlements team Charlotte Wilson and June Mead	Charlotte Wilson	☐

If negative impacts remain, please provide an explanation below.	
Completed by:	**Charlotte Wilson**
Date	**21-8-18**
Signed off by:	**Ian Rowswell**
Date	**22-8-18**
Equality Lead/Manager sign off date:	**22-8-18**
To be reviewed by: (officer name)	**Charlotte Wilson**
Review date:	**March 2019**

Somerset Equality Impact Assessment

Before completing this EIA please ensure you have read the EIA guidance notes – available from your Equality Officer

Organisation prepared for	**Somerset County Council**		
Version	**1.1**	**Date Completed**	**22st August 2018**

Description of what is being impact assessed

CAF 1-5 DS-02 and CAF 16

Central to the following change proposals for additional savings is the refocusing of Dedicated Schools Grant (DSF) contributions to continue services currently provided by the Council:

- CAF-01 – Increasing the contribution from DSG for Looked After Children in residential Placements
- CAF-02 – Refocusing DSG for casework related to the transition to Education, Health and Care Plans for high need individual who do not currently have them
- CAF-03 – DSG to support the additional occupational therapy costs for seating assessments to support children in mainstream schools
- CAF-05 – DSG reserve contribution for project work related to Special Educational Needs and Disabilities (SEND) independent placements
- DS-02 – Additional funds from DSG to fund statutory school admissions and transport appeals undertaken by Democratic Services
- CAF-16 - Restructuring of Services Supporting the Delivery and Quality Assurance of Early Years Provision (Developing and Extending Grant)

The following areas are those which have constituted the main areas funded by the DSG (High Needs block) in 2018/19 and those that would be affected by an overspend on High Needs. In other words, the impact of this change would have the biggest impact in these areas of business.

1. **The place funding** (£6.465m) is £10,000 per commissioned place and the LA agrees the number of commissioned places in maintained special schools, ASD bases and PRUs. This cost will increase as we build capacity in our own provision to

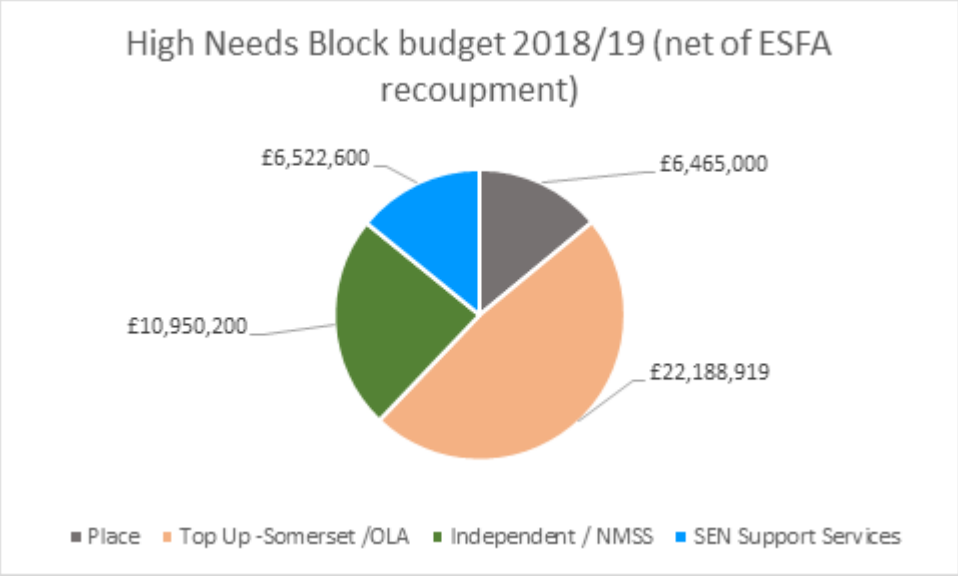
manage population demand and work to reduce the number of independent placements. It is therefore envisaged that there is unlikely to be an impact of a change of funding stream in this area

2. **Independent and Non-Maintained Special Schools (NMSS)** (£10.950m made up of the place and top up funding combined). The local authority has a responsibility to fund this fee. Possible impacts are being mitigated through a managed reduction in the number of placements and negotiation to reduce the fees involved, but if this intervention fails additional funding will be required which the DSG may not be sufficient to cover.
3. **Top up funding** (£22.189m), the additional funding paid to mainstream schools, academies, early years providers and Further Education (FE) colleges to meet the needs of the children and young people with SEND where the assessment is that the education provider should receive additional funding above the delegated allocation received for universal education and to provide SEN support. There are approximately 2,000 children and young people in receipt of this high needs top up funding and a further 1,000 in maintained and academy Special schools, resource bases and PRUs. Similar to item 2 High Needs budget pressures are being mitigated through project management actions (outlined in CAF 05). If these actions fail to produce sufficient reduction in expenditure the amount of top up funding paid through the High Needs funding banding system would need to be reviewed with some or all children and young people receiving less funding. This places additional pressure on the education provider to either fund the difference themselves or review the provision.
4. **SEND support services** (£6.523m) are a combination of services to children and young people with SEND and their parents and services to educational providers. The services funded from the budget are Early Years area (Special Educational Needs Coordinators (SENCOs), Educational Psychologists, specialist teachers and support staff for hearing and visual impairments, the learning support team and The Physical Impairment and Medical Support team (PIMS), Special Educational Needs Integration Team, also known as APC – Alternative Provision Centre (SENIT) and outreach services for PRUs and special schools. The level of service provided may be impacted by DSG budget pressures and the LA would need to consider whether to withdraw from providing discretionary services. The number of children and young people being supported by these services is considerable (thousands), the detail of which would have to be provided direct by the services.

Evidence

What data/information have you used to assess how this policy/service might impact on protected groups? Sources such as the Office of National Statistics, Somerset Intelligence Partnership, Somerset's Joint Strategic Needs Analysis (JSNA), Staff and/ or area profiles,, should be detailed here

The pie chart reflects the planned budget for High Need DSG in 2018/19 and net of recoupment for commissioned places in academies and FE colleges where the Education and Skills Funding Agency (EFSA) pay the institutions direct.



Who have you consulted with to assess possible impact on protected groups? If you have not consulted other people, please explain why?

It has not been possible to consult with the Schools Forum as we are currently in the school holiday period. The first meeting of this forum will take place on the 3rd October. This meeting will be used to fully understand the impacts of these decisions.

Analysis of impact on protected groups				
The Public Sector Equality Duty requires us to eliminate discrimination, advance equality of opportunity and foster good relations with protected groups. Consider how this policy/service will achieve these aims. In the table below, using the evidence outlined above and your own understanding, detail what considerations and potential impacts against each of the three aims of the Public Sector Equality Duty. Based on this information, make an assessment of the likely outcome, before you have implemented any mitigation.				
Protected group	**Summary of impact**	**Negative outcome**	**Neutral outcome**	**Positive outcome**
Age	• All impacts under this proposal are for children and young people from 18 months to 25 years old with SEND. No other age bands will be affected.	☐	☒	☐
Disability	• All children and young people impacted by these decisions will have learning or other disability which result in the need for an Education, Health and Care Plan (EHCP) or have resulted in a high need funding allocation for specific support. These decisions may result in a reassessment of eligibility / need for some children. The extend of this will be determined by the LA in consultation with the Somerset Schools Forum as they consider the overall impact.	☒	☐	☐
Gender reassignment	• N/A	☐	☒	☐
Marriage and civil partnership	• N/A	☐	☒	☐

Pregnancy and maternity	• N/A	☐	☒	☐
Race and ethnicity	• N/A	☐	☒	☐
Religion or belief	• N/A	☐	☒	☐
Sex	• N/A	☐	☒	☐
Sexual orientation	• N/A	☐	☒	☐
Other, e.g. carers, veterans, homeless, low income, rurality/isolation, etc.	• There may be some people on low incomes, carers, or those living in rural settings impacted by these changes. This will be determined with a better understanding of the individuals impacted following discussions with the Schools Forum.	☒	☒	☐

Negative outcomes action plan
Where you have ascertained that there will potentially be negative outcomes, you are required to mitigate the impact of these. Please detail below the actions that you intend to take.

Action taken/to be taken	Date	Person responsible	How will it be monitored?	Action complete
A full impact assessment to be conducted by the LA (as part of the deficit recovery plan) following consultation with the Schools Forum to be stared following the first meeting of the academic year.	03/10/2018	Annette Perrington	Through the Schools forum	☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐
	Select date			☐

If negative impacts remain, please provide an explanation below.

Completed by:	**Vikki Hearn**
Date	**22 August 2018**

Signed off by:	**Annette Perrington**
Date	**22 August 2018**
Equality Lead/Manager sign off date:	**August 2018**
To be reviewed by: (officer name)	**Vikki Hearn**
Review date:	**March 2019**

Proposal for Change:

CAF-01 Dedicated Schools Grant contribution to residential placements of children looked after

Reference:	CAF-01
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Annette Perrington
SAP Node	EDBIB

1.	The proposal is to:
√	**Managing Demand** - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
√	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

The proposal is to change the way in which residential provision for school aged looked after children is funded. Under this proposal, which will need to be discussed with the Schools Forum in October 's scheduled meeting, the level of contribution for each agreed placement will change. There are 3 funding streams which could contribute to children's residential; as follows:

1. Dedicated Schools Grant (DSG)
2. Clinical Commissioning Groups (CCG) – Contribution agreed on an individual case by case basis by the monthly Complex Cases Panel
3. Children's Social Care (CSC)

This proposal increases the current contribution to costs from the Dedicated Schools Grant (DSG).

At present the DSG contributes to those agreed by the joint commissioning panel and where the pupil has an Education, Health and Care plan (EHCP). There are 10 looked after placements receiving a DSG contribution. For 4 of these the CCG contribute one third of the cost with differing percentages for the remaining 6. The DSG also funds 100% of residential placements (10) for children with an EHCP

who are not looked after by the Local Authority, but whom require a specialist residential placement due to their SEND needs.

Under this proposal the DSG would contribute to an additional 52 residential care placements. These placements are for children who are Looked After. The amount will depend on the type of placement, but follow the proposed criteria set out below. This criterion would be applied after a one third contribution from the CCG had been agreed and deducted where applicable:

- A child with an EHCP and is in care with integrated education (DSG 50%: CSC 50%) – 13 children and young people meeting this criteria plus another 7 without an EHCP but in residential care related to Child Sexual Exploitation (CSE)
- A child with an EHCP and is in care attending a maintained school, academy or FE college (DSG 10%: CSC 90%) – 15 pupils
- A child with an EHCP and is in care with separate independent education, the education element is 100% DSG with the remainder shared (DSG 10%: CSC 90%) – 8 pupils
- A child has no EHCP but is in residential care (DSG 10%: CSC 90%) – Internally the DSG costs per pupil will be shared, where the costs exceed £10,000 the Central Schools Services Block will fund £10,000 or up to that amount and the remainder will be charged against the High Needs Block.

Pupil details change and are dependent on the type of placements, therefore these figures are based on the existing placements as at July 2018.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

90 *%*

Explanation:

High Needs block provision is not subject to Schools Forum approval, although the DfE recommend that School Forum members should be consulted. The next Schools Forum meeting is on 3rd October 2018 where LA Officers will present the proposal and implications to the DSG budget and reserves.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

The proposal to increase contributions from the DSG, will impact on the DSG funding available and increase the current overall deficit within the High Needs block. This will be mitigated through the development of a High Needs deficit

recovery plan. Any failure in the development or implementation of this plan could impact on the funds available to SEND children and young people in Somerset.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

The proposal to increase contributions from the DSG, will impact on the DSG funding available and increase the current overall deficit. Unless the additional cost can be mitigated against as part of the High Needs deficit recovery plan it potentially could impact on the funds available to SEND children and young people in Somerset. Additionally, if planned capital expenditure is restricted to increase SEND maintained places, this will potentially reduce the ability to make savings to mitigate against the increase charge to DSG.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

The increased cost to the DSG is likely to require additional savings from the SEND support services – currently being reviewed by the Assistant Director for Inclusion as part of the High Needs deficit recovery plan. Until the impact of the proposal is assessed and formal approval given, then the staff impact is not known.

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

The Senior Leadership Team, the Education Leadership Team and Cabinet support to raise the profile of insignificant High Needs funding nationally with the Department for Education (DfE) and take a more active role in f40 membership and with the LGA on this issue.

The Education Leadership Team and Cabinet support to review all spend against the DSG and to develop a Dedicated Schools Grant strategy which will encompass the required High Needs deficit recovery plan.

Communication support is required with Somerset schools through Somerset Education Partnership Board, Somerset Schools Forum and the phase organisations (SASH, SAPHTO and SENSE).

7. Timescale to deliver and major milestones: **To include date of implementation, key decision points and governance meetings**	
Planned accomplishments to track progress [Milestone]	[Date]
Implementation of the change in principle in the contribution from the DSG	*September 2018*
High Needs sub group meeting to communicate and consult	*18th September 2018*
Schools Forum meeting to communicate and consult	*3rd October 2018*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

There is a risk that this proposal may have a negative impact on the relationship with our schools.

With effect from 2019/20 the DfE intend to tighten up the rules under which Local Authorities (LA) have to explain their plans for bringing the DSG account back to balance. The DfE will require a report from any LA that has a DSG deficit of more than 1% as at 31st March 2019, for Somerset this would be equivalent to a deficit of £3.7m. This report will need to be discussed with the Schools Forum and set out the authority's plans for bringing the DSG account back into balance. The DfE will discuss with LA's finance officers during the Autumn how they intend to implement these new rules.

If the LA intend to ask Schools to contribute to any deficit from the previous funding period that is being brought forward, then this requires Schools Forum approval. If the Schools Forum do not support use of the Schools Budget, then the LA would be required to ask the Secretary of State for approval. If the LA plans to balance the account by significant reductions in services to pupils and schools, it may run the risk of legal challenge. This will be considered as part of the Deficit Recovery Plan to be developed.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Funding agreement with the CCG:
Separate to the redistribution of costs within SCC are the contributions from the CCG for health responsibilities. The latter would impact on the amount to be redistributed between SCC service areas if the CCG default on its financial responsibilities, as agreed by the Complex Cases Panel.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

If the additional cost incurred by the DSG cannot be mitigated it could impact on children and young people with SEND. An interim EIA has been developed and a more detailed one will be required as part of the development of the High Needs deficit recovery plan.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

LA decision, however the LA should consult the Schools Forum and it's High Needs sub group and communicate to schools.

12. Legal Implications:

Please consider
- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

If the LA intend to ask Schools to contribute to any deficit from the previous funding period that is being brought forward, then this requires Schools Forum approval. If the Schools Forum do not support use of the Schools Budget, then the LA would be required to ask the Secretary of State for approval. If the LA plans to balance the account by significant reductions in services to pupils and schools, it may run the risk of legal challenge. This will be considered as part of the Deficit Recovery Plan to be developed.

The cumulative impact of proposals CAF-01, CAF-02, CAF-03, and CAF-04 may reduce DSG available for other purposes. The Deficit Recovery Plan will therefore need to ensure that the local authority continues to fulfil its statutory duty in respect of education.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			[Yes] – Finance have undertaken detailed models based on current residential placement costs (subject to correct data)		
If no, when is evidence expected?			[N/A]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£727,700*	*-£*	*£727,700*	*Ongoing*
2019/20	*£*	*£708,700*	*-£*	*£708,700*	*Ongoing*
2020/21	*£*	*£*	*-£*	*£*	*Ongoing*
Total	*£*	*£1,436,400*	*-£*	*£1,436,400*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

CAF-02 Dedicated Schools Grant contribution to SEND casework team for the transition to EHCPs of children with High Needs funding without a plan

Reference:	CAF 02
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Annette Perrington
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
√	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:

This proposal is for the Dedicated Schools Grant (DSG) to contribute to the cost of additional casework as a result of the new high needs funding universal banding process. The LA and School Forum approved a new funding distribution model for children with SEND in mainstream provision to be fully implemented from September 2018.

The second stage of the new funding distribution model was to asses and transition to an EHCP all children in receipt of High Needs funding who didn't already have an EHCP. The transition timetable is for 1,200 assessments of existing funded children in addition to new starters over 3 years, with those with the highest funding levels and those transitioning between phases to be assessed first.

The outcome of this work, would provide additional benefits to the children and their families due to the legal status they would gain form having an EHCP, but also support the Local Authority in managing the requests for High Needs funding.

Over time this funding will only be accessible following the successful assessment and provision of an EHCP.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

60 *%*

Explanation:

There is a higher level of confidence (possibly 90%) for the approval of the contribution from DSG for existing casework staff. However, some of the additional income will be required to meet the cost of additional casework staff required to undertake the increased workload to enable the assessments and approvals of those transitioning to EHCPs, unless there is a significant increase in productivity and other efficiencies are made within the SEND team.

High needs block provision is not subject to Schools Forum approval, although the Department for Education (DfE) recommend they should be consulted. The next Schools Forum meeting is on 3rd October 2018 where LA Officers will present the proposal and implications to the DSG budget and reserves.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

The proposal is to increase contributions from the DSG and this will impact on the DSG funding available and increase the current overall deficit. Unless the additional cost can be mitigated against as part of the High Needs deficit recovery plan it potentially could impact on the funds available to SEND children and young people in Somerset.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

The proposal is to increase contributions from the DSG and this will impact on the DSG funding available and increase the current overall deficit. Unless the additional cost can be mitigated against as part of the High Needs deficit recovery plan it potentially could impact on the funds available to SEND children and young

people in Somerset and SEND support services provided for them. If the LA restricts the capital investment required to increase SEND maintained places as well this will potentially reduce the ability to make savings to mitigate against the increase charge to DSG.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

The increased cost to the DSG is likely to require additional savings from the SEND support services – currently being reviewed by the Assistant Director for Inclusion as part of the High Needs deficit recovery plan. Until the impact of the proposal is assess and formal approval given, then the staff impact is not known.

The number of FTE that might be lost is:
The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Implementation of the change in principle in the contribution from the DSG	*September 2018*
High Needs sub group meeting to communicate and consult	*18th September 2018*
Schools Forum meeting to communicate and consult	*3rd October 2018*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The proposal increases DSG costs and therefore along with other proposals may impact on the overall deficit position.

With effect from 2019/20 the DfE intend to tighten up the rules under which LA's have to explain their plans for bringing the DSG account back to balance. The DfE will require a report from the any LA that has a DSG deficit of more than 1% as at 31st March 2019. This report will need to be discussed with the Schools Forum and set out the authority's plans for bringing the DSG account back into balance.

The DfE will discuss with LA's finance officers during the Autumn how they intend to implement these new rules.

If the LA intend to ask Schools to contribute to any deficit from the previous funding period that is being brought forward, then this requires Schools Forum approval. If the Schools Forum do not support use of Schools Budget, then the LA would be required to ask the Secretary of State for approval. If the LA plans to balance the account by significant reductions in services to pupils and schools, it may run the risk of legal challenge.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

If the additional cost incurred by the DSG cannot be mitigated it could impact on children and young people with SEND. An interim EIA has been developed and a more detailed one will be required as part of the development of the High Needs deficit recovery plan.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

LA decision, however the LA should consult the Schools Forum and its High Needs sub group and communicate to schools.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

The cumulative impact of proposals CAF-01, CAF-02, CAF-03, and CAF-04 may reduce DSG available for other purposes. The Deficit Recovery Plan will therefore need to ensure that the local authority continues to fulfil its statutory duty in respect of education.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?		[Yes]			
If no, when is evidence expected?		[N/A]			
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£141,000*	*-£*	*£141,000*	*One-off*
2019/20	*£*	*£70,000*	*-£*	*£70,000*	*Ongoing*
Total	*£*	*£211,000*	*-£*	*£211,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

CAF-03 Dedicated Schools Grant contribution to SEND casework team for the transition to EHCPs of children with High Needs funding without a plan

Reference:	CAF-03
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Annette Perrington
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
√	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2.	Outline of the proposed change:
	This proposal is for the DSG to contribute to the additional costs for specialist seating assessments undertaken by Occupational therapists to support children in mainstream schools. Currently £117,000 is funded from the High Needs Block (HNB) of the DSG towards the cost of the specialist assessments. In June this year a request for additional funds of £54,000 from the HNB was made. This reflected an increase in the number of specialist assessments required. This funding was not approved as the request included information which indicated that the additional assessments were for children who would not meet the criteria for funding from the high needs block. This proposal recognises that the specialist seating assessments are required and seeks to cover the cost of the additional assessments from the DSG central schools block. This will ensure schools can meet their statutory duties in line with the Children and Families Act 2014 and Equality Act 2010 to make reasonable adjustments.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

100 %

Explanation:

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

The proposal to increase contributions from the DSG, will impact on the DSG funding available and increase the current overall deficit. Unless the additional cost can be mitigated against as part of the High Needs deficit recovery plan it potentially could impact on the funds available to SEND children and young people in Somerset.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

The proposal to increase contributions from the DSG, will impact on the DSG funding available and increase the current overall deficit. Unless the additional cost can be mitigated against as part of the High Needs deficit recovery plan it potentially could impact on the funds available to SEND children and young people in Somerset and SEND support services provided for them. If the LA restricts the capital investment required to increase SEND maintained places as well this will potentially reduce the ability to make savings to mitigate against the increase charge to DSG.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

The increased cost to the DSG is likely to require additional savings from the SEND support services – currently being reviewed by the Assistant Director for Inclusion as part of the High Needs deficit recovery plan. Until the impact of the proposal is assess and formal approval given, then the staff impact is not known.

The number of FTE that might be lost is:

The number of posts that might be lost is:

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Implementation of the change in principle in the contribution from the DSG	*September 2018*
High Needs sub group meeting to communicate and consult and for Occupational Therapists to provide details of the assessments.	*18th September 2018*
Schools Forum meeting to communicate and consult	*3rd October 2018*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The proposal increases DSG costs and therefore along with other proposals may impact on the overall deficit position.

With effect from 2019/20 the Department for Education (DfE) intend to tighten up the rules under which Local Authority's (LA) have to explain their plans for bringing the DSG account back to balance. The DfE will require a report from the any LA that has a DSG deficit of more than 1% as at 31st March 2019. This report will need to be discussed with the Schools Forum and set out the authority's plans for bringing the DSG account back into balance. The DfE will discuss with LA's finance officers during the Autumn how they intend to implement these new rules.

If the LA intend to ask Schools to contribute to any deficit from the previous funding period that is being brought forward, then this requires Schools Forum approval. If the Schools Forum do not support use of school's budget, then the LA would be required to ask the Secretary of State for approval. If the LA plans to balance the account by significant reductions in services to pupils and schools, it may run the risk of legal challenge.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

If the additional cost incurred by the DSG cannot be mitigated it could impact on children and young people with SEND. An interim EIA has been developed and a more detailed one will be required as part of the development of the High Needs deficit recovery plan.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

The Local Authority have the authority to make this decision, however it is good practice to consult with the Schools Forum and it's High Needs sub group and communicate to schools.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

The cumulative impact of proposals CAF-01, CAF-02, CAF-03, and CAF-04 may reduce DSG available for other purposes. The Deficit Recovery Plan will therefore need to ensure that the local authority continues to fulfil its statutory duty in respect of education.

13a. Financial Implications – net change to service budget in each year:

It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.

Are the savings evidenced based?	[Yes]
If no, when is evidence expected?	[N/A]
Please note: these figures should be cumulative (as per the approach for MTFP and savings)	

£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£54,000*	*-£*	*£54,000*	*Ongoing*
2019/20	*£*	*£0*	*-£*	*£0*	*Ongoing*
2020/21	*£*	*£0*	*-£*	*£0*	*Ongoing*
Total	*£*	*£54,000*	*-£*	*£54,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

Proposal for Change:

CAF-04 Staff savings from redeployment of responsibilities and DSG contribution to SEND strategic planning

Reference:	CAF-04
Service Area:	Children's
Director:	Julian Wooster
Strategic Manager	Annette Perrington
SAP Node	

1.	The proposal is to:
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
√	**Service Delivery Models** - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
	Reductions in Services - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:

This proposal is to achieve staff savings by redeploying the responsibilities for Safeguarding and Children Missing from Education (CME) from the current post holder into a restructured Inclusion Management Team.

The Central Schools Services Budget (CSSB) (part of the Dedicated Schools Grant (DSG)) funds statutory and regulatory duties undertaken by the Local Authority for all schools, this includes planning for the education service as a whole. The Inclusion Management Team will be restructured to manage these duties.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

80 %

Explanation:

The confidence level is dependent on the proposal to restructure the Inclusion Management Team (IMT) being implemented.

The additional charge for IMT to the retained duties budget for 2019/20 will be dependent on the agreement of the Schools Forum. The next meeting is on the 3rd October; however the 2019/20 budget will not be discussed in detail with the Schools Forum until December 2018.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

None identified.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

None identified.

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

Staff loss will be managed through a restructured Inclusion Management Team

The number of FTE that might be lost is:	*1*
The number of posts that might be lost is:	*1*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

HR support will be required.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Planned accomplishments to track progress [Milestone]	[Date]
Schools Forum meeting 3rd October 2018	*October 2018*

Schools Forum meeting December 2018 and January 2019	*April 2019*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

This proposal will be at risk if the restructure of the Inclusion Management Team (IMT) is delayed, or if approval by the Schools forum to use Central Schools Services Budget (CSSB) funds for this purpose is challenged.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

Schools Forum approval required.

10. Initial Equality Impact Assessment:

Is the equality duty relevant?

If the additional cost incurred by the DSG cannot be mitigated it could impact on children and young people with SEND. An interim EIA has been developed and a more detailed one will be required as part of the development of the High Needs deficit recovery plan.

11. Consultation and Communications plan:

Would there be a need to carry out staff/public or stakeholder consultation? If so, how is it proposed that this happens?

Staff consultation will be required as part of the restructure of the Inclusion Management Team (IMT). Consultation will begin during September 2018.

12. Legal Implications:

Please consider

- *Are there any services which could safely and legally be stopped?*
- *Whether or not you require a delegation to implement*
- *Any relevant standing orders or Procedure Rules that you are following (including procurement)*
- *Is there a statutory duty to consult?*

The cumulative impact of proposals CAF-01, CAF-02, CAF-03, and CAF-04 may reduce DSG available for other purposes. The Deficit Recovery Plan will therefore need to ensure that the local authority continues to fulfil its statutory duty in respect of education.

13a. Financial Implications – net change to service budget in each year:					
It is expected that savings identified are evidence based. Any supporting information, including analysis to be submitted with the proposal. These proposals will be validated with finance as part of the FIT governance process.					
Are the savings evidenced based?			[Yes]		
If no, when is evidence expected?			[N/A]		
Please note: these figures should be cumulative (as per the approach for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£15,500*	*£0*	*-£*	*£15,500*	*Ongoing*
2019/20	*£46,500*	*£34,000*	*-£*	*£80,500*	*Ongoing*
2020/21	*£*	*£0*	*-£*	*£0*	*Ongoing*
Total	*£62,000*	*£34,000*	*-£*	*£96,000*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

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Proposal for Change:

ECI-12 Proposal for Change: Consult on the potential reduction of financial support to the public transport and college bus network

Reference:	ECI-12
Service Area:	Transporting Somerset
Director:	Paula Hewitt
Strategic Manager	Oliver Woodhams
SAP Node	EHDACDA

1. The proposal is to: consult on the potential reduction of financial support to the public transport network to achieve savings	
	Managing Demand - *Examine what can be done to influence our demand and reduce service pressures/costs or increase income, including raising fees and charging for services. How could we work across the wider local system with partners, are we picking up costs that should be paid by a different part of the system? Evidence of current and expected future demand will be required as part of future planning.*
	Increasing Productivity - *Since 2011/12 the Council has made most of its savings through efficiency measures. Like most Councils there is now less scope for traditional efficiency savings. What efficiency/productivity savings are available? What are the biggest expenditure items in your service? Are we getting best value from our contracts? Are we exploring opportunities to negotiate?*
	Service Delivery Models - *Are you aware of any alternative delivery models that could deliver services differently? What examples from other authorities could we adopt? E.g. commission from another party, joint venture… recognising that some options will have a long lead in times and would not necessarily impact on the financial gap in 2018/19.*
X	**Reductions in Services** - *Are there services which partners could provide instead? Are all your services adding value? Are there any services which could safely and legally be stopped? What would the impact be on residents? Could residents be empowered to do it themselves?*

2. Outline of the proposed change:
Cabinet approval is being sought to launch a consultation exercise to review some elements of the subsidised public transport and college bus network. The specific changes that will be proposed in the consultation will be developed through an appropriate analysis and initial assessments of needs and potential equalities impact. The proposed change will be further developed through analysis of consultation feedback, and presented to cabinet for decision making following a full consultation. Any opportunities to reduce public bus subsidy costs through the re-negotiation of existing contracts and / or changes to frequencies, routing or timetables will also be reviewed and if necessary consulted on.

2a. Confidence level

Lead Directors should indicate their level of confidence in delivering the saving identified. This should be expressed as an overall percentage (in units of 10%). Please also provide a brief explanation for the chosen confidence level.

n/a *%*

Explanation:

No level of saving is being proposed at this point, and so it is not possible to express a confidence level.

3. Impact on residents, businesses and other organisations:

Are there services which partners could provide instead? What would the impact be on residents? Could residents be empowered to do it themselves? How are business and other organisations affected?

Any resulting changes to the public transport network are likely to have a significant impact on residents, particularly those without a car (including potentially some students travelling to college), the elderly and disabled. An initial analysis of impacts will be developed prior to the proposed consultation exercise, and a full impact assessment will be developed following consultation.

4. Impact on other services we provide:

Are there impacts on other services delivered by the directorate or services in another directorate, including impacts on support services and requires for additional support/spend (such as property/ICT)?

Any resulting changes to the public transport network could have an impact on school transport, in particular for non-entitled children who may use public bus routes to travel to school.

Access to service delivery points by public transport is a key element of the ongoing library service redesign review and consultation proposals will be developed with consideration to the recommendations of this review, as well as other recent reviews of service delivery networks (e.g. family support).

5. Impact on staff:

Insert information here… (include indicative number of proposed posts at risk etc)

The consultation exercise will be a major undertaking which will need to be resourced appropriately to avoid well-being impacts on key subject matter expert staff in the Transporting Somerset and Highways and Transport Commissioning teams. There could potentially be consequential impacts on staff in the in-house fleet team but these are unknown at present.

The number of FTE that might be lost is: *0*

The number of posts that might be lost is: *0*

6. Resources and support needed to make the change:

Insert information about leverage funding/match funding from external sources. Any additional resources required e.g. Finance, HR, legal, HR, IT, procurement, project management. This will need to be detailed further in section 13.

As noted above the proposed consultation exercise will be a major undertaking and will need to be resourced appropriately. Subject matter expert input and support will be required from procurement, communications and customer insight staff, and the consultation exercise will require change team support.

Legal support is likely to be required in due course if potential savings proposals are taken forward.

7. Timescale to deliver and major milestones:

To include date of implementation, key decision points and governance meetings

Consultation timescale to be confirmed	
Decision to consult	Q3 2018-19
8 Week Consultation	Q3-Q4 2018/19
Key decision to remove services	*Q4 2018/19*
12 week notice period required	*Q4 2018/19*
Removal of services	*Q1 2019/20*

8. Risks and opportunities:

(i.e. Risks: impact on community, knock-on impact on Council teams and other agencies) What opportunities are available to the Council to further reduce/increase demand? What opportunities are there for collaborative working?

The risks associated with the proposed consultation exercise itself are limited. There are a number of potential risks associated with any significant change the public bus network but these will be identified and assessed following the consultation exercise.

9. Dependencies:

Interdependencies and dependencies please insert here NB may need to connect with other directorates to test these out.

As noted in section 4 above access to service delivery points by public transport is a key element of the ongoing library service redesign review and consultation proposals will be developed with consideration to the recommendations of this review, as well as other recent reviews of service delivery networks (e.g. family

support).

10. Initial Equality Impact Assessment:
An initial impact assessment will be developed prior to the consultation period, with a full impact assessment developed in the light of feedback from consultation and other analysis, if the proposal is taken forward to decision.

11. Consultation and Communications plan:
An 8 week consultation period, with an associated communications plan, is proposed.

12. Legal Implications:
There are no legal implications arising from the proposal to launch a consultation however any proposed consultation process into proposals with a potential impact on vulnerable groups has a requirement to have due regard to the public sector equality duty.

13a. Financial Implications – net change to service budget in each year:	
At this stage, no firm financial implications have been developed and this will follow the consultation exercise.	
Are the savings evidenced based?	Savings will be based on evidence gathered through consultation and needs assessment.
If no, when is evidence expected?	Q4 2018/19
Please note: these figures should be cumulative (as per the approach	

for MTFP and savings)					
£'000's	*Savings*	*Income*	*Growth/Costs*	*Total*	*Ongoing or One-off?*
2018/19	*£*	*£*	*-£*	*£*	
2019/20	*£*	*£*	*-£*	*£*	
2020/21	*£*	*£*	*-£*	*£*	
Total	*£*	*£*	*-£*	*£*	

13b. One off project costs and income (not included in above):		
£'000's		
2018/19	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2019/20	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
2020/21	Capital Costs	-£
	Capital Receipts	£
	Estimate of redundancy costs	-£
	Estimate of resource costs to deliver	-£
	Sub-total	£
	TOTAL	£

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SOMERSET COUNTY COUNCIL
SUMMARY OF MTFP 2018/19 IMPACTS

1.1 Summary of Impacts for MTFP 2018/19

In order for the Council to fulfil its legal requirements under the Public Sector Equality Duty, members are asked to have due regard to the equality impact assessments supporting the proposals attached to this decision. An Equality Impact Assessment is a way of analysing changes to our services, policies and strategies and identifies potential impacts on characteristics protected under the Equality Act 2010. This allows us to make informed decisions that can be evidenced and shared with interested parties.

The characteristics protected under the Equality Act 2010 are:

- age
- disability
- gender reassignment
- marriage and civil partnership
- pregnancy and maternity
- race
- religion or belief
- sex
- sexual orientation

Whilst assessing the Protected Characteristics for Somerset it was established that there were additional characteristics that for Somerset had a real impact on the ability of people to access services and take part in the wider community. These additional local characteristics are rurality, low income, carers and military status.

This due regard should be considered with the duties set out in the Public Sector Equality Duty. So for the characteristics identified above will the change help or hinder:

a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under this Act;
b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it;
c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

This summary of key impacts and the equality impact assessments have been developed to help councillors:

- debate the issues,
- consider proposed decisions,
- consider the viability of alternatives
- agree potential mitigating measures and note impacts which may not be able to be mitigated
- make informed and fair decisions

The Equality Act 2010 does not prevent the Council from taking difficult decisions which result in service reductions or closures for example, it does however require the Council to ensure that such decisions are:

- Informed and properly considered with a rigorous, conscious approach and an open mind.

- Taken following due regard having been given to the effects on the protected characteristics with the need to ensure nothing results in unlawful discrimination in terms of access to, or standards of, services or employment as well as considering any opportunities to advance equality and foster good relations.
- Proportionate (that negative impacts, including those that cannot be mitigated, are proportionate to the aims of the policy decision).
- Fair, necessary and Reasonable
- Only taken following appropriate consultation with those affected.

Creating a picture of how people are being affected by the Council's budget reductions and proposed future changes to services is difficult and complex. People are different in terms of their needs and expectations; people's interaction with public services and dependence upon public services vary. Life changing events such as the birth of a child, death of a partner or deterioration in health can alter, sometimes very quickly, a person's dependence on services. Living in rural communities may be a dream for some but for others it can also present challenges.

Consideration of the continuing need to reduce inequalities as far as possible must be integral to the budget reduction process. There must be an appropriate balance struck between, on the one hand being aware of the impact and risks, seeking to avoid or mitigate adverse impacts and, on the other, the benefit and necessity to making the saving to achieve a balanced budget. It is therefore inevitable that it may not be possible to mitigate all impacts.

Cumulative Equality and Diversity Impacts of the in year savings in 2018
Based on the proposals put forward within this report there are a number of impacts, which, when looked at together, could have combined impacts on characteristics protected under the Equality Act 2010. They are:

- A high proportion of the impacts identified will affect **young people**. This could be through the reduction or removal of support and recreational services, the support provided to Young Carers. This could then have an additional impact on the person cared for.
- **Women** are also more likely to be impacted by a combination of proposals. As women are still more likely to provide a child or adult caring role they could be disproportionately affected by the changes to support services for disabled people and young people. Where women are in single parent households the reduction in support to Advice Services could result in more pressure on these homes.
- The reduction proposed through Adults Services addresses under usage of current contracts. This could have an impact on **disabled people** but this would be about when the service can be accessed rather than the service not being available. Again a reduction in Advice Services could place additional pressure on these households.
- Reductions in the support provided to the Citizens Advice Bureaux, Local Assistance Scheme and Youth Services could remove avenues of support for people living on **low incomes**.

There are some mitigations identified within the individual proposals to minimise the impacts identified. This include

- working with the voluntary and community sector to provide some of the support services we currently provide
- providing sign posting and advice on alternative areas of support and services
- identifying alternative funding to retain the current level of service delivery

Somerset County Council

Notice of key decision

The Local Authorities (Executive Arrangements) (Meetings and Access to Information) (England) Regulations 2012 – Regulation 10

In accordance with the Council's Access to Information Procedure, as set out in the Council's Constitution, notice is hereby given that the following Key Decisions, which have not been included in a published version of the Cabinet Forward Plan for the required 28 days, are to be considered by the Cabinet at its meeting on 12 September 2018:

- Proposals for the alteration of arrangements for specialist housing and support for adults with social care needs.
- Proposals for reduction in the support given to the Citizens Advice Bureaux for the administration of a benefit for individuals.
- Proposals for the alteration and/or reduction of services provided to and on behalf of children and their families.
- Proposals for the alteration and/or reduction of services to support vulnerable pupils.
- Proposals for alteration and/or reduction of support arrangements for the democratic process and for elected members.
- Proposals for the alteration of members allowances for recommendation to Council.
- Proposals to alter the arrangements for, provision of, and funding solutions for the maintenance of highways, rights of way and associated infrastructure.
- Proposals for altering the financial support and arrangements for public transport and for special educational needs (SEN) transport. CAF-10.
- Proposals to alter the funding arrangements and service level for road safety.
- Proposals to alter the provision of park and ride services in the Taunton area.
- Proposals for altering staffing structures and levels in teams within Adult Services, Children and Family Services, Corporate Services and ECI Services.
- Proposals to alter the provision of corporate support services and / or reduce corporate and directorate overheads.
- Proposals to secure additional funding and / or recover costs within Children and Family Services, ICT and ECI Services.
- Proposals for the alteration of customer access arrangements.

Contact Officer: Peter Lewis, Interim Finance Director
01823 359353

Reasons

It is proposed to take the proposed key decisions above on the date shown above. It would be impracticable to defer the decision until it has been included in a published version of the Forward Plan for the required 28 days.

Circulation:

Chairman of Scrutiny for Policies and Place Committee
All County Council members
Public notice board at County Hall, Taunton
SCC website

4 September 2018

Scott Wooldridge
Monitoring Officer

For questions about this notice please contact Scott Wooldridge, Monitoring Officer, Democratic Services, County Hall, Taunton, TA1 4DY.
Tel: 01823 357628 Email:SWooldridge@somerset.gov.uk

Somerset County Council

Cabinet
– 12 September 2018

Capital Investment Programme 2018/19 – Quarter 1 Report

Cabinet Member(s): Mandy Chilcott – Cabinet Member for Resources
Division and Local Member(s): All
Lead Officer: Peter Lewis – Interim Director of Finance
Author: Ian Trunks – Finance Manager, Capital
Contact Details: PJLewis@somerset.gov.uk Tel: 01823 359028

Report Sign off	**Seen by:**	**Name**	**Date**
	County Solicitor	Honor Clarke	03/09/18
	Monitoring Officer	Scott Woolridge	03/09/18
	Corporate Finance	Lizzie Watkin	03/09/18
	Human Resources	Chris Squire	03/09/18
	Senior Manager	Peter Lewis	03/09/18
	Cabinet Member	Mandy Chilcott	03/09/18
	Opposition Spokesperson	Simon Coles	
	Relevant Scrutiny Chairman	Tony Lock	
Forward Plan Reference:	FP/18/07/09		
Summary:	This report outlines progress against the County Council Capital Investment Programme position for the first quarter of the 2018/19 financial year and shows significant slippage into future years.		
Recommendations:	**The Cabinet is recommended to note the contents of this report.**		
Reasons for Recommendations:	To inform members of the financial position for the Capital Investment Programme relating to the financial year 2018/19.		
Links to Priorities and Impact on Service Plans:	The Capital Investment Programme is the means by which the Council provides the assets and infrastructure required to deliver the County Plan.		
Consultations undertaken:	Information and explanations have been sought from service managers on individual aspects of this report and their comments included as appropriate.		
Financial Implications:	The financial implications are dealt with in detail in the body of the report.		

Legal Implications:	There are no specific Legal implications arising directly from the report.
HR Implications:	There are no specific HR implications arising directly from the report.
Risk Implications:	With slippage within the Capital Investment Programme there could be additional costs associated with delivering services such as additional costs for transporting children to schools and failure to deliver school places as the need occurs may result in cost pressures such as for educational placements. The current slippage does not have any identified impact at this time.
Other Implications (including due regard implications):	Equalities Impact Assessments for projects in the existing programmes were undertaken during the budget setting process and are updated as projects are implemented as necessary.
Scrutiny comments / recommendation (if any):	Not applicable.

1. Background

1.1. This report provides a corporate overview of the financial aspects of the Capital Investment Programme (CIP) for the 2018/19 financial year. In doing this it provides reconciliation with the Outturn position for 2017/18 reported to Cabinet on 11 June 2018 and gives a baseline against which progress during this financial year can be monitored.

2. Options considered and reasons for rejecting them

2.1. Active Approvals 2018/19

2.1.1 The CIP active approvals at the 31 March were £607.378m. The current Capital Investment Programme for 2018/19 contains net approvals of £676.598m. Details of the movement in approvals, included at service level, are contained within Appendix A to this report.

2.1.2 There have been a number of virements undertaken during the first quarter, which is normal as services update the information for the new financial year. They have been examined to identify the purpose of the virement; they do not require formal ratification by members as they are classed as technical changes. The virements have been undertaken to enable the effective management of generic approvals by creating individual projects as detailed proposals are developed and cost estimates become available. At the latter end of the process as projects are completed, virements are also used to manage the consequential difference between final and estimated costs to enable the generic approvals to be repackaged to deliver further individual projects within the

intended objectives.

2.2. Forecast Expenditure

2.2.1. At the end of July 2018 services were forecasting future expenditure of £207.401m over the current and subsequent four financial years. Details of the projected spend are included in Appendix B.

2.2.2. From previous years planned expenditure and new starts this year, the estimated spend for 2018/19 alone was predicted to be £166.824m. The latest forecast expenditure presented in this report is£121.739m, which implies that £45.085m of the expenditure is now profiled to be spent in future years. Of the £45.085m, some £17.580m relates to schemes managed by the Heart of the Southwest LEP and is outside of SCCs control. The remaining movement in planned expenditure is due to school builds and specific highways schemes.

2.2.3 Forecasting capital expenditure levels is particularly difficult due to the reliance on contractor activity, the weather and capacity within the Council's providers to design and support the programme. The actual programme is also only fully developed later in the financial year as individual projects are finalised and specifically programmed from the generic programmes. Clearly it is only at this stage that a realistic estimate of the timing of expenditure can be made. However, it is of concern that there is a large amount of planned expenditure slipping into future years, as that implies that revenue support set aside for those programmes, at the expense of other priorities, is now not required. Further work will be undertaken to understand these variances in more depth.

2.3. Forecasting Net Over or Under Spends

2.3.1. The net over/under spending is calculated using the actual expenditure to date on a project added to the predicted expenditure in future years, the total of these is compared to the recorded approvals. The over or under spend is the difference. Details at service level are including in Appendix C. Current forecasts are that some £675.603m will be required to complete the programme. Of this, it was planned that some £207.401m would be required in the current and future financial years after taking into account the £468.202m incurred prior to 31 March 2018. This is some £0.995m less than the approval currently available (£676.598m).

This is made up of a number of schemes as detailed in Appendix C.

2.3.2. An overview of the Capital Investment Programme indicates that the programme is being managed proactively by services within the resources that they have available. Commitments are not being entered into without an available budget and generic approvals are being managed as costs become more certain and the programme of work adjusted accordingly. However, as commented above, further research is required to understand why schemes have not been delivered in accordance with the planned expenditure profile.

2.4. Other Matters

2.4.1. Capital Receipts

Capital Receipts are the sums received from the sale of assets where the proceeds exceed £0.010m. Net useable receipts up to July 2018 after taking into account the costs of sale amounted to £2.363. Current estimates based on progressed sales indicate £11.474m might be realised from sales by the end of the financial year. Realising this sum will however depend on circumstances outside the direct control of the County Council including the wider economic outlook and third parties. It could also be compromised if any of the properties are the subject of a Community Asset Transfer application.

3. Consultations undertaken

3.1. Information and explanations have been sought from services on individual aspects of this report and their comments are included as appropriate.

4. Financial, Legal, HR and Risk Implications

4.1. Risk Implications

4.1.1. **Additional School Places.**
The requirement to build new schools in Somerset to meet the growing basic need for school places is the key driver of the capital investment programme. We are bidding for funding to the DfE and through the Housing Infrastructure Fund to provide resource for the capital programme. If we are unsuccessful, we will have to find a source of funding to meet this need.

4.1.2. **Capital Receipts.**
Increasingly limited capital resources continues to place further demands on the Council to rationalise its use of assets and develop shared facilities with other public and third sector organisations.

The objective is to maximise asset utilisation and release surplus assets to fund transformation initiatives. This will have the benefit of easing pressure within the revenue budgets.

In the local government settlement for 2018/19, the Government announced an extension to the greater flexibility for Councils in the use of capital receipts from the sale of non-housing assets over a 3 year period. This flexibility will allow Councils to continue to use these receipts to fund the revenue costs of service reform and transformation. Somerset County Council will take advantage of this flexibility and as a result the 2018/19 receipts are planned to fund £8.711m of revenue transformation and £2.515m of the approved capital programme.

4.1.3. **Mid-Year Pressures.**
Capital investment and planning decisions are predominantly taken during the MTFP process in setting the annual budget. During this process a view is taken on the level of available resources which allows a minimal reserve to be held for unforeseen in year requirements

If significant in year requirements are identified and the funding cannot be met from existing resources it is possible that the Council would need to consider external borrowing to fund the requirements or revise and reduce the core investment plan. If external borrowing is to be used then it must be noted that there will be an additional charge to the revenue budget.

4.1.4. **Budgetary Control.** This report indicates that there is an overall understanding of budgetary control of the capital investment programme, but that further understanding of the reasons for slipped delivery is required.

5. Other Implications

5.1. Issues such as access, equality and diversity, human rights, community safety, health & well-being, sustainability, information request/data protection issues, organisational learning, partnership and procurement would normally be considered and managed at service, operational and project level.

6. Background papers

6.1. 2017/18 CIP Quarterly Monitoring Report to Cabinet

Note: For sight of individual background papers please contact the report author.

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Capital Investment Programme Approvals

Col 1	*Col 2*	*Col 3*	*Col 4*	*Col 5*	*Col 6*		*Col 7*
			Approval Amendments				
Row No.	**Service Area**	**Approvals as at end of March 2018 Outturn**	**2018/19 Starts Programme Added**	**Completed Schemes Removed & Technical**	**Other Changes**	**NOTES**	**Approvals as at end July 2018**
		£m	**£m**	**£m**	**£m**		**£m**
1	Schools - Primary and Secondary Sector	**142.916**	+22.767	-0.462	+0.016	1	**165.237**
2	Local Enterprise Partnership	**119.494**		-1.930			**117.564**
3	Highways and Traffic Management	**90.486**	+24.150	-1.145	+3.662	2	**117.153**
4	Economic Development	**110.573**	+0.400				**110.973**
5	Highways Engineering Projects	**62.597**	+4.374				**66.971**
6	Support Services	**35.476**	+12.413		+1.021	3	**48.910**
7	Schools - SEN and Access	**14.193**	+0.385				**14.578**
8	Early Years and Community Services	**9.311**	+1.700				**11.011**
9	Flood And Water	**8.046**					**8.046**
10	Adult Social Care and Learning Disabilities	**6.459**	+0.070				**6.529**
11	Other Services	**7.827**	+1.799				**9.626**
12	**TOTAL**	**607.378**	**+68.058**	**-3.537**	**+4.699**		**676.598**

Notes:

Some £68.058m of new schemes have been added to the monitoring process because of the 2018/19 new Capital Investment Programme starts agreed at County Council in February 2018. Of this sum, £38.407m is expected to be financed from new debt with the remaining £29.651m coming from government ring fenced and un-ring fenced grants.

Since the end of the financial year March 2018 additions amounting to £4.699m have also been added to the overall level of approvals, detailed as follows:

1. Schools – Primary and Secondary (+£0.016m)
   Additional £0.158m developer contribution for the development at Kings Square and Holway Primary School, Taunton. Return of £0.142m loans funding for Brookside, Street.

2. Highways and Traffic Management (+3.662m)
   Additional DfT grant for road patching and flood resilience works.

3. Support Services (+£1.021m)
   Additional capital receipts funding for ICT and Innovations as agreed by Cabinet at 2017-18 Outturn.

Forecast Expenditure for 2018/19 and Future Years

Col 1	*Col 2*	*Col 3*	*Col 4*	*Col 5*	*Col 6*	*Col 7*
Service Area	**Current Year £m**	**2019/20 £m**	**2020/21 £m**	**2021/22 £m**	**2022/23 onwards £m**	**Total**
Schools - Primary and Secondary Sector	29.942	17.420	0.510			47.872
Local Enterprise Partnership	27.128	21.654				48.782
Highways and Traffic Management	30.952	1.850				32.802
Economic Development	8.815	22.728	7.424			38.967
Highways Engineering Projects	10.572	4.178				14.750
Support Services	8.220	6.078	0.125	0.010	0.010	14.443
Schools - SEN and Access	0.972	0.319				1.291
Early Years and Community Services	1.647	2.411	0.061			4.119
Flood And Water	0.059					0.059
Adult Social Care and Learning Disabilities	1.391	0.158	0.050	0.050	0.046	1.695
Other Services	2.159	0.424	0.156			2.739
TOTAL	**121.739**	**77.220**	**8.326**	**0.060**	**0.056**	**207.401**
Financing						
Loans Pool Funded	24.563	21.208	0.803	0.010	0.010	46.594
Internal Funds	0.138					0.138
Capital Receipts	2.180	2.503	1.335			6.018
Revenue	0.089					0.089
Third Party Contributions	10.245	4.693	4.701	0.050	0.046	19.735
Grants	84.524	48.816	1.487			134.827
TOTAL	**121.739**	**77.220**	**8.326**	**0.060**	**0.056**	**207.401**

Net projected over/under spend as at 31 July 2018

Col 1	*Col 2*	*Col 3*	*Col 4*	*Col 5*	
Service Area	**Approvals Position as at end July 2018 £m** App A Col 7	**Predicted Over Spend** **£m**	**Predicted Under Spend** **£m**	**+Over/-Under spend as % of Approval** Col 3 or 4/Col 2	**NOTES**
Schools - Primary and Secondary Sector	**165.237**		-0.510	-0.31%	1
Local Enterprise Partnership	**117.564**				
Highways and Traffic Management	**117.153**	+0.203		0.17%	2
Economic Development	**110.973**				
Highways Engineering Projects	**66.971**		-0.093	-0.14%	3
Support Services	**48.910**		-0.200	-0.41%	4
Schools - SEN and Access	**14.578**				
Early Years and Community Services	**11.011**				
Flood And Water	**8.046**				
Adult Social Care and Learning Disabilities	**6.529**		-0.174	-2.67%	5
Other Services	**9.626**		-0.221	-2.30%	6
TOTAL	**676.598**	**+0.203**	**-1.198**	**-0.15%**	

Notes – Summarised below are details of the key items contributing towards the information reported in the above table.

1. This sum comprises of the following:
    - £0.498m under spend of contributions for New Bridgwater Primary School,
    - £0.012m under spend of Capital Receipts for an old West Somerset Community College scheme.

2. This sum comprises of the following:
    - £0.023m under spend of Grant against Highways Retaining Walls,
    - £0.011m under spend of Contributions for Crewkerne Traffic Management,

- £0.005m under spend of Contributions for Godminster Lane,
- £0.042m over spend of Grant for Local Sustainable Transport Plan in Bridgwater,
- £0.200m over spend of Grant for Small Improvement Schemes.

3. This sum comprises of the following:
    - £0.095m under spend of Contribution for Wyndham Park Bus Gate,
    - £0.018m under spend of Contribution for Market Street, Highbridge,
    - £0.020m over spend of Grant for A38 Huntworth Roundabout.

4. This sum comprises of the following:
    - £0.087m under spend of Capital Receipts for the SMART Office project,
    - £0.063m under spend of Capital Receipts for the Change Programme,
    - £0.032m under spend of Capital Receipts for the Northgate site,
    - £0.011m under spend of Contributions for the Data Room Replacement,
    - £0.004m under spend of Contribution for OPE Williton,
    - £0.003m under spend of Capital Receipts for various OPE Projects.

5. This sum comprises of the following:
    - £0.142m under spend of contributions for Learning Disabilities Minor Works 2015-16,
    - £0.031m under spend of grant for Learning Disabilities Basic Need.

6. This sum comprises of the following:
    - £0.200m under spend of Loans for Disability Provision/ Aiming High,
    - £0.021m under spend of Grant for the Libraries Management System.

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Decision Report – Cabinet decision
Decision date – 12 September 2018

Adoption of the 'Well-managed highway infrastructure' Code of Practice by Somerset County Council

Cabinet Member(s): Cllr John Woodman– Cabinet Member for Highways and Transport
Division and Local Member(s): All
Lead Officer: Mike O'Dowd-Jones, Strategic Manager – Highways and Transport Commissioning
Author: Neil Guild, Highways - Asset Commissioning Officer
Contact Details: 01823 358224

	Seen by:	Name	Date
	County Solicitor	Honor Clarke	03/09/18
	Monitoring Officer	Scott Wooldridge	03/09/18
	Corporate Finance	Martin Gerrish	30/08/18
	Human Resources	Chris Squire	24/08/18
	Property / Procurement / ICT	Simon Clifford	03/09/18
	Senior Manager	Paula Hewitt	30/08/18
	Local Member(s)	All	
	Cabinet Member	Cllr John Woodman	03/09/18
	Opposition Spokesperson	Cllr Mike Rigby	30/08/18
	Relevant Scrutiny Chairman	Cllr Groskop for Scrutiny Place	23/08/18
Forward Plan Reference:	FP/18/05/01		
Summary:	A new Code of Practice (CoP) for 'Well-managed Highway Infrastructure' (Appendix A) was published by the UK Roads Liaison Group in October 2016. This replaces the existing codes for the management of the carriageway (Appendix B), footways, street lighting and structures highways assets. The UK Roads Liaison Group set October 2018 as the recommended date to have adopted the new Code by. The new Code is designed to "promote the adoption of an integrated asset management approach to highway infrastructure based on the establishment of local levels of service through risk-based assessment". The recommendations contained within the CoP cover all areas		

	of the highway maintenance service for local roads under the control of the County Council, as Highway Authority. While the CoP is not a legal requirement, it does recommend highway maintenance standards and is frequently a key component in court decisions on whether or not a highway authority is complying with good industry practice and its statutory duty to maintain and repair the highway. As such failure to adopt the CoP and its recommendations would expose the Council, in its role as the Highways Authority, to substantial financial and reputational jeopardy. In order to demonstrate compliance with this recommendation Somerset County Council has updated a number of key documents and policies to be included within this decision. This includes the Highways Safety Inspection Manual (HSIM) (Appendix C). It also includes the creation of Safety Inspection documents for Public Rights of Way, Structures, Street Lighting and Traffic Signals (Appendix H).
Recommendations:	**That the Cabinet approves:** **1. The adoption of the new Code of Practice, its recommendations and the "risk based approach" for the management of the highway network.** **2. The adoption of a new Highways Safety Inspection Manual that meets the recommendations of the new CoP and safety inspection documents for Public Rights of Way, Structures, Street Lighting and Traffic Signals.** **3. The updating of the Highways Infrastructure Asset Management Policy (HIAMP) and the Highways Infrastructure Asset Management Strategy (HIAMS) to reference and incorporate the recommendations of the CoP.** **4. Amendments to other supporting documents and policies to reference and incorporate the recommendations of the new CoP.**
Reasons for Recommendations:	To ensure that SCC is compliant with the recommendations of the new 'Well managed highways infrastructure' Code of Practice (2016), in order that the Council's position is protected in respect of accidents and incidents on the highway network. The new Code of Practice is not mandatory and should not be considered law. However, the previous version of the Code has been utilised as "Best Practice", and sets an industry standard that authorities are assessed against in the event of a legal claim. While it is possible in principle for an authority to not adopt the CoP this would set Somerset County Council apart from the practice of the vast majority of other HAs. A local authority that adopts the new CoP will be demonstrating that it possesses a

	sound, effective highway maintenance policy and will therefore be able to robustly defend insurance claims in a court of law. In order for the Council to be compliant requires the revision of a number of key documents to ensure they include reference to the CoP and adopt the appropriate recommendations. This includes a revised Highway Safety Inspection Manual in accordance with the new Code of Practice. The new CoP contains 36 recommendations and can be found at Appendix A. The recommendations can be divided into a set of broader themes relating to the operational delivery of highways maintenance services. 1. asset management; 2. asset inventory and systems; 3. performance management; 4. risk management; 5. environmental, heritage and civil contingencies. This decision is intended to ensure that SCC meets and adopts the key intentions of the CoP.
Links to Priorities and Impact on Service Plans:	The adoption of the Code of Practice is referenced within both the Highways and Transport Commissioning Service Plan and the E&CI Operations Service Plan as a key challenge and priority for 2018/19. The Joint Somerset Vision contains two aims that support the necessity to adopt of the new CoP. These are: • A County of resilient, well-connected and safe and strong communities working to reduce inequalities. • A County infrastructure that supports affordable housing, economic prosperity and sustainable public services The County Vision was published in May 2018; within that document two aims support the necessity to adopt the new CoP. These are: • A County of resilient, well-connected and compassionate communities working to reduce inequalities. • A County where all partners actively work together for the benefit of our residents, communities and businesses and the environment in which we all live. These aims are also referenced within the HIAMP 2018 document and therefore inform the Asset Management Framework for the delivery of highways maintenance services. The adoption of the CoP and the new HSIM 2018 are covered within the HIAMS 2018 document. It is the intention that this will be developed further through the introduction of a Highways

	Infrastructure Asset Management Operationnal Plan in 2019.
Consultations and co-production undertaken:	The publication of the new Code of Practice was anticipated in advance of its publication in October 2016. This has allowed for substantial cross working with neighbouring highway authorities to take place ahead of the adoption date to ensure a consistent, common approach in the South West region. The majority of HAs in the south west have adopted the CoP and the new hierarchies contained within it. A key element of adopting a risk based approach is demonstrating that a Highways Authority (HA) has sought to manage its risk by assessing its own practice against the practice of other HAs, while also applying a local judgement on priorities and acceptable levels of risk. Consultations with neighbouring HAs on the application of the new hierarchies were also undertaken as part of their development, in particular testing cross county boundary network connections to confirm that a coherent assessment of hierarchy had been taken along a shared section of road. The new HSIM document was also shared for review with neighbouring HAs. Internal stakeholders within SCC were consulted informally and then formally – this included the Highways and Transport Commissioning Team, Highways Operations, the Insurance Team and Area Highway Offices. Briefings were also held with the Strategic Risk Management Group, the Cabinet Member for Highways and Transport and the ECI Senior Leadership Team. External consultees included all neighbouring HAs and key service providers such as Skanska, and the Council's insurers. A formal consultation with the public was not carried out in this instance. The view was taken that this is a technical matter regards the adoption of national guidance into local practice by the Highways Authority for Somerset. The Council was not required to run a public consultation by either the guidance or legislation. Nor has it been the practice in the past to consult on the adoption of previous codes of practice.
Financial Implications:	The driver for this decision is ensuring that the Council is compliant with the Code by October and not exposed to undue risk and potential costs arising from claims against it; which could be substantial. It should be noted that the new HSIM will include an "Overhanging Vegetation" defect category. This is a defect type that was removed from a previous version of the HSIM and included as a MTFP saving. Its re-inclusion is due to the

	experience within the operational service that this is an unavoidable cost in some circumstances where there is an immediate threat to the safety of members of the public using the highway.. The costs of its re-inclusion will be met from within the existing highways safety budget and will not be an additional cost. In tandem the focus will be on ensuring that land owners who do not maintain vegetation in a safe manner are notified of their responsibilities, and enforcement action taken if required. The combined effect of the new hierarchies (Appendix G) and the planned inspection programme against the new hierarchies (HSIM 2018, Appendix C) is currently forecast to be neutral in terms of staffing resource, with no additional costs forecast. It should be noted that the assignment of the highway network into the new hierarchy categories means that some roads in the County will be inspected both more frequently and some less frequently than they are now. These sections of road largely sit within Category 7 of the new hierarchy. Specifically 759km will be inspected less frequently and 963km more frequently. Furthermore, 20% of the Council's capital allocation from the Department for Transport (DfT), for Highways Maintenance, is determined as a result of its performance against the DfT's Local Highways Incentive Fund. Somerset County Council is currently at the highest band (Band 3) which secures it the maximum amount of funding. However, the DfT has also strongly indicated that adoption of the new Code is likely to become a consideration in future allocations, which means that it is prudent to ensure the CoP is adopted in advance of that occurring in order to secure the full allocation in the future.
Legal Implications:	The key legislation that covers the delivery of highways services and the responsibilities of a Highways Authority are the Highways Act (1984), and the New Roads and Street Works Act (1991). Section 41 of the Highways Act (1980) states that "the authority who are for the time being the highway authority for a highway maintainable at the public expense are under a duty to maintain the highway". The majority of claims against a local highway authority arise from an alleged breach of Section 41. If a local authority is deemed to have breached Section 41 it may have a defence under Section 58. Section 58 of the Highways Act (1980) states that a statutory defence against third party claims is provided where the Highway Authority can establish that reasonable care has been taken to "secure that the part of the highway to which the action relates" to a level commensurate with the volume of ordinary traffic such that it "was not dangerous to traffic". Section 130 of the Highways Act (1980) places a general duty

	on the Highway Authority to “assert and protect the rights of the public” in their lawful use of the highway. The Code of Practice is not a legal requirement and does not carry the weight of legislation or regulation, but does recommend highway maintenance standards and in practice is used by the courts to determine if the highway authority is complying with good industry practice. It should be noted that if a defect is dangerous and poses a significant risk to the highway user, it will be actioned as a priority. Adopting a robust HSIM that is compliant with the new CoP, while also adopting recognised training and qualifications minimises potential error in the identification and classification of highways defects, and therefore reduces risk to highway users and to Somerset County Council in its statutory role as the Highways Authority.
HR Implications:	A component of meeting the recommendations of the new Code of Practice will be developing a robust competency framework for highways inspections and putting in place the training to support it. To do this the ECI Operations has conducted an assessment of competencies of its existing staff. It has also developed a competency framework based on the requirements arising from the new CoP and the new HSIM. It has also examined national standards for training and the practice for other similar highways authorities. Through this process it has been noted that at present the Council’s highways inspection staff are not required to hold any formal qualification to conduct highways inspections. In the past training to highways inspectors has been supplied in-house The project board reached the conclusion that the requirements of the new Code mean that it is necessary to formalise the training requirements of the role. This was based on two main reasons – that the new Code places more onus on staff to make professional risk-based judgements on safety defects against criteria (investigatory levels) within the HSIM, and that it is the case that the majority of HAs require their highway inspection staff to have completed the LANTRA “Highways Safety Inspectors Training” for Highways Safety Inspectors. As a consequence the LANTRA training has been organised and will be run to be completed before October 2018. All highways inspectors and appropriate managers identified through the competency review will attend this training.
Risk Implications:	Not adopting the Code of Practice and the ‘Risk Based

	Approach' would mean creating substantial risk to the Council. SCC has maintained a strong repudiation rate of 93% of claims against it, which compares well with other HAs, placing the Council in the top 10% nationally. Maintaining that repudiation rate is one of the key purposes for adopting the CoP. However, every year there are still a number of successful claims against SCC. Failure to adopt the CoP may prejudice the statutory defence exercised by the County Council under the Highways Act (1984) and therefore may increase the likelihood of a successful claim against the County Council and increase overall costs above the current level. It should also be noted that the process of assigning the current network to the new hierarchy has meant that a proportion of roads will be inspected less frequently than they are currently. Specifically, 759km of carriageway will be inspected on a less frequent basis, moving from 6 monthly inspections to 9 month inspections. These roads fall within the new Category 7 (Local Access Roads) of the hierarchy. While 759km will be inspected less frequently this still falls within the scope of the practice of other similar HAs in the region as shown at item 1.11 in the background section to this report. It should also be noted that 963km of road will move from annual inspection to 9 monthly inspections, also under Category 7 of the new hierarchy. In addition, due to the need to not increase costs to the service and to prioritise the inspection staffing resource against the requirements arising from the new HSIM, there is no longer capacity within the Highways Safety Inspection team to undertake the night time survey (40 days per year for 2 inspectors) or urban white line survey (30 days per year for 1 inspector). **Likelihood** **2** **Impact** **4** **Risk Score** **8**
Other Implications (including due regard implications):	**<u>Equalities Implications</u>** As the new HSIM contains changes to the hierarchy of the footway, cycleway and carriageway there is a potential impact on service users. This may include those with a visual impairment if footways are not clear and trip hazards are increased. It may also impact on people with limited mobility and their carers. While noting this potential impact the actual changes to the hierarchy, inspection programme, investigatory levels and response times are not anticipated to be of a material nature that would affect protected groups. It should be noted that SCC remains the highway authority for

	Somerset and is required to maintain the network in a safe condition for service users. The HSIM 2018 makes clear reference to these responsibilities. If a safety defect is noted and reported then it will be addressed within a response time that is detailed within the HSIM. It is not the intention of the new HSIM or the adoption "risk based" approach that a reduced service is delivered; rather that it is better targeted. It should also be noted that stronger competency and training requirements for inspection staff is expected to deliver a higher quality of identification of safety risks to all highways service users, which also includes those with disabilities. Somerset County Council allows for multiple means of reporting defects by the public. The majority are identified by SCC staff but a third of defect reports are generated by the public, either by telephone, email or an internet form through the SCC website. Details of the range of reporting mechanisms are contained at Appendix F, within the HSIM's Communication Plan. **Community Safety Implications** There are no identified community safety implications to this decision. **Sustainability Implications** This decision and the adoption of the CoP largely relates to reactive maintenance activities, such as the repair of potholes and other defects on the highway. Capital funded activities, such as major replacement programmes, sit outside the scope of this decision. For that reason there are not considered to be significant sustainability implications associated with the adoption of the CoP. As the HA for Somerset, SCC is required to maintain the highway network in a safe condition for all service users, which, for the purposes of this decision, means repairing identified defects within specified timeframes as detailed in the HSIM. Furthermore, it is SCC's policy to make permanent rather than temporary repairs to highway defects in the first instance. This has been shown to improve longevity of the repair and the overall lifespan of that section of highway. This means a reduced requirement for material to make the repair. It also reduces the number of journeys required to a site by work gangs. **Health and Safety Implications** The new CoP and its adoption into practice in Somerset means a more targeted approach to the delivery of highways maintenance activities. In adopting the CoP a comprehensive review of the hierarchies

	for carriageways, footways and cycleways has been undertaken. This is an assessment of those elements of the highway for their purpose and usage against defined criteria contained within the CoP. This means that the new hierarchies should more accurately reflect the current actual usage of a section of highway, and mean that the inspection regime, and use of resources, are more appropriate and better targeted to the actual risk to road users. **Privacy Implications** Not applicable. **Health and Wellbeing Implications** The adoption of the Code of Practice relates to largely revenue funded activities for the maintenance of the highway network. That being the case there is some potential to affect serviceability and amenability of the highway for service users. It is not anticipated that the adoption of the CoP will have an impact on the condition of the highway network within the short to medium term, as it supports rather than replaces existing practice. In line with national best practice for managing highways networks, the Council has long adopted an asset management approach to managing the highway to deliver optimal asset condition against available budgets. The CoP supports and recommends utilising the asset management approach, and this is referenced in the HIAMS document.
Scrutiny comments / recommendation (if any):	No comments received.

1. Background

1.1. This report sets out the proposal to adopt a 'risk based approach', as recommended in the new Code of Practice for 'Well-managed Highway Infrastructure', which was published by the UK Roads Liaison Group in October 2016. This Code replaces the existing codes for the management of the carriageway, footways, street lighting and structures highways assets.

The new Code of Practice (CoP) contains 36 recommendations (found at Appendix A). October 2018 was set as the date for the recommendations to have been adopted by. These recommendations touch on all areas of the highway maintenance service for local roads – including asset management; asset inventory and systems; performance management; risk management; and environmental, heritage and civil contingencies.

1.2. Recommendation 7 of the CoP addresses adopting a 'risk based approach'. It states "that a risk based approach and a risk management regime should be adopted for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes."

Reflecting that risk based thinking there are no prescriptive or minimum standards in the Code. Adoption of a risk based approach, taking account of the advice in the Code, will enable authorities to establish and implement levels of service appropriate to their circumstances.

1.3. The Council currently spends approximately £1.6m annually on repairs to safety defects. Safety defect repairs incur significant cost and need to be repaired within a specified response time as they have been recorded as a category of defect that may have safety implications for the highway user. The County Council has a claims repudiation rate of 93%, which is in the top 10% of HAs in the UK. This repudiation rate reflects the Council's strong standards on maintaining the safety of the highway network for service users and that those standards are maintained through a robust policy framework, which is then delivered in practice by highways services staff.

The Highways Safety Inspection Manual is the document that details Somerset Councils standards and procedures regards identifying and responding to defects in the highways. This manual sets the standards for highway inspection on the county roads of Somerset and is designed to give front-line guidance on Somerset County Council's policy and procedures relating to Highway Safety Inspections. As the new CoP also replaces the manuals for Structures, Street Lighting and Public Rights of Way, and in part Traffic Signals documents have also been produced to detail the Safety Inspection protocols for those asset types (Appendix H).

As the Highway Authority, Somerset County Council has a statutory duty under the Highways Act 1980 to maintain the highway network, ensuring that the highways are safe and that the public can use them without obstruction.

To ensure a consistent countywide approach a formalised Inspection System that prescribes the frequency of inspections and the method of assessment, recording and actioning of defects has been adopted. The Safety Inspection regime provides the basic information for addressing the first core objective of highway maintenance, network safety.

The inspection system and maintenance regime also assists in providing the evidence for a defence in any case of litigation brought against the County Council where lack of adequate maintenance has been alleged by a third party (Section 58, Highways Act 1980). Section 58 of the Highways Act (1980) states that a statutory defence against third party claims is provided where the Highway Authority can establish that reasonable care has been taken to "secure that the part of the highway to which the action relates" to a level commensurate with the volume of ordinary traffic such that it "was not dangerous to traffic".

Given the level of risk associated with this area of the highways service it is necessary that a new HSIM be adopted that incorporates the risk based approach.

1.4. Within the HSIM Consideration has been given to each type of safety defect, the number, cost of repair and the number of claims made for each

type of defect and it has been identified that there are some types of safety defect where there have historically been no claims for personal injury or damage.

1.5. The adoption of the Code and amendments to the HSIM have significant implications for the management of risk associated with the highway service and have required further work to support them. This means adopting a new highways hierarchy (how the Council categorises its highway network), as well as amendments to the Highways Infrastructure Asset Management Policy (HIAMP), Strategy (HIAMS), and in the future will need to be incorporated within new Asset Management Operational Plans and Lifecycle Plans.

1.6. A review of Somerset County Council's network hierarchy was carried out and all carriageways, footways and cycleways were re-assigned against new hierarchies contained within the CoP. The total number of safety inspections has not changed significantly, with some roads receiving more and some fewer than under the current regime. The rationale behind the changes is included in the new HSIM, which has been reviewed by the Council's insurers. The new hierarchies and their definitions are listed below.

Carriageway Hierarchy

No.	Carriageway Hierarchy	General Description	HSIM Description
1	Motorway	Limited access motorway regulations apply.	Routes for fast moving long distance traffic. Fully grade separated and restrictions on use.
Note: Not applicable to Somerset County Council – Motorway Network is operated and maintained by Highways England			
2	Strategic Route	Principal 'A' Roads between Primary Destinations. (Trunk roads in Somerset i.e. A303 and A36, are operated and maintained by Highways England).	Routes for traffic travelling long distances, often with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are often prohibited. Not always National Speed Limit.
3	Main Distributor	Major Urban Network and Inter-Primary Links. Short - medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network often with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is often restricted at peak times and there are positive measures for pedestrian safety.
4	Secondary Distributor	B and C class roads and some unclassified urban routes carrying bus, HGV and local traffic with frontage access and frequent junctions	In rural areas these roads link the larger villages, industrial sites and commercial sites to the Strategic and Main Distributor Network. In urban areas these roads usually have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings.
5	Link Road	Roads linking between the Main and Secondary Distributor Network with	Roads interconnecting the Secondary Distributor Network with collector roads and Local Access Roads with frontage access and

		frontage access and frequent junctions.	frequent junctions. In rural areas these roads link the smaller villages to distributor roads. In urban areas these for residential, industrial and public transport interconnecting roads, usually with a 30 mph speed limit and pedestrian movements.
6	Local Link Road	Roads connecting Link Roads and other Distributor Roads. Local Link Roads usually have frontage access and junctions onto Local Access Roads.	These roads are residential interconnecting roads, usually with uncontrolled pedestrian movements. They provide well used vehicular links within the local access roads.
7	Local Access Road	Roads serving limited numbers of properties carrying only access traffic.	In rural areas these roads serve small settlements and provide access to a number of properties or land. In urban areas they are often residential streets, cul-de-sacs or small industrial estates.
8	Minor Road	Local roads serving an extremely limited number of properties or agricultural land.	In rural areas these form minor access roads to houses and farms. In urban areas these form minor side roads and vehicular alleyways
9a	Lanes		In rural areas these often narrow metalled roads serving isolated agricultural buildings In urban areas they are often metalled no through lanes serving garages or the rear of properties.
9b	Minor Lanes	Minor lanes and low use tracks that provide access to field entrances only and/or Rights of Way.	In rural areas these are often narrow metalled and are usually only used by 4WD or agricultural vehicles.
10	Green Lanes and Tracks	Lanes and tracks that are unsuitable for vehicular traffic.	Lanes and tracks that are unsuitable for vehicular traffic but may be used as a footpath, part of a Cycle Trail or by horse riders, generally for leisure purposes.
11	Disused Tracks	Unmetalled tracks that are unrecognisable as a road.	Roads that have become unrecognisable as such, having fallen into disuse through regression or agricultural use.

1.7. Footway Hierarchy

No.	Footway Hierarchy	Description
F1	Prestige Walking Zones	Very busy areas of towns and cities with high public space and streetscene contribution.
No Prestige Walking Zones have been identified within Somerset		
F2	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
F3	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
F4	Link Footways	Linking local access footways through urban areas and busy rural footways.
F5	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.
F6	Minor Footways	Little used rural footways serving very limited numbers of properties.

1.8. Cycleway Hierarchy

No.	Cycleway Hierarchy	Description
1	Cycle lane forming part of the	Cycle gaps at road closure point (no entry to traffic but

	carriageway, commonly a strip adjacent to the nearside kerb	allowing cycle access)
2	Cycle Track	A highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.
3	Cycle provision on carriageway, other than a marked cycle lane or marked cycle provision, where cycle flows are significant.	
4	Cycle trails, leisure routes through open spaces.	These are not necessarily the responsibility of the Highway Authority but may be maintained by an authority under other powers or duties.

1.9. Re-assigning the network to new hierarchies has meant some changes in the lengths of road contained within each hierarchy, as shown below:

Carriageway inspections -

	OLD HIERACHY		NEW HIERACHY		Difference between old/new
	m	kms	m	kms	kms
Monthly	1,226,075	1,226	1,262,345	1,262	36
3-Monthly	464,049	464	573,220	573	109
6-Monthly (rural)	1,062,717	1,063	1,620,918	1,621	558
Annual (rural)	2,516,487	2,516	1,837,417	1,837	-679
Totals	5,269,328	5,269	5,293,900	5,294	25

Footway Inspections –

	OLD HIERACHY		NEW HIERACHY		Difference between old/new
	m	kms	m	kms	kms
Monthly	2,638	3	7,366	7	5
3-Monthly	7,213	7	4,874	5	-2
6-Monthly (rural)	122,897	123	120,423	120	-2
Annual (rural)	10,966	11	10,966	11	0
Totals	143,714	144	143,629	144	0

1.10. In assessing its inspection frequencies the Council compared itself to neighbouring, similar authorities in the south west region. That indicated that Somerset County Council's proposed approach in the new HSIM 2018 was similar to that adopted by other authorities as shown below:

Number	Description	Somerset	Wiltshire	Devon	Dorset	Gloucestershire	Cornwall
2	Strategic Route	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
3	Main Distributor	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
4	Secondary Distributor	Monthly	Monthly	Monthly	Monthly	Monthly	6-monthly
5	Link road	3-monthly	3-monthly	6-monthly	3-monthly	3-monthly	6-monthly
6	Local Link Road	6-monthly	3-monthly	6 monthly	Annual	3-monthly	6-monthly
7	Local Access Road	9-monthly	Annual	Annual	Annual	Annual	6-monthly
8	Minor Road	Annual	Annual	Annual	Annual	Annual	6-monthly
9	Lanes	Annual	Annual	2 years	Annual	Annual	6-monthly
10	Green Lanes & Tracks	Annual	Reactive	-	Annual	Annual	Annual
11	Disused Tracks	Reactive	Reactive	-	Reactive	Annual	Reactive

1.11. The Department for Transport recently consulted on the creation of a new 'major road network' tier based on the busiest local roads in the country. DfT is creating a new roads fund using vehicle taxation duty and will seek to work with new sub-national transport bodies to prioritise and agree improvements to this network. The consultation document does not indicate that this new tier in the network will be expected to have an enhanced maintenance regime, but in due course the Council may need to review its network hierarchy to take this new initiative into account. Subject to this decision to accept the adoption of the new CoP, it is the intention to review the new HSIM 2018 on an annual basis.

2. Options considered and reasons for rejecting them

2.1. As the Code of Practice holds the status of guidance rather than law or regulation the Council could choose to not adopt it in September 2018. It is the case that some other authorities have decided to not adopt the CoP. This was considered by Somerset County Council. However, it was noted that all of the authorities that are not adopting the CoP are smaller unitary authorities. All other HAs of a similar network size and character to Somerset County Council are adopting the CoP ahead of October 2018 due to the level of risk associated with the size of the Somerset highway network, with over 6,500 km of roads, and over 70% being unclassified rural roads. Given that scale of network there are substantial risks to not adopting the CoP. There are also potential benefits to adoption of the Code, allowing the Council to better prioritise higher risk sections and assets and utilise resources.

Advice was also sought internally from the Insurance and Risk Team, and externally from the Council's insurers. The clear advice was that the Council should adopt the new CoP, as the old codes will no longer be supported, which would make it difficult for Somerset County Council to defend its position against claims as it would no longer be in line with recommended best practice.

3. Background Papers

3.1. Appendix A - 'Well managed highways infrastructure' Code of Practice (2016)
Appendix B – 'Well-maintained highways' Code of Practice (2005)
Appendix C – Highway Safety Inspection Manual (2018)

Appendix D – HMEP Asset Management Guidance
Appendix E – HIAMS 2018
Appendix F – HIAMP 2018
Appendix G – New Hierarchies for carriageway, footway, cycleways
Appendix H – Safety Inspection documents for Public Rights of Way, Street Lighting, Traffic Signals, and Structures

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UK ROADS LIAISON GROUP

WELL-MANAGED HIGHWAY INFRASTRUCTURE: A CODE OF PRACTICE

OCTOBER 2016

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COMMENTS & FEEDBACK

The UK Roads Liaison Group would welcome any comments and feedback on this Code of Practice, so that it may be reviewed, improved and refined to give the sector the best support possible.

If you wish to make a comment, or report any broken weblinks, please send an email to ukrlg@ciht.org.uk with the header, 'Feedback on Well-managed Highway Infrastructure: A Code of Practice'.

WELL-MANAGED HIGHWAY INFRASTRUCTURE: A CODE OF PRACTICE

CONTENTS

This Code is supported, endorsed and recommended by:

Department for Transport

UK ROADS BOARD

UK BRIDGES BOARD

UK LIGHTING BOARD

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SCOTS

CSS Wales

CSS Cymru

Department for Infrastructure
An Roinn Bonneagair

ADEPT
ASSOCIATION OF DIRECTORS OF ENVIRONMENT, ECONOMY PLANNING AND TRANSPORT

HMEP
Highways Maintenance Efficiency Programme

Full details of Project Sponsors, Steering Group Members and Project Team are provided in the Acknowledgements section.

LOG OF UPDATES

Reference	Action	Date	Topic
Summary of recommendations Recommendation 15 – Competencies and Training	Amended: to match with existing Recommendation 15 within main text	15 March 2017	Competencies and Training
A.4.2.6	Paragraph amended: website removed	15 March 2017	Public Rights of Way

SUMMARY OF RECOMMENDATIONS

RECOMMENDATION 1 – USE OF THE CODE

This Code, in conjunction with the UKRLG Highway Infrastructure Asset Management Guidance, should be used as the starting point against which to develop, review and formally approve highway infrastructure maintenance policy and to identify and formally approve the nature and extent of any variations.

RECOMMENDATION 2 – ASSET MANAGEMENT FRAMEWORK

An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented. (HIAMG Recommendation 1)

RECOMMENDATION 3 – ASSET MANAGEMENT POLICY AND STRATEGY

An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision. (HIAMG Recommendation 3)

RECOMMENDATION 4 – ENGAGING AND COMMUNICATING WITH STAKEHOLDERS

Relevant information should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance. (Taken from HIAMG Recommendation 2)

RECOMMENDATION 5 – CONSISTENCY WITH OTHER AUTHORITIES

To ensure that users' reasonable expectations for consistency are taken into account, the approach of other local and strategic highway and transport authorities, especially those with integrated or adjoining networks, should be considered when developing highway infrastructure maintenance policies.

RECOMMENDATION 6 – AN INTEGRATED NETWORK

The highway network should be considered as an integrated set of assets when developing highway infrastructure maintenance policies

RECOMMENDATION 7 – RISK BASED APPROACH

A risk based approach should be adopted for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.

RECOMMENDATION 8 – INFORMATION MANAGEMENT

Information to support a risk based approach to highway maintenance should be collected, managed and made available in ways that are sustainable, secure, meet any statutory obligations, and, where appropriate, facilitate transparency for network users.

RECOMMENDATION 9 – NETWORK INVENTORY

A detailed inventory or register of highway assets, together with information on their scale, nature and use, should be maintained. The nature and extent of inventory collected should be fit for purpose and meet business needs. Where data or information held is considered sensitive, this should be managed in a security-minded way.

RECOMMENDATION 10 – ASSET DATA MANAGEMENT

The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data.

(HIAMG Recommendation 5)

RECOMMENDATION 11 – ASSET MANAGEMENT SYSTEMS

Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders. **(HIAMG Recommendation 12)**

RECOMMENDATION 12 – NETWORK HIERARCHY

A network hierarchy, or a series of related hierarchies, should be defined which include all elements of the highway network, including carriageways, footways, cycle routes, structures, lighting and rights of way. The hierarchy should take into account current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals and similar, as well as the desirability of continuity and of a consistent approach for walking and cycling.

RECOMMENDATION 13 – WHOLE LIFE / DESIGNING FOR MAINTENANCE

Authorities should take whole life costs into consideration when assessing options for maintenance, new and improved highway schemes. The future maintenance costs of such new infrastructure are therefore a prime consideration.

RECOMMENDATION 14 – RISK MANAGEMENT

The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included as should appropriate mitigation measures.

(HIAMG Recommendation 11)

Amended 15 March 2017:

RECOMMENDATION 15 – COMPETENCIES AND TRAINING

The appropriate competencies for all staff should be identified. Training should be provided where necessary for directly employed staff, and contractors should be required to provide evidence of the appropriate competencies of their staff.

RECOMMENDATION 16 – INSPECTIONS

A risk-based inspection regime, including regular safety inspections, should be developed and implemented for all highway assets.

RECOMMENDATION 17 – CONDITION SURVEYS

An asset condition survey regime, based on asset management needs and any statutory reporting requirements, should be developed and implemented.

RECOMMENDATION 18 – MANAGEMENT SYSTEMS AND CLAIMS

Records should be kept of all activities, particularly safety and other inspections, including the time and nature of any response, and procedures established to ensure efficient management of claims whilst protecting the authority from unjustified or fraudulent claims.

RECOMMENDATION 19 – DEFECT REPAIR

A risk-based defect repair regime should be developed and implemented for all highway assets.

RECOMMENDATION 20 – RESILIENT NETWORK

Within the highway network hierarchy a 'Resilient Network' should be identified to which priority is given through maintenance and other measures to maintain economic activity and access to key services during extreme weather.

RECOMMENDATION 21 – CLIMATE CHANGE ADAPTATION

The effects of extreme weather events on highway infrastructure assets should be risk assessed and ways to mitigate the impacts of the highest risks identified.

RECOMMENDATION 22 – DRAINAGE MAINTENANCE

Drainage assets should be maintained in good working order to reduce the threat and scale of flooding. Particular attention should be paid to locations known to be prone to problems, so that drainage systems operate close to their designed efficiency.

RECOMMENDATION 23 – CIVIL EMERGENCIES AND SEVERE WEATHER EMERGENCIES PLANS

The role and responsibilities of the Highway Authority in responding to civil emergencies should be defined in the authority's Civil Emergency Plan. A Severe Weather Emergencies Plan should also be established in consultation with others, including emergency services, relevant authorities and agencies. It should include operational, resource and contingency plans and procedures to enable timely and effective action by the Highway Authority to mitigate the effects of severe weather on the network and provide the best practicable service in the circumstances.

RECOMMENDATION 24 – COMMUNICATIONS

Severe Weather and Civil Emergencies Plans should incorporate a communications plan to ensure that information including weather and flood forecasts are received through agreed channels and that information is disseminated to highway users through a range of media.

RECOMMENDATION 25 – LEARNING FROM EVENTS

Severe Weather and Civil Emergencies Plans should be regularly rehearsed and refined as necessary. The effectiveness of the Plans should be reviewed after actual events and the learning used to develop them as necessary.

RECOMMENDATION 26 – PERFORMANCE MANAGEMENT FRAMEWORK

A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy. (HIAMG Recommendation 4)

RECOMMENDATION 27 – PERFORMANCE MONITORING

The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken. (HIAMG Recommendation 13)

RECOMMENDATION 28 – FINANCIAL PLANS

Financial plans should be prepared for all highway maintenance activities covering short, medium and long term time horizons.

RECOMMENDATION 29 – LIFECYCLE PLANS

Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long term investment. (HIAMG Recommendation 6)

RECOMMENDATION 30 – CROSS ASSET PRIORITIES

In developing priorities and programmes, consideration should be given to prioritising across asset groups as well as within them.

RECOMMENDATION 31 – WORKS PROGRAMMING

A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly. (HIAMG Recommendation 7)

RECOMMENDATION 32 – CARBON

The impact of highway infrastructure maintenance activities in terms of whole life carbon costs should be taken into account when determining appropriate interventions, materials and treatments.

RECOMMENDATION 33 – CONSISTENCY WITH CHARACTER

Determination of materials, products and treatments for the highway network should take into account the character of the area as well as factoring in whole life costing and sustainability. The materials, products and treatments used for highway maintenance should meet requirements for effectiveness and durability.

RECOMMENDATION 34 – HERITAGE ASSETS

Authorities should identify a schedule of listed structures, ancient monuments and other relevant assets and work with relevant organisations to ensure that maintenance reflects planning requirements.

RECOMMENDATION 35 – ENVIRONMENTAL IMPACT, NATURE CONSERVATION AND BIODIVERSITY

Materials, products and treatments for highway infrastructure maintenance should be appraised for environmental impact and for wider issues of sustainability. Highway verges, trees and landscaped areas should be managed with regard to their nature conservation value and biodiversity principles as well as whole-life costing, highway safety and serviceability.

RECOMMENDATION 36 – MINIMISING CLUTTER

Opportunities to simplify signs and other street furniture and to remove redundant items should be taken into account when planning highway infrastructure maintenance activities.

WELL-MANAGED HIGHWAY INFRASTRUCTURE

PART A. OVERARCHING PRINCIPLES

SECTION A.1. INTRODUCTION

A.1.1. PRINCIPLES AND CONTEXT OF THIS CODE

A.1.1.1. This document is the first edition of 'Well-managed Highway Infrastructure'. It replaces Well-maintained Highways, Management of Highway Structures and Well-lit Highways.

A.1.1.2. The Code is intended to apply throughout the United Kingdom. Production has been overseen by the UK Roads Liaison Group (UKRLG) and its Roads, Bridges and Lighting Boards. It is recognised that there are differences in approach to some matters in England, Scotland, Wales and Northern Ireland, which are not always detailed in the Code, but general principles are set out.

A.1.1.3. The Code is designed to promote the adoption of an integrated asset management approach to highway infrastructure based on the establishment of local levels of service through risk-based assessment. It also includes guidance on some additional topics.

A.1.1.4. The Code is produced as a single document to emphasise the integrated approach to highway network infrastructure assets. Overarching matters are dealt with in Part A and additional asset specific matters in Parts B, C and D.

A.1.1.5. Delivery of a safe and well maintained highway network relies on good evidence and sound engineering judgement. The intention of this Code is that Authorities will develop their own levels of service and the Code therefore provides guidance for authorities to consider when developing their approach in accordance with local needs, priorities and affordability.

A.1.1.6. Changing from reliance on specific guidance and recommendations in the previous Codes to a risk-based approach determined by each Highway Authority will involve appropriate analysis, development and gaining of approval through authorities' executive processes. Some authorities may be able to implement a full risk-based approach immediately. Others may require more time and may choose to continue with existing practices for an interim period, in which case the previous Codes will remain valid for them until the earlier of when they have implemented their approach or a period of two years from the date of publication of this Code.

A.1.1.7. In the interest of route consistency for highway users, all authorities, including strategic, local, combined and those in alliances, are encouraged to collaborate in determining levels of service, especially across boundaries with neighbours responsible for strategic and local highway networks. Boundaries are not usually apparent to users and authorities should be aware of the possibility of distinct changes to levels of service through a risk-based local approach, both across authority boundaries and between roads with different character within an authority.

A.1.1.8. All Highway Authorities should consider adoption of new and emerging technologies as part of their highway service. This should include consideration of new ideas, methods of working and innovation in order to drive greater efficiency.

A.1.1.9. References to third party documents and web sites are included throughout to provide further information and support on various topics, but are not to be seen as part of the Code of Practice. References are to the version current at the time of this Code's publication, unless otherwise indicated.

A.1.2. STATUS OF THE CODE

A.1.2.1. This Code of Practice is not statutory but provides Highway Authorities with guidance on highways management. Adoption of the recommendations within this document is a matter for each Highway Authority, based on their own legal interpretation, risks, needs and priorities.

A.1.3. GUIDANCE HIERARCHY

A.1.3.1. The UKRLG guidance hierarchy is shown in Figure 1. This diagram is updated from the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG) to reflect this single Code replacing Well-maintained Highways, Well-lit Highways and Management of Highway Structures. It is intended that Part A of this Code should also apply to Management of Electronic Traffic Equipment.

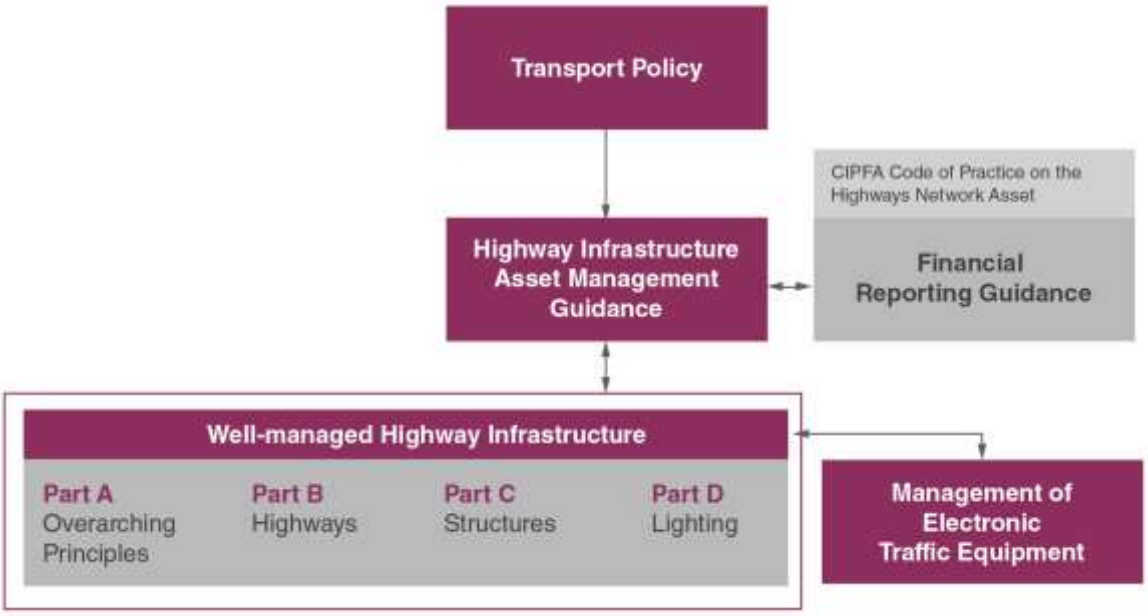

Figure 1 – Hierarchy of Guidance

A.1.3.2. The HIAMG sets out the approach to asset management. This Code refers extensively to the HIAMG and is intended to be useful additional guidance. Topics covered in the HIAMG are referred to, but not repeated in this Code. Nothing in this Code supersedes the HIAMG, unless specifically stated.

A.1.3.3. The HIAMG sets out the activities that support asset management:

- the context of asset management;
- the asset management planning process; and
- enablers to support implementation of asset management.

A.1.3.4. In Scotland and Wales, the principles and recommendations of the HIAMG are accepted, however, CSS Wales and the Society of Chief Officers of Transportation in Scotland (CSSW/SCOTS) have jointly developed practical Asset Management Guidance for use in Scotland and Wales. Topics covered in the CSSW/SCOTS Asset Management Guidance are referred to, but not repeated in this Code. This Code is not intended to supersede the CSSW/SCOTS Highway Asset Management Guidance, unless specifically stated.

A.1.4. TERMINOLOGY

A.1.4.1. For the purposes of this Code publicly understood definitions are used for the major parts of the highway. There are also differences in definitions across the various legal systems in the UK that would be inappropriate to repeat at length. In such cases the English term is used. The main relevant definitions are:

- The term ‘highway’ is used to include ‘road’ and ‘street’.
- The term ‘authority’ is used to include all forms of national and local authorities having responsibility for highway infrastructure management.
- The term ‘carriageway’ is used for facilities used by motor vehicles.
- The term ‘footway’ is used for that part of a highway over which the public have a right of way on foot only, e.g. segregated surfaced paths used by pedestrians. ‘Footway’ includes the commonly understood use of the term ‘pavement’. The term ‘remote footway’ is used where a footway is not immediately adjoining a carriageway. The term ‘housing footway’ is used for those footways serving predominantly housing areas which may be unadopted as public highways but have established public rights of access and may be maintained separately by the housing authority. Users will make no distinction and will consider the footway network as a whole.
- The term ‘footpath’ is used for the majority of Public Rights of Way (PROW).
- The term ‘cycle route’ is used as the collective term for facilities used by cyclists. These include cycle lanes on carriageways, cycle tracks adjacent to or away from carriageways, on carriageway provision with cycle symbols and shared use facilities.

A.1.4.2. Some supporting documents use industry terms. These are not used in the Code, but are referenced for completeness. The main items are:

- The industry term ‘running surface’ is used as the collective term for all hardened surfaces within the highway, including carriageways, footways and cycle routes.
- The industry term ‘pavement’ is used for the construction of running surfaces, particularly carriageways.

A.1.5. RELATED ACTIVITIES

A.1.5.1. There are a number of related functions that are not dealt with in detail by this Code, but which could affect and be affected by highway infrastructure maintenance activity. They have the potential for value to be added through co-operation and co-ordination. Such functions include:

- network management, including implementation of the traffic management duty, or equivalent;
- highway development control, including securing funds associated with developer obligations;
- integrated street management, including cleansing; and
- town centre management, including use of public space.

A.1.6. MAINTENANCE PRACTICE

A.1.6.1. Maintenance types contribute in varying degrees to the core objectives of safety, customer service, serviceability and sustainability. Levels of service and delivery arrangements should be established having regard to these objectives and be focussed on outcomes, rather than on inputs mainly related to maintenance type.

A.1.6.2. The main types of maintenance are as follows:

- reactive – responding to inspections, complaints or emergencies;
- routine – regular schedule, generally for lamp replacement, patching, cleaning, grass cutting and landscape maintenance, cleaning bridge drainage;
- programmed – flexibly planned schemes primarily of reconditioning or structural renewal;
- regulatory – inspecting and regulating the activities of others;
- Winter Service; and
- resilience and emergencies.

A.1.7. LIMITATIONS TO THE CODE OF PRACTICE

A.1.7.1. The Code is not intended as a detailed technical reference for all aspects of highway infrastructure maintenance or to repeat technical guidance available elsewhere. Areas referred to but not dealt with in detail include:

- highway improvement and new construction;
- network management, including management of utilities;
- management and maintenance of Public Rights of Way; and
- management of street cleansing.

A.1.8. FURTHER ADVICE AND GUIDANCE

A.1.8.1. The Highways Maintenance Efficiency Programme (HMEP) has developed a wide range of guidance on topics from asset management to procurement. This is available from the HMEP homepage or via the weblinks below.

Asset Management

- Highway Infrastructure Asset Management Guidance
- Asset Management E-learning Toolkit
- Guidance on the Management of Highways Drainage Assets
- Lifecycle Planning Toolkit, incorporating default carriageway deterioration models
- The Potholes Review

Collaboration & Change

- Maximising Client and Provider Collaboration in Highways Maintenance Services
- Local Highway Authorities Collaborative Alliance Toolkit
- Creating the Culture to Deliver Toolkit
- A LEAN Toolkit for Highway Services
- Shared Services Toolkit

Procurement, Contracting and Standardisation

- The Standard Form of Contract for Highways Maintenance Services
- Guidance on a Standard Specification and Standard Details for Local Highway Maintenance
- Procurement Route Choices Toolkit for Highways Maintenance Services
- Supply Chain Collaboration Toolkit
- Collaborative Contracting Strategy

A.1.8.2. Transport Scotland and SCOTS have developed a range of guidance on collaboration and service improvement:

- www.improvementservice.org.uk/roads-collaboration-programme.html
- https://khub.net/web/roads-collaboration-programme
- www.transportscotland.gov.uk
- http://www.improvementservice.org.uk/benchmarking/

- https://khub.net/web/scots-society-of-chief-officers-of-transportation-in-scotland-

A.1.8.3. The UKRLG carried out a study into the provision of design and maintenance guidance for Local Highway Authorities. Through consultation with local authority practitioners, the study identified examples of relevant good practice documents that have been produced around the UK. 48 examples of good practice documents collated from local authorities from across the UK can be found at the CIHT's Transport Advice Portal.

A.1.8.4. The same study identified gaps in guidance and produced new guidance documents to address these gaps:

- Whole Life Costing for Option Appraisal of Maintenance Schemes for Local Authorities
- Provision of Road Restraint Systems on Local Highway Authority Roads
- Departures from Standards: Procedures for Local Highway Authorities

A.1.8.5. The Potholes Review, Prevention and a Better Cure makes 17 recommendations that will, if implemented, provide an improvement in highway maintenance and reduce the number of potholes occurring. There are three key messages: prevention is better than cure; right first time for better repairs; clarity for the public.

A.1.8.6. Guidance on implementing disabled persons parking places in Scotland has been produced by SCOTS.

A.1.8.7. Planning for Walking has been published by the Chartered Institution of Highways and Transportation.

A.1.8.8. Street Design for All, 2014, provides an update to advice and good practice.

A.1.8.9. Guidance on design for cycling may be found in the Department for Transport LTN2/08 Cycle infrastructure design (2008), the Welsh Government's Active Travel Design Guidance (2014), and Transport for London's "London Cycling Design Standards" (2014) which includes specific advice on designing for cyclists at roadworks.

A.1.8.10. In 2016, Sustrans published their Greenway management handbook, which provides guidance on how to manage traffic free cycle and walking routes or 'greenways' for the benefit of both people and wildlife.

A.1.8.11. Guidelines for Motorcycling has been published by the Institute of Highway Engineers.

A.1.8.12. SCOTS has published guidance on the management of tributes placed at the scene of road deaths.

SECTION A.2.
POLICY FRAMEWORK

A.2.1. USING THE CODE IN THE DEVELOPMENT OF ASSET MANAGEMENT POLICY

A.2.1.1. Asset management policy is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance Document, Part B. This document should be referred to and the advice below considered supplementary.

A.2.1.2. Asset management is widely accepted as a means to deliver a more efficient and effective approach to management of highway infrastructure assets through longer term planning and ensuring that levels of service are defined and achievable for available budgets. It supports making the case for funding, for better communication with stakeholders, and facilitates a greater understanding of the contribution highway infrastructure assets make to economic growth and social well-being of local communities.

A.2.1.3. Authorities have certain legal obligations with which they need to comply, and which may be the subject of claims for loss or personal injury or of legal action by those seeking to establish non-compliance by authorities. It is recognised that in such cases, the Code may be considered to be a relevant consideration. Where authorities elect in the light of local circumstances to adopt policies or approaches different from those suggested by the Code, it is essential that they are identified, together with the reasoning for such differences, be approved by the authority's Executive and published.

RECOMMENDATION 1 – USE OF THE CODE
This Code, in conjunction with the UKRLG Highway Infrastructure Asset Management Guidance, should be used as the starting point against which to develop, review and formally approve highway infrastructure maintenance policy and to identify and formally approve the nature and extent of any variations.

RECOMMENDATION 2 – ASSET MANAGEMENT FRAMEWORK
An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented. (HIAMG Recommendation 1)

RECOMMENDATION 3 – ASSET MANAGEMENT POLICY AND STRATEGY
An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision. (HIAMG Recommendation 3)

A.2.1.4. Authorities should also be conscious of HIAMG Recommendations 8, 9 and 14 (Leadership and Commitment, Making the Case for Asset Management and Benchmarking) in respect to asset management.

A.2.2. STAKEHOLDERS AND COMMUNICATION

A.2.2.1. Stakeholder expectations and the importance of good communications and liaison are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance Document, Part A. This document should be referred to and the advice below considered supplementary.

A.2.2.2. Arrangements should be established to facilitate the involvement of all authority elected members, employees, contractors and agents in building commitment and pride in the highway maintenance service and maximising individual contributions to the process of continuous improvement.

A.2.2.3. Many aspects of the maintenance process are highly technical and may be difficult to explain, but it is important that legal duties and obligations are understood. Users' concerns may tend to focus on the short term, more visible deficiencies in the network rather than the underlying less apparent problems. CIHT has published a document Involving the Public and Other Stakeholders which provides guidance on this topic.

RECOMMENDATION 4 – ENGAGING AND COMMUNICATING WITH STAKEHOLDERS
Relevant information should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance.
(Taken from HIAMG Recommendation 2)

A.2.3. OTHER AUTHORITIES

A.2.3.1. Consultation will be necessary with other local, combined and strategic Highway Authorities, especially adjoining authorities, as part of the duty to manage the network and to ensure that users' reasonable requirements for consistency of service and integrated programming of works are considered and taken into account.

A.2.3.2. Responsibility for assets on authority boundaries, e.g. river bridges, should be agreed with adjoining authorities.

A.2.3.3. It may be appropriate for authorities to enter into agreements with adjacent or other authorities for certain aspects of service to be carried out by one authority on behalf of the other. Guidance on provision of shared services is provided by HMEP.

A.2.3.4. Consultation and coordination will also be required with utilities, public transport operators and other key stakeholders.

A.2.3.5. Consultation and agreements should be recorded.

RECOMMENDATION 5 – CONSISTENCY WITH OTHER AUTHORITIES
To ensure that users' reasonable expectations for consistency are taken into account, the approach of other local and strategic highway and transport authorities, especially those with integrated or adjoining networks, should be considered when developing highway infrastructure maintenance policies.

A.2.4. INTEGRATED NETWORK MANAGEMENT

A.2.4.1. Highway infrastructure management policy needs to be developed integrally with the overall management of the network. Transport users, whatever their mode, do not distinguish between many categories of road, or types of work, whether maintenance or improvement. It is irrelevant to them who is undertaking the work, whether local authority, contractor or utility. They expect the network to be managed and maintained holistically to provide consistent and appropriate levels of service and the ability to change modes as easily as possible.

A.2.4.2. Planning for highway maintenance should take into account and add value to other elements of local transport policy and strategy wherever possible, including supporting economic growth, regeneration, public health, resilience, emergency services, walking and cycling, bus and freight partnerships, casualty reduction and prevention, travel planning, safer routes to school, and routes to stations and other interchange facilities.

A.2.4.3. Authorities should have regard to the totality of highway network management functions, including asset management, traffic management, parking and other regulatory functions.

A.2.4.4. Authorities should consider the needs of all road users, particularly vulnerable users, in planning and managing the network. This has special implications for maintenance, as when schemes are planned and programmed there may be an opportunity to incorporate added value to the safety, priority, integrity or quality of:

- footways and crossing facilities (particularly for vulnerable users);
- cycle routes and crossing facilities;
- riders of motorcycles;
- equestrians and crossing facilities;
- facilities for public transport and users (and also to influence reliability); and
- facilities for freight movement.

A.2.4.5. Planning and budgeting for highway maintenance should also recognise that integrated transport, especially in urban areas, is likely to result in a more complex and diverse streetscene. Good design may limit the scale of more complex signage, but a wider range of more expensive signs, road markings, coloured surfacing and other materials may be necessary for management. When considering these features, authorities should take into account the potential cost of keeping this more complex arrangement in good order.

A.2.4.6. Policies, priorities and programmes for highway maintenance should have particular regard to the principles of sustainability.

A.2.4.7. When determining the balance between structural, preventative and reactive maintenance, the principle that “prevention is better than cure” should be adopted.

A.2.4.8. In areas where public transport is not regulated, routes of services may be less predictable and vary more frequently. Close liaison with operators will be necessary if works are to be co-ordinated so as to minimise disruption to public transport users. Other forms of public transport, including light rail and guided bus schemes, bring their own challenges for maintenance, especially Winter Service.

A.2.4.9. Manual for Streets, 2007, provides guidance on effective street design where appropriate, for a range of practitioners involved in the planning, design, provision and approval of new residential streets and modifications to existing ones. Manual for Streets 2, 2010 explains how the principles can be applied more widely. In Scotland, the relevant document is Designing Streets.

A.2.4.10. It may be appropriate for authorities to develop a series of related policies for specific assets or for specific activities, e.g.:

- highways;
- footways;
- cycle routes;
- structures;
- lighting;
- trees;
- designing for maintenance;
- skidding resistance; and
- sustainability.

RECOMMENDATION 6 – AN INTEGRATED NETWORK
The highway network should be considered as an integrated set of assets when developing highway infrastructure maintenance policies.

A.2.5. RISK BASED APPROACH

A.2.5.1. Authorities should adopt a risk-based approach and a risk management regime for all aspects of highway maintenance policy. This will include investment, setting levels of service, operations, including safety and condition inspections, and determining repair priorities and replacement programmes. It should be undertaken against a clear and comprehensive understanding and assessment of the likelihood of asset failure and the consequences involved.

A.2.5.2. There are no prescriptive or minimum standards in this Code. Adoption of a risk based approach, taking account of the advice in the Code, will enable authorities to establish and implement levels of service appropriate to their circumstances.

RECOMMENDATION 7 – RISK BASED APPROACH
A risk based approach should be adopted for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.

A.2.6. SECURITY MINDED APPROACH

A.2.6.1. Authorities should adopt a security-minded approach to their assets, information and people through understanding and routine application of appropriate and proportionate security measures to deter and/or disrupt hostile, malicious, fraudulent and criminal behaviours or activities. To support such an approach, the Centre for the Protection of National Infrastructure has published Passport to Good Security.

A.2.7. INFORMATION MANAGEMENT

A.2.7.1. Information is fundamental to the development of infrastructure maintenance policy and to the ability to communicate effectively with stakeholders. Effective and sustainable management of that information, which is likely to arise from many sources, and the distribution of that information to stakeholders and network users is crucial.

A.2.7.2. A risk-based approach to highway maintenance needs to be founded on information that is sufficiently robust to enable decisions on levels of service to be taken and reviewed over time.

A.2.7.3. Records of construction and maintenance treatments should be kept to inform lifecycle plans. Information on mobile electronic devices used by maintenance practitioners in the field can support their decision making and reporting of asset condition and defects in real time.

A.2.7.4. Authorities should be aware of the need to identify and protect information which could impact on the safety and security of individuals, sensitive assets and systems and the benefits which the sensitive asset or system exist to deliver, through the adoption of a security-minded approach to the handling and management of data and information.

A.2.7.5. From time to time, governments may require specific information to be reported, either to themselves or publicly, e.g. on authorities' websites, and authorities' information systems should facilitate this.

A.2.7.6. The Building Information Modelling (BIM) approach, sometimes known as Better Information Management, is being introduced into the construction industry. It involves supply chain collaboration in the creation and use of intelligent three-dimensional models and accompanying data and information to drive efficiency, aid communication and facilitate better management of assets over their lifecycle. The Department for Transport and UKRLG have produced BIM Guidance for Infrastructure Bodies.

A.2.7.7. The British Standards Institution has published a series of Standards: BS 1192:2007, PAS 1192-2:2013, PAS 1192-3:2014, BS 1192-4:2014, PAS 1192-5:2015 and BS 8536-1:2015.

RECOMMENDATION 8 – INFORMATION MANAGEMENT
Information to support a risk-based approach to highway maintenance should be collected, managed and made available in ways that are sustainable, secure, meet any statutory obligations, and, where appropriate, facilitate transparency for network users.

SECTION A.3.
LEGAL FRAMEWORK

A.3.1. GENERAL AND SPECIFIC REQUIREMENTS

A.3.1.1. General duties and powers are dealt with in this Part of the Code. Duties and powers related to specific assets, e.g. highways, structures and lighting, are dealt with in the relevant parts of the Code.

A.3.1.2. Much of highway infrastructure maintenance activity is based upon statutory powers and duties contained in legislation and precedents developed over time as a result of claims and legal proceedings. Some important aspects of these statutory powers and duties are noted in this section. The UK Highway Liability Joint Task Group has developed guidance on Highway Risk and Liability Claims.

A.3.1.3. All those involved in highway maintenance, including members of authorities, should have a clear understanding of their duties and powers, their implications, and the procedures used to manage and mitigate risk.

A.3.1.4. Specific legislation mentioned is generally that for England. Scotland, Wales and Northern Ireland often have equivalent or similar legislation and the phrase 'or equivalent' following mention of an Act of Parliament is intended to refer to these. Nothing in or omitted from this Code can, of course, supersede the law.

A.3.2. GENERAL REQUIREMENTS

Duty of Care

A.3.2.1. There are many specific duties and powers, but even in the absence of specific duties and powers, authorities have a general duty of care to users and the community to maintain the highway in a condition fit for its purpose. This principle should be applied to all decisions affecting policy, priority, programming and implementation of highway maintenance works.

Health and Safety

A.3.2.2. The Health and Safety at Work Act 1974, or equivalent, together with the Construction (Design and Management) Regulations 2015, or equivalent, provide for a requirement for highway, traffic and street authorities to carry out work in a safe manner and establish arrangements for the management of construction works.

A.3.2.3. All those involved in the planning, management and delivery of highway infrastructure maintenance services should receive training and regular updating, as necessary, in health and safety requirements of the service.

Localism

A.3.2.4. The Localism Act 2011 predominantly applies to England and confers on local authorities the power, with certain limitations, to do anything that individuals generally may do for the benefit of the authority, its area, or persons resident or present in its area. It also introduced measures such as the community right to challenge.

Best Value

A.3.2.5. The Local Government Act 2000, or equivalent, provides for the general duty of best value and aims to improve local services in terms of both cost and quality.

Duties and Powers for Highway Maintenance

A.3.2.6. There are a number of specific pieces of legislation that provide the basis for duties and powers relating to highway maintenance.

Main Highways Provisions

A.3.2.7. The Highways Act 1980, or equivalent, sets out the main duties and powers of Highway Authorities. In particular it imposes a duty to maintain highways maintainable at public expense. Almost all claims against authorities relating to highway functions arise from alleged breach of this section.

A.3.2.8. The Act provides a defence against action relating to alleged failure to maintain on grounds that the authority has taken such care as in all the circumstances was reasonably required to secure that the part of the highway in question was not dangerous for traffic. A key difference in Scotland is that there is no equivalent defence against alleged failure to maintain, although case law will have established some basis for this.

A.3.2.9. Where an authority exercises a power to install new infrastructure, e.g. lighting, safety barriers, etc, it will become responsible for its maintenance.

Winter Service

A.3.2.10. The Highways Act 1980, or equivalent, and the Railways and Transport Safety Act 2003 in England set out duties for Winter Service.

Traffic Management

A.3.2.11. The Traffic Management Act 2004, or equivalent, sets out a number of provisions including Highways England Traffic Officers, local authority duty for network management, permits for work on the highway, increased control of utility works, and increased civil enforcement of traffic offences.

A.3.2.12. The Act establishes a duty for local traffic authorities 'to manage their road network with a view to achieving, so far as may be reasonably practicable having regard to their other obligations and policies, to secure the expeditious movement of traffic on the authority's road network, and to facilitate the expeditious movement of traffic on road networks for which another authority is the traffic authority'. The term 'traffic' specifically includes pedestrians, so the duty requires the authority to consider all road users.

A.3.2.13. The duty is not limited to the actions of the department responsible for traffic within an authority, so authorities will need to consider the duty when exercising their powers under any legislation where this impacts on the operation of the road network. Authorities are required to appoint a Traffic Manager to administer the network management duty. Authorities are expected to operate the Act even-handedly, applying conditions and enforcement activity equally to their own and utilities works.

Utility Companies

A.3.2.14. Various companies and agencies have statutory powers and obligations to work in the highway. Their activity in the highway is regulated by the New Roads and Streetworks Act 1991, or equivalent, and by the Traffic Management Act 2004, or equivalent.

Public Rights Of Way

A.3.2.15. Responsibilities for Public Rights of Way (PROW) (Countryside and Rights of Way Act 2000 in England) vary considerably throughout the UK, but in general authorities are required to maintain records and ensure that ways are adequately signposted, maintained and free from obstruction. In urban areas PROW can present wider problems relating to issues such as crime. Certain legislation can facilitate closure of rights of way where deemed appropriate.

Related Powers and Duties

A.3.2.16. Duties and powers contained in the Highways Act, or equivalent, sit within a much broader legislative framework specifying a wider range of duties and powers. These include, or equivalents:

- New Roads and Street Works Act 1991;
- Road Traffic Regulation Act 1984;
- Traffic Signs Regulations and General Directions 2016;
- Road Traffic Act 1988 – provides a duty for Highway Authorities to promote road safety, including a requirement to undertake accident studies and take such measures as appear appropriate to prevent such accidents occurring;
- Road Traffic Reduction Act 1997;
- Flood and Water Management Act 2012 or equivalent Flood Risk Management (Scotland) Act 2009 – aims to reduce the flood risk associated with extreme weather. Provides for better, more comprehensive management of flood risk for people, homes and businesses;
- Transport Act 2000 – designation of quiet lanes or a home zones;
- Active Travel Act (Wales) 2013 – legislates for the provision of routes designed for cycling and walking;
- Wildlife and Countryside Act 1981 – environmental and countryside issues with which highways operations must comply;
- Environmental Protection Act 1990 – provides the statutory basis for other environmental issues, in particular waste management, with which highway maintenance operations must comply; and
- Clean Neighbourhoods and Environment Act 2005.

A.3.2.17. There is also a framework of legislation not specifically related to highways functions, but dealing with wider community issues with which the services are involved. These include, or equivalents:

- Equality Act 2010;
- Criminal Justice and Public Order Act 1994;
- Human Rights Act 1998;
- Freedom of Information Act 2000;
- Local Government Acts; and
- Civil Contingencies Act 2004.

SECTION A.4. STRATEGY AND HIERARCHY

A.4.1. HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT STRATEGY

A.4.1.1. Development of a highway infrastructure asset management strategy is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

A.4.1.2. The asset management strategy sets out how the asset management policy is to be achieved, how long term objectives for managing the highway are to be met and how the strategy is to be implemented, including setting targets and measuring performance. It sets clear direction, provides links with other relevant documents, such as corporate plans, and sets out the benefits of investing in the highway infrastructure. It should be a clear, public-facing message.

A.4.1.3. The core objectives for maintenance could be considered to be:

Network Safety	complying with statutory obligations; and
	meeting users' needs for safety.
Customer Service	user experience/satisfaction;
	communication;
	information; and
	levels of service.
Network Serviceability	ensuring availability;
	achieving integrity;
	maintaining reliability;
	resilience; and
	managing condition.

Network Sustainability	minimising cost over time;
	maximising value to the community; and
	maximising environmental contribution.

A.4.1.4. The Customer Service objective will apply to the highway service overall, as users may not be able easily to distinguish between maintenance and improvement works. Management of highway infrastructure assets affects Customer Service through a variety of factors within each of Network Safety, Network Serviceability and Network Sustainability.

A.4.1.5. Each of the Network objectives can be affected to a different extent by several different highway maintenance operations. For example:

- network availability can be affected by weight restricted structures, resilience of improvement and maintenance works, Winter Service, regulatory activity, deficiency of drainage systems and by planning and programming of maintenance schemes;
- network integrity can be assisted by consistent, joined up and effective permanent and temporary signing, by ensuring consistent standards of maintenance on cycle routes between segregated and non-segregated sections, and providing consistent accessibility standards, for example through the use of dropped kerbs on key pedestrian routes, especially those used by disabled people, older people, or those using prams; and
- environmental contributions can be made through verge management plans, maintaining local distinctiveness through use of local materials, reducing sign clutter, use of recycled products, noise-reducing surfacing, energy efficient light sources, and profiled street lighting levels.

A.4.1.6. Every aspect of maintenance for each element of the highway infrastructure has the potential to contribute to some extent to a number of the above objectives. For example, the contribution to the safety objective is affected by:

- the condition of the asset;
- the resilience of the asset;
- the time for attending to defects recorded in inspections and reported by users;
- the quality of management and service delivery;
- the effectiveness of materials and treatments used; and
- the effective co-ordination of programmes with works affecting the highway by utilities, developers or other local authorities.

A.4.1.7. Particular aspects of highway maintenance may have wider impacts than the immediate local implementation issues. For example, the need to address carriageway defects could compromise, at least temporarily, public transport convenience and reliability. Work at night to minimise disruption may have noise and cost implications, and bridge works may require lengthy diversions. Arrangements should be put in place to identify the potential for such conflicts at an early stage, to resolve them, and to mitigate the effects as effectively as possible.

A.4.1.8. Users will expect reasonable continuity of safety and serviceability with neighbouring Highway Authorities, particularly at the higher end of the network hierarchy and with services such as Winter Service, but also at the lower levels of hierarchy where safety is a prime consideration. In such cases, serious discontinuities in levels of service should be avoided through consultation and agreement. The Code of Practice for the Co-ordination of Street Works and Works for Road Purposes and Related Matters published to support the Traffic Management Act provides specific advice on this.

A.4.1.9. Inter-authority co-ordination, at both the strategic and operational level, can bring other benefits in terms of cost and resource management, levels of service and user perception. Opportunities for such co-operation include:

- integrated route management;
- optimisation of cross boundary service provision;
- optimised programming and procurement;
- shared traffic management and publicity;
- avoidance of multiple user delays; and
- research, development and innovation.

A.4.1.10. The Department for Transport commissioned a research project on highway service levels, focusing on getting an improved understanding, in qualitative terms, of the levels of service the public expects for the surface of carriageways, cycle routes and footways.

A.4.2. NETWORK INVENTORY

Asset Data

A.4.2.1. Asset data is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance, Part B. This document should be referred to and the advice below considered supplementary.

A.4.2.2. Highway Authorities have a legal duty to keep a register containing such information as may be prescribed with respect to maps and statements of roads that are maintainable at public expense, which is primarily used for Land Charge Searches.

A.4.2.3. There is also a requirement to maintain information for the purpose of:

- identifying streets described as traffic sensitive, where work should be avoided at certain times of the day;
- identifying structures and other features described as special engineering difficulty, which need special consideration when work is planned; and
- identifying reinstatement categories used by statutory undertakers in the reinstatement of their street works.

A.4.2.4. Accurate inventory information is required to submit updated information to Government each year on road lengths maintained and is also used for national valuation purposes. In some countries this information is used for the calculation of local authority spending allocations.

A.4.2.5. The above requirements can be satisfied with fairly basic information, much less detailed than that required for maintenance management purposes. An appropriately detailed highway inventory or asset register or database is however an essential prerequisite of establishing a cost effective and adequate maintenance regime.

Paragraph amended 15 March 2017:

A.4.2.6. Some Highway Authorities are required to keep the definitive map and statement, or equivalent, for Public Rights of Way (PROW) that forms the legal record of the position and status of PROW. Certain parts of the network could be recorded both on the register of roads and the definitive map. Authorities in Scotland are required to keep records of 'Core Paths'.

RECOMMENDATION 9 – NETWORK INVENTORY
A detailed inventory or register of highway assets, together with information on their scale, nature and use, should be maintained. The nature and extent of inventory collected should be fit for purpose and meet business needs. Where data or information held is considered sensitive, this should be managed in a security-minded way.

RECOMMENDATION 10 – ASSET DATA MANAGEMENT
The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data. (HIAMG Recommendation 5)

Asset Management Systems

A.4.2.7. Asset management systems are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance, Part C.

RECOMMENDATION 11 – ASSET MANAGEMENT SYSTEMS
Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders. (HIAMG Recommendation 12)

A.4.3. FUNCTIONAL HIERARCHY

A.4.3.1. A network hierarchy based on asset function is the foundation of a risk-based maintenance strategy. It is crucial in establishing levels of service and to the statutory network management role for developing co-ordination and regulating occupation.

A.4.3.2. It is important that the hierarchy adopted reflects the whole highway network and the needs, priorities and actual use of each infrastructure asset. The carriageway hierarchy, for example, may be determined by traffic volume or by local social and economic importance – perhaps a route leading to a major hospital or industrial area, or urban, rural or busy shopping street, residential street, etc. Hierarchy may also be influenced by factors such as pedestrian or cyclist usage. Collectively, these issues may be referred to as the 'functionality' of the section of highway in question.

A.4.3.3. Whilst different asset types may have their own hierarchies, all should be related such that each asset type can be considered in relation to others and to the whole highway network. Network hierarchy should take into account the desirability of continuity and of a consistent approach for walking and cycling.

A.4.3.4. The adoption of a common hierarchy to reflect the network management duty, or equivalent, and the requirements for maintenance management based on highway functionality is desirable. This may be difficult to achieve completely, bearing in mind the differing definitions of protected streets, traffic sensitive streets, and streets with special engineering difficulties, associated with the Traffic Management duty, or equivalent. However, a high degree of compatibility between networks is desirable.

A.4.3.5. There will also be a need to define hierarchies for Resilience and for Winter Service. These should take as a starting point the hierarchy developed for general maintenance purposes but are likely to require extensive modification to accommodate local operational factors.

A.4.3.6. It is important to consider the hierarchy of neighbouring authorities for both locally and nationally maintained networks. Users will expect reasonable continuity of levels of service and collaboration in developing the network hierarchy can contribute to achieving this.

A.4.3.7. Hierarchies are a useful basis on which to consult users and the community. They are strategic but relatively easy to present and understand and not so detailed as to cause difficulties in interpreting the results. They can also address directly some of the wider policy issues, including special needs of certain groups of people.

A.4.3.8. Hierarchies should be dynamic and regularly reviewed to reflect changes in network characteristics and functionality so that maintenance strategy reflects the current situation, rather than the use expected when the hierarchy was originally defined.

A.4.3.9. Where major maintenance, construction or other development involves significant traffic diversion, or when congestion in one part of the network results in traffic shift to another part of the network, these changes should be reflected in the hierarchy and subsequently in the maintenance and network management regimes. There may also be seasonal influences on hierarchy.

A.4.3.10. The Rees Jeffreys Road Fund study A Major Road Network for England has developed proposals and recommendations for a more logical, integrated network of major roads across England.

RECOMMENDATION 12 – NETWORK HIERARCHY
A network hierarchy, or a series of related hierarchies, should be defined which include all elements of the highway network, including carriageways, footways, cycle routes, structures, lighting and rights of way. The hierarchy should take into account current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals and similar, as well as the desirability of continuity and of a consistent approach for walking and cycling.

Carriageways

A.4.3.11. Carriageway hierarchy will not necessarily be determined by the road classification, but by functionality and scale of use. Table 1 is intended to be used as a reference point from which to develop local hierarchies. The descriptions relate to the most usual circumstances encountered in the UK. There are likely to be, some very significant variations and authorities should take their own circumstances into account.

Table 1 – Factors to Consider – Carriageways

Category	Type of Road General Description	Description
Motorway	Limited access - motorway regulations apply	Routes for fast moving long distance traffic. Fully grade separated and restrictions on use.
Strategic Route	Trunk and some Principal 'A' class roads between Primary Destinations	Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
Main Distributor	Major Urban Network and Inter-Primary Links. Short - medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
Secondary Distributor	B and C class roads and some unclassified urban routes carrying bus, HGV and local traffic with frontage access and frequent junctions	In residential and other built up areas these roads have 20 or 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons. In rural areas these roads link the larger villages, bus routes and HGV generators to the Strategic and Main Distributor Network.
Link Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions	In urban areas these are residential or industrial interconnecting roads with 20 or 30 mph speed limits, random pedestrian movements and uncontrolled parking. In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two-way traffic.
Local Access Road	Roads serving limited numbers of properties carrying only access traffic	In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.
Minor road	Little used roads serving very limited numbers of properties.	Locally defined roads.

A.4.3.12. Assignment of a carriageway to a particular category is a matter for local discretion. However, the following issues should be taken into consideration:

- character and volume of traffic;
- current usage and proposed usage;
- routes to important local facilities and to the strategic network;
- designation as a traffic sensitive route;
- accident and other risk assessment;
- potential for use as a diversion route;
- special characteristic of certain assets, e.g. historic structures;
- access to schools, hospitals and medical centres;
- vulnerable users or people with special needs, elderly people's homes etc; and
- ceremonial routes and special events.

A.4.3.13. Other factors should be taken into account and an on-site 'reality check' undertaken where there is any uncertainty about position in the hierarchy, for example:

- road use might be at the margin of the category but have higher than normal levels of growth. Extensive development may be taking place or planned;
- there might have been a higher than normal level of accidents or related incidents which would suggest unusually high levels of risk;
- although traffic flows on the carriageway might be low, there might be high levels of pedestrians or cyclists;
- the route might be the subject of promotion by the authority, for example as a 'Safer Route to School' or access to a railway station. A cycling route may be part of the National Cycle Route Network;
- the route may be temporarily being used as a diversion route around a road closure on a route at a higher level within the hierarchy; and
- traffic composition might indicate unusually high proportions of particular users, for example motorcyclists or cyclists for whom surface condition is of particular importance.

Footways

A.4.3.14. Footway hierarchy should be determined by functionality and scale of use. Table 2 is intended to be used as a reference point from which to develop local hierarchies. The detailed descriptions relate to the most usual circumstances encountered in the UK. There are, however, some very significant variations from the norm and authorities should take their own circumstances into account.

Table 2 – Factors to Consider – Footways

Category	Description
Prestige Walking Zones	Very busy areas of towns and cities with high public space and streetscene contribution.
Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
Link Footways	Linking local access footways through urban areas and busy rural footways.
Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.
Minor Footways	Little used rural footways serving very limited numbers of properties

A.4.3.15. Assignment of a footway to a particular category is a matter for local discretion. However, the following issues should be taken into consideration:

- pedestrian volume;
- designation as a traffic sensitive pedestrian route;
- current usage and proposed usage;
- contribution to the quality of public space and streetscene;
- age and distribution of the population, proximity of schools or other establishments attracting higher than normal numbers of pedestrians;
- accident and other risk assessment; and
- character and traffic use of adjoining carriageway.

A.4.3.16. The footway hierarchy should have regard to any network of ‘housing footways’, serving housing estates or related development, which may be unadopted as public highways but have established public rights of access and may be maintained separately by the housing authority. Users will make no distinction and will consider the footway network as a whole.

Cycle Routes

A.4.3.17. The categories suggested for cycle routes are shown in Table 3. They are categorised not by use or functionality but by location, which reflects the differing risks associated with shared, partially segregated and fully segregated cycle routes.

A.4.3.18. Where the level of use on particular cycle routes is significant and relevant to maintenance need, for example on commuter cycle routes, authorities may choose to establish categories based on use.

Table 3 – Factors to Consider – Cycle Routes

Description
Cycle lane forming part of the carriageway, commonly a strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entry to traffic, but allowing cycle access).
Cycle track - a highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.
Cycle provision on carriageway, other than a marked cycle lane or marked cycle provision, where cycle flows are significant.
Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the Highway Authority, but may be maintained by an authority under other powers or duties.

Bridges and Structures

A.4.3.19. Factors to consider include:

- position on the carriageway, footway, cycle route or PROW hierarchy;
- type of asset, e.g. bridge, tunnel, retaining wall, earth structure, etc;
- obstacle crossed, bridge span, retained earth height;
- critical asset, historic structure, permanent weight, height, width or swept path restriction;
- construction material, e.g. concrete or steel bridge, arch, slab or beam/girder bridge, concrete or stone walls, etc; and
- local factors.

Street Lighting

A.4.3.20. Factors to consider include:

- position on the carriageway, footway, cycle route or PROW hierarchy;
- type of asset, e.g. street light, subway light, illuminated traffic sign or bollard, cable system, etc;
- construction material, e.g. aluminum, concrete or steel lamp columns;
- lamp and control type;

- highway use, casualty and crime statistics during hours of darkness; and
- local factors.

Public Rights Of Way

A.4.3.21. Factors to consider include:

- byways open to all traffic (BOAT);
- long distance trails and designated recreational routes;
- Core Paths (Scotland);
- rights of way;
- strategic link path;
- recreational path;
- surface type; and
- other access rights.

A.4.3.22. Some PROW may be metalled and within or on the fringe of urban areas. To recognise users' requirements for consistency, these should be considered for maintenance consistent with a similar footway and be incorporated in the footway hierarchy, irrespective of their designation.

A.4.4. RESILIENT NETWORK AND MINIMUM WINTER NETWORK

A.4.4.1. A 'Resilient Network' should be identified which will receive priority through maintenance and other measures in order to maintain economic activity and access to key services during disruptive events. The process for identifying the Resilient Network will consider which routes are absolutely essential and which can be done without for a time. It is implicit that these decisions will not simply follow road classification or categorisation. The process should engage key business and interest groups and involve the community. See also Section A.6 of this Code.

A.4.4.2. The Resilient Network is likely to include:

- those routes crucial to the economic and social life of the local or wider area;
- take account of repeat events, e.g. flooding; and
- local factors.

A.4.4.3. A minimum Winter Service network should also be defined. This network may relate to the Resilient Network and may be a subset of the normal winter treatment network. It should provide a minimum essential service to the public, including links to the strategic network, access to key facilities and local communities, and other transport needs. It is important that there is continuity across boundaries. It is recognised that authorities may have difficulty in treating all public and school bus routes, however, where practicable, arrangements should be made to enable bus operators to run minimum services.

A.4.4.4. Issues to consider when defining resilient and minimum Winter Service networks are:

- What is the key infrastructure access to be maintained? To this end, the authority's emergency planning department should be consulted. Consideration should be given to a wide range of services, including consideration for private asset infrastructure. For example, water treatment works may require chemical deliveries to ensure continuity of water supply but may not be on the primary treated road network.
- How will carriageways, cycle routes and footways be prioritised across the authority's network?
- How will the networks interface with other authorities? There is little point expending effort to keep a route open if it may be unusable in a neighbouring authority.

A.4.5. CRITICAL INFRASTRUCTURE

A.4.5.1. Critical infrastructure is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance, Part A.

A.4.5.2. Having identified critical infrastructure assets it may be appropriate to consider their position in their asset hierarchy in a different way to similar, non-critical, assets. For example, a critical asset may be elevated to a higher category, or dealt with in isolation. It is also likely that a security minded approach may need to be adopted in relation to them.

A.4.6. LIFECYCLE / DESIGNING FOR MAINTENANCE

A.4.6.1. Although much maintenance activity is undertaken on highway construction of long standing, new and improved highway schemes and facilities form an increasing proportion of the network over time. The future maintenance costs of such new infrastructure are therefore a prime consideration.

A.4.6.2. Scheme development should focus on delivering the objectives whilst minimising network disruption and lifecycle costs and without compromising other important aspects such as access arrangements, environmental and sustainability issues, etc. Where it is not possible to minimise both disruption and lifecycle costs, comprise may need to be sought.

A.4.6.3. There are many cases where careful consideration of maintenance implications at the design stage would have provided an equally effective outcome, but without maintenance complications either increasing costs or introducing practical difficulties which may compromise the effectiveness of the feature. Examples include:

- materials requiring a disproportionately high frequency of maintenance;
- access difficulties for routine maintenance such as drain clearance and cleansing;
- inappropriate use of bridge expansion joints rather than integral bridges;
- inappropriate treatments and planting on central reservations or narrow verges;
- maintenance requiring disproportionate traffic management and associated user disruption costs;
- traffic calming and safety features with high rates of deterioration; and
- operatives exposed to working close to live carriageways or at height.

A.4.6.4. Disproportionately costly or inconvenient maintenance requirements may inhibit or prevent programmed maintenance taking place. Failure to provide the specified maintenance regime could have serious consequences for the potential liability of the authority and its employees.

A.4.6.5. Given that works of highway improvement and significant maintenance will usually be funded from capital and that subsequent maintenance works will often be funded from revenue, the potential financial impact is greater than might be first perceived. The benefits of whole life designs and treatments should always be considered. The balance between capital and revenue expenditure could be different in certain forms of public private partnership.

A.4.6.6. This is not to say that creativity should be inhibited. High quality or relatively expensive materials may provide appropriate, low maintenance and cost effective treatments in terms of their contribution to wider regeneration objectives, for example in improving the quality of public space and streetscape. It may also be appropriate to use environmentally sensitive materials in certain locations, despite the possibility of higher future maintenance costs. A series of regional guides published by English Heritage in collaboration with Department for Transport provide useful advice.

A.4.6.7. Co-ordination of design and specifications between highway maintenance and highway improvement schemes can be improved through formal and informal liaison and co-operation between those involved to ensure that the whole life costs of schemes are optimised. These could involve formal consultation, value management and/or engineering, or a system of maintainability audits for a sample of schemes to establish local good practice. Guidance on standard specification and standard details for Local Highway Authorities has been produced by HMEP.

A.4.6.8. Section A.4.9 of this Code outlines a number of factors that may be considered when designing for maintenance.

A.4.6.9. Unusual maintenance requirements and costs associated with schemes or materials brought forward for approval should be identified so that they can be taken into account at the time. This is particularly important where new highways are being assessed for adoption and may be reflected in commuted sums for any higher than usual future maintenance costs sought from developers. The Association of Directors of Environment, Economy, Planning and Transport (ADEPT) has published guidance that aims to provide advice on the commuted sums mechanism through which developers are required to contribute to future maintenance of areas adopted by local authorities.

RECOMMENDATION 13 – WHOLE LIFE / DESIGNING FOR MAINTENANCE Authorities should take lifecycle costs into consideration when assessing options for maintenance, new and improved highway schemes. The future maintenance costs of such new infrastructure are therefore a prime consideration.

A.4.7. ROAD/RAIL INCURSION

A.4.7.1. Highway Authorities should work with relevant organisations to identify road/rail interfaces where a risk of incursion of road traffic onto a railway is present. The Department for Transport publication Managing the accidental obstruction of the railway by road vehicles details a risk ranking process to be followed at each road over rail and road/rail site. Higher ranked locations should be subject to a secondary assessment which will determine any necessary improvements or other mitigation measures. It also sets out what Highway Authorities, rail infrastructure authorities and other organisations need to do to identify how the risk of road vehicle incursion to the railway can be jointly managed and a protocol for apportioning responsibility and costs of improvement and mitigation measures.

A.4.7.2. Highway Authorities should ensure that appropriate warning signs on the approaches to road/rail interfaces are placed and maintained such that they are clearly visible to road users.

A.4.7.3. The following are recent links to RAIB reports which authorities will wish to note the recommendations and to ensure that action is taken where applicable:

- Oxshott, August 2011;
- Stowmarket, November 2012;
- Aspatria, June 2014; and
- Froxfield, January 2016.

A.4.8. ABNORMAL LOADS

A.4.8.1. The movement of abnormal loads on highways needs to be carefully managed so that large and/or heavy vehicles only use those parts of the network that can safely accommodate them. An abnormal load is considered to be a vehicle that is outside the classification of normal permitted traffic by virtue of its gross weight, length, width or axle configuration according to current road vehicle regulations. Authorities have powers to direct movement of abnormal loads and submission of a notification by the haulier enables the movement to take place legally.

A.4.8.2. The movement of abnormal loads should be managed in such a way as to ensure that the load effects induced by the abnormal loads do not exceed the load bearing capacity of structures on the route. The suitability of a specific abnormal load to cross a particular structure should be checked broadly in accordance with the procedures recommended in BD 21 or BD 86, or equivalent. Where an initial assessment shows that the load effects induced by an abnormal load marginally exceed the capacity of a bridge on the route, it may be possible for the abnormal load to safely cross the bridge provided other normal traffic is kept clear of the bridge when the abnormal load crosses it.

A.4.8.3. The suitability of an abnormal load to travel along the proposed route should be checked by the haulier in relation to any height restrictions from overbridges and restrictions on manoeuvrability along narrow roads and sharp bends etc. Consideration should be given to the placing and specification of street furniture on regularly used/defined abnormal load routes, e.g. bollards and pedestrian guard rails which may need to be removed to allow passage of abnormal vehicles.

A.4.8.4. In certain cases, e.g. vehicles wider than the traffic lane, abnormal loads should be escorted to provide appropriate warning to other traffic. Escorting may be undertaken by the police or by the haulier concerned as allowed for in the Code of Practice – Self Escorting of Abnormal Loads and Abnormal Vehicles, or equivalent.

A.4.8.5. Where road works are restricting the availability of regularly used abnormal load routes, consideration should be given as to how hauliers can be made aware of this.

A.4.8.6. The management of abnormal loads requires coordination between:

- Abnormal Loads Officer – person responsible for receiving notifications of movements from hauliers, ensuring that such notifications are assessed and that the haulier is advised if there is any reason why a proposed movement should not take place.

- Structures Advisor – a civil or structural engineer with good experience of Highway Structure Assessments to whom the Abnormal Loads Officer should refer decisions relating to vehicle movements which fall outside the agreed guidelines which otherwise determine whether or not particular vehicle movements should be accepted.

- Traffic Manager – the person responsible for the coordination of all traffic management on the highway network. All owners or managers of highway structures should establish and maintain a system to receive notifications from hauliers in respect of abnormal load movements. The system should enable hauliers to be advised within the statutory time limits if there is any reason why the movement should not proceed.

A.4.8.7. The Electronic Service Delivery for Abnormal Loads (ESDAL) system, or equivalent, provides a process for managing abnormal load movements.

A.4.9. FACTORS TO CONSIDER FOR FUTURE MAINTENANCE

A.4.9.1. Tables 4 and 5 provide factors to consider by designers during the design process, to ensure that adequate consideration is given to future maintenance requirements of schemes. The list is not exhaustive but includes a number of key issues that may need to be addressed.

Table 4 – Factors to Consider for Future Maintenance (i)

Issue	Check	Action
Scope and Scale		
Intended life of scheme	Is the scheme long life or 'temporary' and likely to be affected by future redevelopment?	Choose materials and products relevant to the life of scheme.
Nature of scheme	Is the scheme a 'unique' prestige project or a 'routine' standard one?	Choose materials and products relevant to the type of scheme.
Scope of scheme	Has the scheme been 'value-managed' to consider all possible marginal benefits?	All 'significant' schemes should be value managed.
Use of scheme	Is the scheme likely to be subjected to particularly 'heavy duty' traffic use with high rates of wear?	Select design and materials to mitigate these affects so far as possible.
Cost of scheme	Have the costs of future maintenance been calculated and included in future budgets?	Identify any extraordinary maintenance costs and report these alongside construction costs.
Design Aspects		
Pedestrians and cyclists	Do footways and cycle routes fit the actual paths used?	Redesign to reflect actual paths to avoid erosion and later replacement.
Heavy goods vehicles	Is footway paving likely to be over-ridden by HGV or other parked vehicles?	Where necessary use heavy duty paving or prevent over-riding to avoid frequent costly replacement.
Grassed and planted areas	Are grassed and planted areas of a size and position to be effectively maintained?	Redesign or remove where necessary to avoid future poor appearance and later resign.
Trees	Have trees been selected and positioned to avoid future problems with roots, obstruction or leaf fall?	Reselect or reposition where necessary to avoid potentially expensive future problems.
Traffic signs	Are traffic signs required to be illuminated or can they be reflectorised?	Maximise use of reflective signs to reduce energy costs.

Table 5 – Factors to Consider for Future Maintenance (i)

Maintenance Operations		
Maintenance regime	Does the scheme require specialist maintenance regime?	Identify cost of specialist regime and, where appropriate, consider cheaper alternatives.
Cleansing	Does the scheme require specialist cleansing regime?	Identify cost of specialist regime and, where appropriate, consider cheaper alternatives.
Traffic management	Will maintenance require special traffic management?	Identify traffic management costs and minimise wherever possible, possible through co-ordination with other works.
Maintenance access	Is there safe and convenient access for plant and personnel?	Redesign scheme to provide safe and convenient access.
Materials and products		
Specialist materials	Are the materials used for the scheme of standard or specialist nature?	If specialist materials used ensure availability of future replacements.
Durability of materials	Does the durability of the materials provide substandard, oblique, sufficient or excessive life?	Select materials relevant to the intended life and nature of the scheme.
Failure mechanism	How will material/product approach the failure condition – slowly/quickly?	Programme safety and service inspections on basis of risk assessment.
Life extension	Are they any processes which could be used to extend useful service life at economic cost?	Investigate cost benefit of using life extension products.
Replacement practicability	Are there likely to be any difficulties in replacing failed sections?	Undertake risk assessment and plan for the likely difficulties.
Replacement cost	Is the cost of replacement likely to be disproportionately high?	Consider alternative materials or products.
Reuse and Recycling		
Practicability of reuse	If the schemes is a short life scheme what is the scope reusing materials and products?	Choose re-useable materials and products wherever possible.
Practicability of recycling	What is the scope for recycling materials and products?	Where re-useable materials and products are not appropriate, use recyclable wherever possible.

SECTION A.5.
RISK-BASED APPROACH

A.5.1. PRINCIPLES AND CONSIDERATIONS

A.5.1.1. Risk management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part C. This document should be referred to and the advice below considered supplementary.

A.5.1.2. Management of highway infrastructure maintenance, including setting policy, strategy and levels of service, establishment of inspection and condition assessment regimes, determining priorities and programmes, procuring the service and the management of all associated data and information should all be undertaken against a clear and comprehensive understanding and assessment of the risks and consequences involved.

A.5.1.3. The principle of this Code is that Highway Authorities will adopt a risk-based approach in accordance with local needs (including safety), priorities and affordability. This is consistent with ISO 55000, which states that "asset management translates the organisation's objectives into asset-related decisions, plans and activities, using a risk based approach." The Code will not therefore outline any minimum or default standards, but includes guidance and advice to support development of local levels of service.

A.5.1.4. Further guidance on general risk management can be found within the following publications:

- ISO 31000:2009 – Risk management – Principles and guidelines
- BS 31100:2011 – Risk management – Code of practice and guidance for the implementation of BS ISO 31000
- The Institute of Risk Management – Risk Appetite and Tolerance

A.5.1.5. Specific examples of managing risk in a highways claims and liability context can be found below:

- The UK Highway Liability Joint Task Group – Highway Risk and Liability Claims
- Alarm, the public risk management association – Managing the risk of highway claims – best practice guidelines for highway asset managers

RECOMMENDATION 14 – RISK MANAGEMENT
The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included as should appropriate mitigation measures. (HIAMG Recommendation 11)

A.5.2. DEVELOPING THE RISK BASED APPROACH

A.5.2.1. The risk-based approach to highway infrastructure maintenance should be documented, and essentially be based on:

- an understanding of and alignment with the authority's corporate objectives, legislative requirements, and corporate approach to risk and management of risk;
- an understanding of risk in a highways service and its application to all areas of operations, including people, infrastructure, data, finance and suppliers;
- an understanding of the potential risks and their likely significance to users, stakeholders, the authority and to the data and information held;
- an understanding of the inventory, function, criticality, sensitivity, characteristics and use of the various assets comprising the highway network;
- the establishment of hierarchies and levels of service with appropriate funding;
- the implementation of the agreed levels of service;
- the competency required in development and implementation of the risk-based approach; and
- regular evidence-based reviews.

A.5.2.2. Establishment of a risk register is important. Where partnerships are involved, this will need to identify the assignment of risks between the respective parties.

A.5.3. COMPETENCIES AND TRAINING

A.5.3.1. Competencies and training are covered in the UKRLG Highway Infrastructure Asset Management Guidance, Part C. This document should be referred to and the advice below considered supplementary.

A.5.3.2. Those involved in managing, developing and implementing the risk-based approach must be competent to the satisfaction of the Highway Authority. Authorities should provide clear guidance and training to employees and establish requirements for others managing or carrying out activities. The guidance and training should include establishment of the risk-based approach itself and practical implementation. Activities included are likely to cover management, developing the local approach to risk, risk assessment and analysis, maintenance planning, making the right choices when designing and specifying techniques and materials, and work on site such as safety and other inspections, testing and maintenance works. Where appropriate, it should also include security awareness and relevant information on the security-minded approach adopted. Training should recognise the possibility of legal challenge to decisions.

A.5.3.3. The Engineering Council, as the UK regulatory body for the engineering profession, sets and maintains standards of professional competence and ethics that govern the award and retention of the titles Chartered Engineers (CEng), Incorporated Engineers (IEng) and Engineering Technicians (EngTech). The Engineering Council holds details of degree programmes that partially or fully satisfy the education requirement for CEng and IEng registration and of programmes that professional engineering institutions have approved as contributing towards EngTech registration.

A.5.3.4. A programme of Continuing Professional Development and training for all staff and others involved in developing and implementing the risk based approach should be provided to enable them to maintain up to date knowledge and skills and specifically to understand and implement the processes described in this Code. It is recommended that agents and contractors are required to demonstrate that their personnel are adequately trained and competent for the work they undertake.

RECOMMENDATION 15 – COMPETENCIES AND TRAINING
The appropriate competencies for all staff should be identified. Training should be provided where necessary for directly employed staff, and contractors should be required to provide evidence of the appropriate competencies of their staff.

A.5.4. INSPECTIONS AND SURVEYS

A.5.4.1. Establishment of an effective regime of inspection, survey and recording is the most crucial component of highway infrastructure maintenance. The characteristics of the regime, including types and frequency of inspection, items to be recorded and nature of response, should be defined following an assessment of the relative risks associated with potential circumstances of location, agreed level of service and condition. These should be set in the context of the authorities' overall asset management strategy.

A.5.4.2. The inspection, survey and recording regime should provide the basic information for addressing the core objectives of highway maintenance namely:

- network safety;
- network serviceability; and
- network sustainability.

A.5.4.3. It will also provide the basic condition data for the development of maintenance programmes.

A.5.4.4. All elements of the inspection and survey regime should be applied systematically and consistently. This is particularly important in the case of network safety, where information may be crucial in respect of legal proceedings. It is important to recognise that all information recorded, even if not primarily intended for network safety purposes, may have consequential implications for safety and may therefore be relevant to legal proceedings. It is also important to recognise that records may have to be made available for public inspection and reference.

A.5.5. CATEGORIES OF INSPECTION AND SURVEYS

A.5.5.1. Inspections and surveys can be considered in the categories below, approximately corresponding to the core objectives of highway maintenance. Authorities are not statutorily obliged to undertake inspections of all highway elements under all of these categories, but are strongly advised to undertake at least safety inspections in accordance with the principles of this Code. Further guidance on risk-based inspection and surveys for specific assets is provided in Parts B, C and D of this Code.

A.5.5.2. Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. The risk of danger is assessed on site and the defect identified with an appropriate priority response. These inspections may include systematic testing of some facilities.

A.5.5.3. Service inspections mainly comprise detailed inspections tailored to the requirements of particular highway assets and elements to ensure that they meet requirements for serviceability. The scale and scope of these inspections will be determined by the authority's approach to asset management. These inspections also include inspections for network integrity and for regulatory purposes, including NRSWA, intended to maintain network availability and reliability.

A.5.5.4. Condition surveys are primarily intended to identify deficiencies which, if untreated, are likely to adversely affect long term performance, serviceability and safety. Processing survey data through a decision support system can provide evidence of future life expectancy and for when intervention may be appropriate. Authorities may be required to undertake certain condition surveys to enable reporting to national governments and to satisfy the requirements of valuation regimes.

A.5.5.5. Assessment of structures is to determine the ability or capacity of the structure to carry the loads which are imposed upon it, and those which may reasonably be expected to be imposed upon it in the foreseeable future.

A.5.5.6. Reports from members of the public provide a further source of information on the condition of all aspects of the highway network. If this source is to be used to complement formal inspections and surveys, a policy should be made public with processes and systems in place to ensure that suitable communication is provided to contributors to acknowledge receipt of information and provide feedback on how it has been used (for example, any resulting maintenance activity). Appropriate quality assurance measures may be needed to check reports as appropriate, ensure duplicate reports are identified and combined, and to maintain auditability of information.

A.5.5.7. There are a wide range of inspections which need to be considered by authorities and it may be possible to co-ordinate these to make the best use of resources. It may also be possible to integrate inspections with other activities. For example, where integrated street management arrangements are in place in town centres for cleansing and repair it may be possible to combine safety inspections with cleansing and other inspections undertaken by Street or Community Wardens. Authorities may choose to combine safety and service inspections. Where combined inspections are adopted, particular care should be taken to ensure that consistent levels of quality are maintained when recording results. Highway Authorities should ensure that those carrying out inspections are trained, qualified and competent.

A.5.5.8. Inspection and survey regimes should be planned using a risk based approach to provide increased levels of scrutiny to areas or assets deemed to be of higher risk. For example, where flooding has been identified as a risk in a specific area, then an authority may wish to supplement its existing inspection arrangements of drainage assets with a visual survey.

RECOMMENDATION 16 – INSPECTIONS
A risk-based inspection regime, including regular safety inspections, should be developed and implemented for all highway assets.

RECOMMENDATION 17 – CONDITION SURVEYS
An asset condition survey regime based on asset management needs and any statutory reporting requirements should be developed and implemented.

A.5.6. MANAGEMENT SYSTEMS, RECORDING AND MONITORING OF INFORMATION

A.5.6.1. An asset register may be used by authorities to record inventories of asset types for which they have liability. This register may in practice be a combination of several asset specific systems and will form the basis of identifying which asset items safety and serviceability inspections should cover.

A.5.6.2. The asset register should also provide for recording service requests, complaints, reports or information from users and other third parties. These may require immediate action, special inspection, or influence future inspection or monitoring arrangements. The nature of response, including nil returns, should also be recorded. All inspections should record as a matter of course: time, weather conditions, any unusual circumstances of the inspection and the person conducting the inspection.

A.5.6.3. Arrangements should be made to review the inspection, assessment and recording regime at intervals to consider:

- changes in network characteristics and use;
- completeness and effectiveness of data collected;
- effectiveness of data analysis; and
- the need for changes to the inspection regime derived from risk assessment.

A.5.6.4. The frequency of such reviews should have regard to the extent and nature of changing circumstances. The analysis will also be helpful for other purposes, however, and these might also influence the frequency of review, which could include the following:

- ensuring compliance with legal obligations;
- measuring network serviceability and condition performance;
- establishing extent of outstanding work;
- seeking continuous improvement; and
- monitoring service delivery arrangements.

A.5.6.5. Managing the safety and wide range of other risks associated with the delivery of highway infrastructure maintenance will require effective and co-ordinated information systems. Record systems should include all user contact information, records of inspection and condition and records of all maintenance activity. They should also be co-ordinated with other relevant record systems, for example road accidents database.

A.5.6.6. The efficiency, accuracy and quality of information and records maintained by authorities will be crucial both to the effective management of the service and to the defence of claims against the authority for alleged failure to maintain. The management system will need to support compliance with standards of evidence provision.

A.5.6.7. Where information systems hold sensitive and/or personally identifiable information, a security minded approach, appropriate to the level of risk, should be adopted in relation to the capture, creation, processing, storage, distribution and use of relevant data and information in accordance with the Data Protection Act.

A.5.6.8. All information obtained from inspections and surveys, together with the nature of response, including nil returns, should be recorded consistently to facilitate analysis. Such analysis should enable the data from inspections and surveys to be reviewed independently, but also in conjunction with other information to enable a holistic view to be taken of likely future maintenance need, asset condition and trends related to network characteristics and use.

RECOMMENDATION 18 – MANAGEMENT SYSTEMS AND CLAIMS
Records should be kept of all activities, particularly safety and other inspections, including the time and nature of any response, and procedures established to ensure efficient management of claims whilst protecting the authority from unjustified or fraudulent claims.

A.5.7. SAFETY INSPECTIONS

A.5.7.1. Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. Such defects should include those that are considered to require urgent attention as well as those where the locations and sizes are such that longer periods of response would be acceptable.

A.5.7.2. Authorities should determine frequencies of inspection through a risk-based approach that reflects the characteristics of the particular asset or asset group, e.g. carriageway, footway, structures, lighting, etc, and their position in the hierarchy. Authorities should also determine the most appropriate way to undertake surveys for each of the different assets or asset groups, and keep abreast of new technologies which may improve safety and quality.

A.5.7.3. Additional inspections may be necessary in response to user or community concern, as a result of incidents or extreme weather conditions, or in the light of monitoring information. These may be identified through the risk-based approach.

A.5.7.4. The safety inspection regime forms a key aspect of an authority's approach to managing liabilities and risks. The parameters which need to be considered for a safety inspection regime are:

- frequency of inspection;
- items for inspection;
- type of traffic and intensity;
- method of inspection; and
- nature of response.

A.5.7.5. The regime should be developed based on a risk assessment and provide a practical and reasonable approach to the risks and potential consequences identified. It should take account of potential risks to all users, and in particular those most vulnerable.

A.5.7.6. Frequencies for safety inspections of individual network sections or individual assets should be based upon consideration of:

- category within the network hierarchy;
- type of asset, e.g. carriageway, footway, embankment, cutting, structure, electrical apparatus, etc;
- critical assets;
- consequence of failure,
- network resilience;
- use, characteristics and trends;
- incident and inspection history;
- characteristics of adjoining networks elements;
- the approach of adjoining Highway Authorities; and
- wider policy or operational considerations.

A.5.7.7. Where asset condition has deteriorated significantly, it may be appropriate to inspect particular assets more frequently than would otherwise be the case.

A.5.8. DEFECT RECORDING AND REPAIR

A.5.8.1. All defects observed during safety inspections that provide a risk to users should be recorded and the level of response determined on the basis of risk assessment. The degree of deficiency in highway elements will be crucial in determining the nature and speed of response. Although some general guidance can be given by authorities on the likely risk associated with particular defects, on-site judgement will always need to take account of particular circumstances. For example, the degree of risk from a pothole depends upon not merely its depth but also its surface area and location.

A.5.8.2. A procedure for risk assessment is described in the UKRLG Highway Infrastructure Asset Management Guidance, Part C. Any item with a defect level which corresponds to, or is in excess of, the defect investigatory level adopted by the authority is to be assessed for likely risk.

A.5.8.3. Defects which are considered to require urgent attention should be corrected or made safe at the time of the inspection, if reasonably practicable. In this context, making safe may constitute displaying warning notices, coning off or fencing off to protect the public from the defect. If it is not possible to correct or make safe the defect at the time of inspection, repairs of a permanent or temporary nature should be carried out as soon as possible. If temporary repairs have been used, permanent repair should be carried out within a reasonable period.

A.5.8.4. Defects that do not represent an immediate or imminent hazard or risk of short term structural deterioration may have safety implications, although of far less significance than those which are considered to require urgent attention. They are more likely to have serviceability or sustainability implications. If repairs are to be undertaken these are likely to be within a planned programme of works with their priority determined by risk assessment. Access requirements, other works on the network, traffic levels, and the desirability of minimising traffic management, should also be considered as part of the response.

RECOMMENDATION 19 – DEFECT REPAIR
A risk-based defect repair regime should be developed and implemented for all highway assets.

A.5.9. REPORTING BY THE PUBLIC

A.5.9.1. Feedback from members of the public is an increasing source of data on the condition of all aspects of the highway network, with the use of smartphones and other personal mobile technology providing details such as location, time and imagery.

A.5.9.2. If this source of data is to be used to complement dedicated inspection and survey techniques outlined above, then a policy should be approved and made public, with processes and systems put in place to ensure:

- an efficient system for logging and managing such reports should be used;
- appropriate quality assurance measures are in place to check reports by the public and maintain auditability of data; and

- suitable communication is provided to contributors to both acknowledge receipt of any submitted information, and also feedback on how it has been used (for example, any resulting maintenance activity).

A.5.10. WORKS PROGRAMMES

A.5.10.1. Works programming is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance, Part B.

A.5.11. FURTHER GUIDANCE ON DEVELOPING AND IMPLEMENTING THE RISK BASED APPROACH

Introduction
The following is an example risk management process suitable for use to implement the risk-based approach within a Highway Authority. In order for risk management to be successful it must be appropriate and adapted to each organisation. Figure 2 below shows an example of a risk management process, based on ISO 31000 and the UKRLG HIAMG Part C.

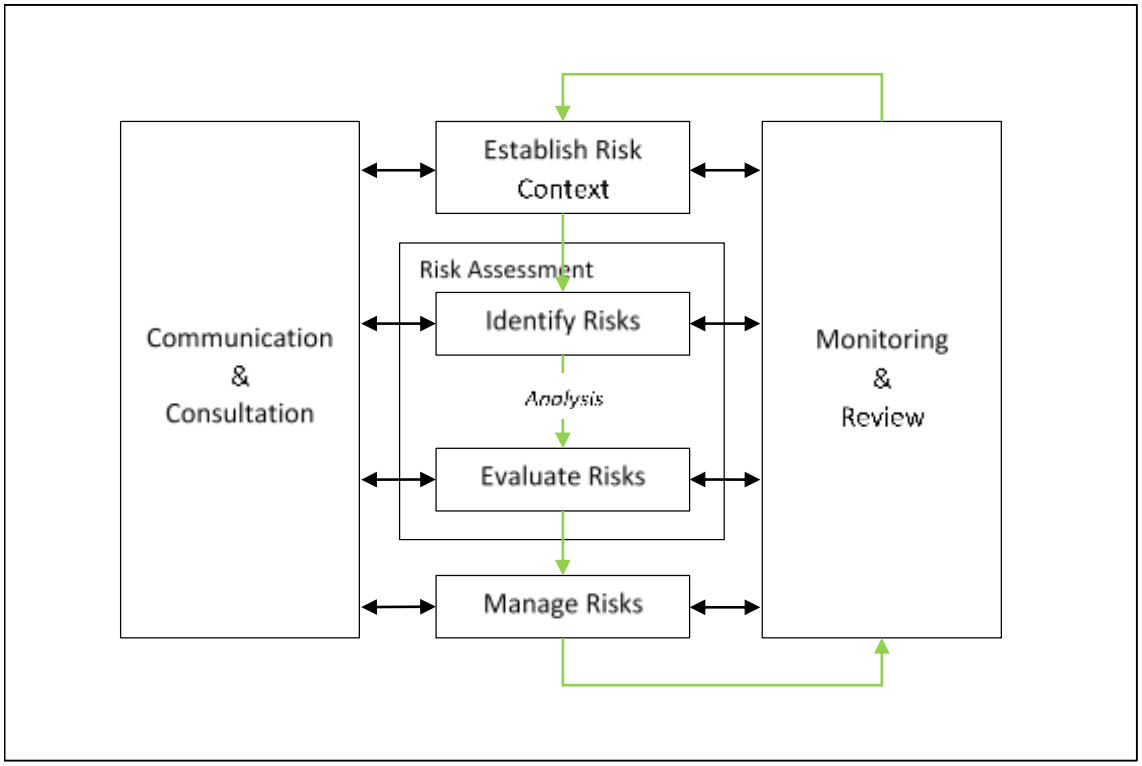

Figure 2 – An Example of a Risk Management Process

The figure shows that two parts of the process, Communications & Consultation and Monitoring & Review, persist throughout the risk management process and can impact on all stages.
These could be internal discussions that lead to a new risk being identified, or customer engagement reporting issues on the network which may require a review of inspection frequency.
The risk management process will have regular reviews but should also be agile enough to respond as a part of day-to-day management, embedding the risk-based approach in an authority's operations.
The explanations below of the various elements of the process give generic examples of actors, actions, activities and roles which could be involved at each part of the process.
At each stage in the process actions may be required to ensure that risks remain at tolerable levels, or are exploited to an organisation's advantage.
This will only occur where clear responsibility and accountability is defined and understood, and acted upon for each and every individual risk.

Establish Risk Context
• The authority's corporate risk management approach, appetite and framework/process will all need to be clearly understood.
• Risk will be managed at many different levels within each Highway Authority, but when implementing a truly risk-based approach the wider risk context must form the start of the process.
• Risk management should support the delivery of organisational objectives and as a result, the risk management approach and risk appetite will be owned by the executive and senior management – this will set the context within which risk-based highway management can be developed.
• The wider context may include the influence of partners, suppliers, customer groups, Local Enterprise Partnerships, Local Resilience Forums, Government Departments and other issues such as economic circumstances, climate change or political aspirations.
• Whilst part of the context, these issues should always be viewed through the filter of the organisation's risk management approach.
• The authority's designated corporate risk manager will be a key point of contact, as will departmental and team risk management leads.
• Government departments, stakeholders, partners and customers may all form part of the groups relevant to the risk context, whilst not setting it directly.
• The monitoring and review; and communication and consultation aspects of the process can be used to manage these interactions.

Risk Assessment
Risk assessment comprises three stages, these may be recorded on a risk register as a tool to provide a statement of risk management at any particular time, but each aspect is a separate consideration.
Identify Risks
• Once the context and approach to risk management has been defined, risks should be identified across the Highway Authority's operations. These will cover a diverse range of subjects as detailed in section 13.3 of the UKRLG HIAMG.
• The risk identification stage is a crucial opportunity to ensure risks are visible throughout the organisation.
• Risks should be unmitigated at this stage to allow for later prioritisation.
• To fully understand all risks and compare risks across risk groupings will require a collaborative process across the authority with subject matter experts, managers and corporate functions all likely to contribute specific knowledge relevant to differing risk types.
• Risk management groups and teams may be useful in facilitating this flow of information and integrating the highways risk process into the corporate risk management framework.
• The frequency and format of risk identification will need to be based on the organisation's risk management guidance and the risk context.
• It will be important to establish and regularly review the risk management basis of both the hierarchy and inspection frequency, including the impact of the defined Resilient Network.
• It will also be an opportunity for a Highway Authority to consider the sustainability and agility of its arrangements and develop its risk based approach appropriate to local circumstances.
Evaluate Risks
• Risk evaluation is a product of understanding the likelihood and consequence of a particular event. It is important to note that whilst this is often viewed as a negative 'impact' risks can also present opportunities.
• Authorities will already have an established corporate risk management approach and this will need to be extended and adapted to be appropriate to the highway risk-based approach.
• Consequence descriptions in the evaluation process may need to be developed in the highways context, and the corporate risk manager should be consulted as part of this process.
• Section 13.5 of the UKRLG HIAMG provides more detail on risk evaluation and should help authorities gain a clear understanding of the risks they face, such that they can be compared and risk management decisions made.

Manage Risks
• Treatment of risk ensures that an organisation is conscious of the risks it faces and has a coordinated approach to the management and mitigation of risks, where possible, and is aware of the remaining risk levels where mitigation is not possible or desirable.
• The risk appetite of the Highway Authority will shape the management of each risk and will need to be clearly understood and communicated to all those involved in risk management decisions.
• It is important to note that financial, resourcing, political, environmental and other circumstances will all impact risk appetite and decisions made, but clear decisions and residual risk levels should be recorded and shared within the authority.
• In the example of highway inspection and associated defect repairs it will be equally important for Highway Authorities to deliver efficiencies through accurately identifying risks that can be managed and resolved through planned programmes of work as it will be to make provision for the appropriate prompt response to high risks.
• This will rely on good risk management process and competencies.

Communication & Consultation
• Communications and consultation is a constant part of the risk management process and impacts at each and every stage, since for risk management to be fully embedded in an organisation the risk management process should be part of normal operations management.
• It is likely that there will be regular cycles of review, but for an organisation to have fully adopted a risk-based approach, all routine management decisions should also be cognisant of the impact, positive or negative, that they will have on remaining risk levels.
• This safeguards the organisation's strategic objectives and focusses delivery but, most importantly, recognises that risk management decisions are routinely made every day, keeping an authority's risk-based approach agile and relevant to their operations.
• Formal consultation, communication and governance will likely be in place for risk management within an authority and wherever possible, this should be adopted and extended to include the highways risk-based approach.
• External communications will be essential in seeking to align customer expectations, political aspirations, and a deliverable and sustainable risk management approach.
• The preparation and approval governance of such external communications may lead to internal challenge and review of the arrangements and re-affirmation of the message before the communication.

Monitoring & Review
• At all stages of the risk process different people will identify, evaluate, communicate and manage a risk.
• The risk-based approach adopted by an authority should clearly identify roles and responsibilities of those involved in the process so that ownership and monitoring of each stage of the process is clearly understood and managed appropriately.
• Highway Authorities should be mindful of the agility of their risk based approach to support adequate management of locations of increased risk, including when they are located within parts of their network generally exhibiting lower risk characteristics.
• Monitoring and review should be dynamic so that as risk levels change, an organisation's approach to managing the risk can too.
• Timely review and appropriate information sharing will be key to an agile and responsive risk management process.
• Finally the risk management process itself must be subject to regular review and monitoring to ensure it is fit for purpose and suitably managing risks.
• Authorities are often undergoing significant corporate or departmental change which may result in a requirement to amend the process, change management arrangements or reallocate roles and responsibilities to ensure the risk-based approach is continuing to add value and deliver corporate objectives.

SECTION A.6. NETWORK RESILIENCE

A.6.1. OVERVIEW

A.6.1.1. The UK's road network is an important part of our national infrastructure, enabling the successful operation of many social and economic activities and the continued availability and operation of these routes is a vital part of keeping our towns, cities and regions running.

A.6.1.2. Resilience is defined by the Cabinet Office as the 'ability of the community, services, area or infrastructure to detect, prevent, and, if necessary to withstand, handle and recover from disruptive challenges.' There are four components to resilience and Highway Authorities are likely to draw on a combination of these in reducing risk of failure, especially on their Resilient Networks:

- resistance – preventing damage (e.g. a flood wall);
- reliability – operation under a range of conditions (e.g. earthworks stabilisation);
- redundancy – availability of backups or spare capacity (e.g. a suitable diversion route); and
- recovery – enabling a fast response and recovery (e.g. temporary bridges).

A.6.1.3. This approach fits well with the guidance given in this Code and provides an overview of what network resilience should aim to deliver.

A.6.1.4. The National Risk Register of Civil Emergencies is the source document for risk assessment in the UK and is supported by specific guidance and Local Risk Registers within all Local Resilience Forums. These documents will help frame the risks faced and the threat they present. Interaction with emergency planning teams within all organisations and partners will be key to understanding and aligning response to the risks.

A.6.1.5. Current risks especially pertinent to this document are:

- **human diseases** – especially with regard to their impact on business continuity;
- **flooding** – including pluvial, fluvial, groundwater and coastal, as experienced in many locations within the last few years;
- **severe space weather** – such as solar flares, relevant as technology increases in operation, maintenance and within user's vehicles;
- **severe weather** – both in the context of seasonal norms and sudden impact events;
- **major industrial accidents** – especially where they touch the road network;

- **widespread electricity failure** – impacting on technology resilience;
- **major transport accidents** – the ability to mitigate, respond and recover;
- **disruptive industrial action** – often with an impact on network operation and usage;
- **terrorist, malicious or criminal attacks or civil protest** – in a variety of forms, linked to operations and security;
- **cyber security** (encompassing computer and computer network security) – a burgeoning risk with a specific impact on intelligent systems, automated systems and systems comprising a computational aspect and physical aspect working together to accomplish a task or function; and
- **severe wildfires.**

A.6.1.6. The resilience measures implemented to manage these and other local risks are likely to include physical works, staff training, customer information, management plans and procedures and adoption of an appropriate and proportionate security minded approach.

A.6.1.7. If failure of an asset could lead to major consequences, it should be identified as a critical asset and assessed in greater detail, as defined in HIAMG Section 13.4.

A.6.1.8. Tools that are developed to assess, improve and manage network resilience will reveal information about parts of the highway infrastructure, or other related assets such as utilities, which are critical from a security perspective. Where this is the case, the adoption of a security minded approach in relation to use of the tool and the information it generates will be essential.

A.6.2. TRANSPORT RESILIENCE REVIEW

A.6.2.1. The extreme weather in some parts of the UK over the winter of 2013/14 led to considerable disruption to transport networks. A succession of storms brought the highest winter rainfall across southern England since records began in 1766, resulting in widespread flooding and extensive wind and coastal damage. The events raised the question of how transport systems could be made more resilient so as to reduce the disruption from extreme weather in the future. The Transport Resilience Review was published in 2014 and the Government Response to the Review was published in the following November.

A.6.2.2. The Transport Resilience Review made 63 recommendations, a number of which relate to the management of the highway network. Some of these recommendations have been incorporated into the guidance in this Code.

A.6.3. RESILIENT NETWORK

A.6.3.1. The Transport Resilience Review recognises that an economically rational approach should be taken to spending on resilience, “ensuring that enough is invested, with the right prioritisation, and avoiding wasteful and economically unjustified expenditure”.

A.6.3.2. There are a wide variety of highway types, functions and uses across the UK and it is not practicable to either assess or build resilience across all of the Highway Authority networks. There is a need to focus resilience risk assessments and plans on a subset of each network - defined as the "Resilient Network" and outlined in Section A.4 of this Code. It should be developed and reviewed as necessary to ensure that it provides:

- connectivity between major communities;
- links to the strategic highway network;
- connectivity across authority boundaries where appropriate;
- links to transport interchanges;
- access to emergency facilities including Fire and Rescue, Police, Ambulance Services and hospitals;
- links to critical infrastructure (ports, power stations, water treatment works etc);
- principal public transport routes, access to rail and bus stations, and to bus garages and other depots; and
- other locally important facilities.

A.6.3.3. When defining the Resilient Network, consideration should be given to engaging with the Local Resilience Forum, or equivalent, key businesses and interest groups to jointly identify routes which are critical to the economic and social life of the area. Neighbouring Highway Authorities should also be consulted to ensure continuity of the Resilient Network at a regional level.

A.6.3.4. The risk of specific asset failure, to the extent that it leads to closure or restriction of the Resilient Network, should be assessed. This should take into account the likelihood of failure due to the asset's physical attributes and its location (e.g. design capability / capacity, condition, geology, catchment characteristics). The socio-economic consequences of failure should also be considered and include the potential for community severance, the ability to respond to further emergencies, the suitability and length of any diversion route, typical traffic types and volumes, repair / recovery cost and timescale, and damage to statutory utility plant.

RECOMMENDATION 20 – RESILIENT NETWORK
Within the highway network hierarchy a Resilient Network should be identified to which priority is given through maintenance and other measures to maintain economic activity and access to key services during extreme weather.

A.6.4. CLIMATE CHANGE AND ADAPTATION

A.6.4.1. The Climate Change Act 2008, or equivalent, established a statutory framework for adaptation and set in place a five-year cycle for Government to report on the risks to the UK of climate change and to publish a programme setting out how these impacts will be addressed. The Act also introduced an Adaption Reporting Power which allows the Government to direct public bodies and statutory undertakers to submit a report on their climate risks and their plans to address them.

A.6.4.2. The key climate changes for the UK are identified within the UK Climate Projections 09 (UKCP09) :

- all areas of the UK get warmer and the warming is greater in summer than in winter;
- there is little change in the amount of precipitation (rain, hail, snow etc) that falls annually but it is likely that more of it will fall in the winter with drier summers for much of the UK; and
- sea levels rise – more in the south of the UK than the North.

A.6.4.3. In 2012 the first national Climate Change Risk Assessment (CCRA) analysed 100 potential impacts of climate change to 11 sectors. For the transport sector the assessment identified flooding, landslides, heat damage and bridge scour as important risks. This has been followed up with the 2016 report, which highlights further issues.

A.6.4.4. The Government released the first National Adaptation Programme (NAP) in July 2013. It contains a series of objectives and associated actions to tackle risks identified in the CCRA. Most notably with regard to highway infrastructure management, objectives 7 and 8 are:

- To ensure infrastructure is located, planned, designed and maintained to be resilient to climate change, including increasingly extreme weather events.
- To better understand the particular vulnerabilities facing local infrastructure from extreme weather and long term climate change to determine actions to address the risks.

A.6.4.5. The Scottish Climate Change Adaptation Programme addresses the risks identified for Scotland in the UK Climate Change Risk Assessment.

A.6.4.6. Highway Authorities should consider how various climate change variables such as intense or prolonged rainfall; hotter temperatures and higher wind speed will impact on the type of highway assets that they manage and the likelihood of these events occurring. By doing this the greatest generic risks to network closure or restriction can be identified. These are likely to be:

- flooding (pluvial, fluvial, groundwater and coastal);
- landslips;
- bridge scour;

- widespread tree fall;
- carriageway heat damage;
- falling power and communications lines;
- falling temporary structures on development sites; and
- disruption at interchanges with other transport modes such as rail and tram.

A.6.4.7. Highway Authorities should review and apply the latest UK Climate Projections, as developed by the Met Office and Environment Agency, when assessing future risk and vulnerability. These projections for future changes to both average climatic conditions and also the frequency of extreme weather events, allow for an understanding of where risk levels may change, and the identification of new risks which may emerge as the climate changes. When applied alongside records of past incidents, and other information sources (such as flood maps), climate projections may also help to identify when and what action should be taken to adapt to the risks.

A.6.4.8. The locations where there is potential for these events to occur on the Resilient Network should be identified. This can be done using the highway asset inventory and records of past incidents of weather related damage or incidents such as flooding or landslips. The local Flood Risk Management Plans, as prepared by the Lead Local Flood Authority, should also be used to identify areas prone to flooding. Where possible, local knowledge should be used to validate the findings.

A.6.4.9. Some of the risks may have the potential to be reduced by mitigation action. Such action could range from improved routine inspection or maintenance regimes to major asset improvement or replacement works. Options for mitigating the greatest risks should be explored with a view to prioritising those measures that will provide the greatest return on investment in terms of reduced risk. These measures should be integrated with the asset management plan with an appropriate weighting.

RECOMMENDATION 21 – CLIMATE CHANGE ADAPTATION
The effects of extreme weather events on highway infrastructure assets should be risk assessed and ways to mitigate the impacts of the highest risks identified.

A.6.5. PLANNING FOR RESPONDING TO NETWORK DISRUPTIONS

A.6.5.1. Resilience planning is not just about the physical resilience of the highway infrastructure but also about how disruption is managed and the speed of recovery. Climate change and other rising risks may increase the frequency with which Highway Authorities will have to respond to severe weather emergencies. Authorities should establish, in consultation with others, including service providers, emergency services and relevant agencies such as the Environment Agency, or equivalent, operational plans and procedures to enable timely and effective action to mitigate the effects of such weather emergencies as they affect the highway network. There will also be other weather conditions, such as fog or heavy rain, which although possibly causing danger and operational difficulties, would not be considered as emergencies.

A.6.5.2. The content of operational plans and procedures could be based on those developed for Winter Service, adapted to suit the particular risks involved. It will be essential to address specific health and safety issues relevant to each emergency.

A.6.5.3. There are a number of other potential emergency situations which could affect the highway, including those resulting from subsidence, landslip or collapsed walls and oil spills. Although the risk of some such occurrences can be reduced through a risk-based inspection regime, there are likely to be occasional random occurrences and contingency planning should be undertaken.

A.6.5.4. There is also a wide range of other civil emergencies in which the highway maintenance service may need to become involved. In such cases plans, procedures, and responsibilities will be defined in the Highway Authority's Civil Emergency Plan, maintained by the authority's Emergency Planning Department, and related to more specific plans maintained by the Police and other emergency services. Requirements placed on authorities for emergency planning are set out in the Civil Contingencies Act 2004, or equivalent. Local authorities are Category 1 responders under this Act.

A.6.5.5. Operational plans and procedures for severe weather and other emergencies will need to be regularly tested and validated for effectiveness against a range of risk scenarios relevant to the authority's area. Consideration should also be given as to whether specific staff training is needed to support people discharging challenging or unusual roles, either due to the emergency situation itself or the role being a change from their normal duties. Training and exercising should be undertaken .in accordance with the Authority's emergency plan.

A.6.5.6. Recent experiences and consequences of flooding have increased the importance placed by local communities on flood protection measures and the need for effective action by authorities in planning and responding to extreme weather conditions. The Flood and Water Management Act 2012, or equivalent, aims to improve both flood risk management and the way that water resources are managed. The Act creates clearer roles and responsibilities and instils a more risk-based approach. This includes a new lead role for local authorities in managing local flood risk (from surface water, ground water and ordinary watercourses) and a strategic overview role for all flood risk for the EA, or equivalent. They will be the key agency in respect of responding to flood emergencies, and authorities will need to work closely with them.

A.6.5.7. In planning for increased risk of flooding from rivers and sea, authorities should:

- undertake a risk assessment to determine vulnerable highways;
- define alternative routes and progressively bring them up to appropriate standards of maintenance and signing;
- consider promotion of improved flood defences by infrastructure owners;
- consider installation of improved flood protection;
- prepare contingency plans in consultation with other authorities;
- ensure bridge openings and culverts are sufficient to deal with predicted levels of flooding; and

- consider if any critical infrastructure on vulnerable routes could be bypassed by a suitable new route.

A.6.5.8. The contribution of authorities in dealing with flood conditions will depend upon the circumstances but could include:

- signing and maintaining diversions;
- inspection, clearance and maintenance of drainage systems, including outfalls.
- provision and operation of land and water transport;
- encouraging property owners to protect their own property;
- provision and installation of sandbags and other protection in certain cases;
- general support to emergency services; and
- liaising with energy and communications suppliers.

A.6.5.9. CIRIA produced comprehensive guidance on the planning, design, construction, operation and maintenance of sustainable drainage systems (SuDS).

RECOMMENDATION 22 – DRAINAGE MAINTENANCE
Drainage assets should be maintained in good working order to reduce the threat and scale of flooding. Particular attention should be paid to locations known to be prone to problems, so that drainage systems operate close to their designed efficiency.

A.6.5.10. The implications of high winds within an authority area are much less predictable, although weather information can help to assess the risk. Authorities should, as part of highway inventory and inspection arrangements, identify those parts of the network most at risk of obstruction due to fallen trees. Any limited sections, not already considered as part of the Resilient Network assessment, where obstruction could have particularly serious consequences for safety or serviceability should be identified. These could include accesses to relatively isolated communities. It may be appropriate to consider, with arboricultural advice, planned removal and replacement with more suitable trees in some cases.

A.6.5.11. In planning for increased risk of damage from increased wind speeds, Local Highway Authorities should also:

- undertake a risk assessment to identify structures at greatest risk and/or consequences; and
- undertake structural appraisal and consider implications for strengthening or removal.

A.6.5.12. The Scottish approach to high winds is set out in the High Wind Strategy & National Wind Management Guidelines.

A.6.5.13. Advice from weather warnings will need to be taken into account in considering a particular response, e.g. to safeguard the health and safety of operatives, which may limit the extent to which any direct assistance can be provided until conditions have eased. The contribution of authorities to dealing with the consequences of high winds will then depend upon the circumstances, but could include:

- signing and maintaining temporary closures and diversions;
- clearance of fallen and potentially dangerous trees;
- clearance and removal of debris;
- assistance with temporary support and repair of buildings;
- general support to emergency services; and
- liaison with energy and communication suppliers.

RECOMMENDATION 23 – CIVIL EMERGENCIES AND SEVERE WEATHER EMERGENCIES PLANS
The role and responsibilities of the Highway Authority in responding to civil emergencies should be defined in the authority's Civil Emergency Plan. A Severe Weather Emergencies Plan should also be established in consultation with others, including emergency services, relevant authorities and agencies. It should include operational, resource and contingency plans and procedures to enable timely and effective action by the Highway Authority to mitigate the effects of severe weather on the network and provide the best practicable service in the circumstances.

A.6.6. COLLABORATION

A.6.6.1. An integrated approach to the management of severe weather and civil emergencies forms the basis of the UK's approach as defined by the Cabinet Office and should be adopted by Highway Authorities.

A.6.6.2. Working with the community, partner organisations and all parts of the Highway Authority at planning, response and recovery stages, including across boundaries, has been shown to enhance resilience and help to mitigate the impact of threats to network operation. Examples of this approach are agreement of diversion routes, use of community flood wardens and provision of mutual aid between authorities. Lines of communication with other asset owners situated across, over or under the highway may also be useful.

A.6.6.3. Collaboration with the Local Resilience Forum, or equivalent, can help understand the risk environment, link to other responding agencies and share good practice. Depending on the authority this might be facilitated by an Emergency Planning Officer and engagement with these experts should be part of standard procedure in plan development.

A.6.6.4. Neighbouring property owners can have an impact on the resilience of a highway if they fail to adequately discharge their responsibilities as land owners. Trees from neighbouring land blown over in high winds are a frequent cause of blocked roads and associated disruption. Similarly, poorly maintained neighbouring drains or surface water run-off from adjacent fields are a common cause of road flooding. Neighbouring poles, masts and power lines may also have a potential impact. Contact should be made with owners where the network is vulnerable to disruption emanating from their property to advise them of their responsibilities and liability.

A.6.7. COMMUNICATIONS

A.6.7.1. Forecasts of extreme weather and flood events have steadily improved in accuracy over recent years and this is helpful in ensuring that adequate resources can be in place and warnings given to highway users of potential disruption.

A.6.7.2. Authorities should ensure that they have clearly agreed channels for receiving weather and flood forecasts. These should be monitored in real time during periods when extreme weather is expected.

A.6.7.3. Weather forecast information is crucial and the Meteorological Office will issue severe weather warnings and send messages to authorities, other emergency services and the media. These are based on colour coded descriptions:

- Yellow – Be aware, there is the small chance of…;
- Amber – Be Prepared, there is likely to be…; and
- Red – Take Action, there will be…

A.6.7.4. The Environment Agency or equivalent has established a system of flood warning procedures, together with audible warnings in certain areas:

- Flood Alert – Flooding is possible. Be prepared;
- Flood Warning – Flooding is expected. Immediate action required; and
- Severe Flood Warning – Severe flooding. Danger to life.

A.6.7.5. Highway users judge how well disruption is handled principally by the information they receive from authorities, either directly or via the media. Providing timely, credible and useful information to allow people to make informed decisions before they travel, and give advanced indication of what they can expect if they decide to travel is central to this. Highway Authorities should consider providing real time information using the internet and social media as well as the press, radio and TV to maximise coverage. During periods of disruption, authorities should consider giving prominence to the latest travel information on their websites.

A.6.7.6. Authorities should communicate with passengers and other stakeholders as clearly as possible (avoiding technical jargon) to explain what is happening and how services are being affected by the weather or as a result of weather induced damage to infrastructure. Achieving this with maximum effect requires an understanding of the available information channels and how those are being used by travellers and freight customers. Openness and honesty in communication helps build confidence. Even if little information is available, letting people know when they can expect an update is helpful. Photographs on the internet or distributed by social media could be used when appropriate, to improve highway users' understanding of the reasons for the disruption. Passengers and users who have confidence in the information they are being given are more likely to act on advice, potentially helping to relieve rather than add to the situation.

RECOMMENDATION 24 – COMMUNICATIONS
Severe Weather and Civil Emergencies Plans should incorporate a communications plan to ensure that information including weather and flood forecasts are received through agreed channels and that information is disseminated to highway users through a range of media.

A.6.8. LEARNING FROM EVENTS

A.6.8.1. Authorities should regularly review their responses to severe weather, emergency rehearsals and actual responses to identify potential improvement to their severe weather and emergency operational plans and procedures. Where appropriate reviews should be carried out in consultation with other responding organisations and public and businesses affected by the event.

RECOMMENDATION 25 – LEARNING FROM EVENTS
Severe Weather and Civil Emergencies Plans should be regularly rehearsed and refined as necessary. The effectiveness of the Plans should be reviewed after actual events and the learning used to develop them as necessary.

SECTION A.7. PERFORMANCE MANAGEMENT

A.7.1. PERFORMANCE MANAGEMENT

A.7.1.1. Performance management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Parts B and C.

A.7.1.2. As part of their asset management strategy, authorities should establish a performance management framework, including performance measures and targets, to enable monitoring of delivery of the strategy and of performance and to identify the cost of meeting the strategy in the short, medium and long term.

RECOMMENDATION 26 – PERFORMANCE MANAGEMENT FRAMEWORK
A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy. (HIAMG Recommendation 4)

RECOMMENDATION 27 – PERFORMANCE MONITORING
The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken. (HIAMG Recommendation 13)

SECTION A.8. FINANCIAL MANAGEMENT, PRIORITIES AND PROGRAMMING

A.8.1. FINANCING OF HIGHWAY MAINTENANCE

A.8.1.1. Financial constraints, lifecycle planning, making the case for investment and investment strategy are all dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Parts A, B and C. This document should be referred to and the advice below considered supplementary.

A.8.1.2. Valuation and financial reporting is dealt with in the Code of Practice on the Highways Network Asset, published by the Chartered Institute of Public Finance and Accountancy. This document should be referred to and the advice below considered supplementary.

A.8.1.3. There are significant differences in both capital and revenue funding arrangements within the UK. These are not set out in detail in this Code and reference should be made to relevant government advice.

A.8.1.4. Financial plans should be linked to asset management strategy and prepared both for short term activities, such as routine maintenance, and for medium and long term activities, such as preventative maintenance and asset replacement.

RECOMMENDATION 28 – FINANCIAL PLANS
Financial plans should be prepared for all highway maintenance activities covering short, medium and long term time horizons.

RECOMMENDATION 29 – LIFECYCLE PLANS
Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long term investment. (HIAMG Recommendation 6)

A.8.2. BUDGETING PRINCIPLES

A.8.2.1. Budgeting principles should provide the necessary level of flexibility to deliver value for money. They should be set out based on the following considerations and principles:

- the differing life expectancies of various treatments and the future implications of these for the balance of capital and revenue funding;
- the seasonal and weather sensitive nature of many treatments and the service as a whole;
- the uncertainties in prediction of out-turn costs for Winter Service and the need for financial year-end flexibility;
- the need for resilience against the increasing trend in weather related incidents; and

- the need to make provision for emergencies.

A.8.3. PRIORITIES AND PROGRAMMING

A.8.3.1. Priorities and programming are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

A.8.3.2. The highway network should be viewed as a whole when developing priorities, rather than as a series of asset groups such as carriageways, footways, structures, lighting, etc. Consideration should be given to prioritising across asset groups as well as within them.

A.8.3.3. Authorities should seek to share and coordinate short and long term programmes of work with others undertaking works on the highway for several years in advance.

A.8.3.4. Authorities should consider the need to minimise long term damage from the installation, renewal, maintenance and repair of underground apparatus, e.g. use of trenchless technology.

RECOMMENDATION 30 – CROSS ASSET PRIORITIES
In developing priorities and programmes, consideration should be given to prioritising across asset groups as well as within them.

RECOMMENDATION 31 – WORKS PROGRAMMING
A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly.
(HIAMG Recommendation 7)

SECTION A.9. SUSTAINABILITY

A.9.1. SUSTAINABILITY AND HIGHWAY INFRASTRUCTURE MAINTENANCE

A.9.1.1. Authorities will have their own approach to sustainability and relevant aspects may form part of their asset management strategy The UK sustainable development strategy, Securing the Future, includes priority areas for shared action as:

- sustainable consumption and production;
- climate change and energy;
- natural resource protection and environmental enhancement; and
- sustainable communities.

A.9.1.2. Authorities and their partners are pivotal to delivering sustainable communities and to provide focus. Highway infrastructure maintenance has a significant role to play, and impact to make, in the achievement of sustainable development. Authorities should consider developing a policy for sustainable development in highway maintenance. This should form the linkage between the strategic objectives of the authority at the highest level and the materials, practices and processes used on the highway network.

A.9.1.3. Sustainable development for highway infrastructure maintenance involves working within environmental limits whilst achieving a sustainable economy, and is encapsulated as:

- social progress which recognises the needs of everyone;
- effective protection of environment;
- prudent use of natural resources; and
- maintenance of high and stable levels of economic growth and employment.

A.9.1.4. Authorities should accommodate and facilitate litter picking and street cleansing activities where these are the responsibility of other authorities.

A.9.1.5. Carbon management, and in particular reduction of the carbon consumption and associated energy and other costs associated with highway infrastructure operation and maintenance, is an important issue for authorities individually, and also as part of their contribution to wider carbon reduction initiatives.

A.9.1.6. PAS 2080 provides a common framework for all infrastructure sectors and value chain members on how to manage whole life carbon when delivering infrastructure assets and programmes of work.

RECOMMENDATION 32 – CARBON
The impact of highway infrastructure maintenance activities in terms of whole life carbon costs should be taken into account when determining appropriate interventions, materials and treatments.

A.9.2. MATERIALS, PRODUCTS AND TREATMENTS

A.9.2.1. Materials, products and treatments used for highway maintenance will need to meet required standards for effectiveness and durability, but should also make a positive contribution to the public realm.

A.9.2.2. There are a wide range of technical specifications for materials, products and treatments for highway works. Some of these are obligatory, but many provide for significant discretion in their application to particular circumstances. It is important that specifications are fit for purpose otherwise they can increase cost and may also reduce the potential for sustainability, for example by precluding the use of locally sourced materials.

A.9.2.3. The Department for Transport has published Sustainable Highways: A Short Guide, which provides succinct guidance for local authority highway and material engineers on the choice of sustainable materials and techniques for use in highway and footway maintenance as well as new construction.

A.9.2.4. Materials and treatments should be consistent with the character of the area and, for example, do not contribute to the 'urbanisation' of rural areas. Conversely, in heavily trafficked urban areas materials should be of sufficient durability to avoid premature deterioration and consequent poor appearance. The presence of a speed limit should not be the automatic determinant for the application of 'urban' specifications.

A.9.2.5. The Planning (Listed Buildings and Conservation Areas) Act 1980, or equivalent, provides for the protection of conservation areas that have special historical interest. The status can influence the processes required for maintenance in such areas.

A.9.2.6. Historic England, in conjunction with the Department for Transport has published a series of regional guides Streets for All. The right balance of materials and treatments used in particular circumstances should not merely be a technical or financial issue; it should also be one of sustainability. The guidance suggests that where possible, authorities should set up a townscape 'Public Realm Management Team', responsible for overseeing an integrated approach to townscape management and ensuring that policies for the public realm are included in all development frameworks. Whole life costing is also a sustainability issue and should be factored in to the assessment.

A.9.2.7. Authorities may consider identifying a hierarchy of streets and spaces to prioritise the use of more expensive, natural materials. Each area should have a palette of materials appropriate to its location, which allows new and old work to relate to one another. This could be a subset of the maintenance hierarchies referred to in Section A.4 of this Code.

A.9.2.8. Guidance on natural stone surfacing has been produced by SCOTS.

RECOMMENDATION 33 – CONSISTENCY WITH CHARACTER
Determination of materials, products and treatments for the highway network should take into account the character of the area as well as factoring in whole life costing and sustainability. The materials, products and treatments used for highway maintenance should meet requirements for effectiveness and durability.

RECOMMENDATION 34 – HERITAGE ASSETS
Authorities should identify a schedule of listed structures, ancient monuments and other relevant assets and work with relevant organisations to ensure that maintenance reflects planning requirements.

A.9.3. QUALITY MANAGEMENT AND SECTOR SCHEMES

A.9.3.1. Quality management systems are intended to encourage consistent management and organisational processes. If correctly and flexibly applied, they should support a culture of competence, consistency and enable innovation to flourish.

A.9.3.2. Highway maintenance operations can be aligned to a quality assurance regime to facilitate continuous improvement, preferably based on the principles of ISO 9001 that integrates systems of client and service provider.

A.9.3.3. The quantity and cost of maintenance products and materials is relatively easy to determine, but quality can be very variable. A number of National Highway Sector Schemes (NHSS) have been developed to improve the consistency of the products and ensure that they satisfy purchaser requirements. Some sector schemes are administered by the United Kingdom Accreditation Service (UKAS).

A.9.3.4. The Highway Authorities Product Approval Scheme (HAPAS) provides a means for manufacturers and suppliers to obtain approval for the use of innovative and proprietary products within an agreed performance regime.

A.9.3.5. There are also a number of relevant documents published by the Road Surface Treatment Association and ADEPT.

A.9.4. ENVIRONMENTAL MANAGEMENT

A.9.4.1. In pursuing the objective of network sustainability one of the issues will be maximising the environmental contribution made by highway maintenance. An Environmental Management System to ISO 14000 will help address the range of relevant issues affecting the environment including:

- carbon costs and energy reduction (see Sustainability above);
- noise;
- materials utilisation;
- waste management and recycling
- air quality and pollution control;
- nature conservation and biodiversity; and

- environmental intrusion.

A.9.5. NOISE REDUCTION

A.9.5.1. Road traffic noise is a major environmental consideration, both for those living close to heavily used inter-urban highways and also within urban areas. Legislation is progressively seeking to reduce road noise from vehicles but noise from running surfaces can also be intrusive.

A.9.5.2. Where running surfaces are renewed or resurfaced, the opportunity exists to mitigate the effects of traffic noise. Whenever major maintenance schemes of this type are being planned, authorities should consider the option of a lower noise alternative.

A.9.5.3. The statutory duty to 'secure the expeditious movement of traffic' imposed by the Traffic Management Act 2004, or equivalent, could place greater emphasis on night working. Close consultation with residents and Environmental Health Officers, particularly in urban areas, is necessary.

A.9.6. MATERIALS UTILISATION

A.9.6.1. Highway maintenance consumes significant quantities of materials, and policies for materials purchasing and utilisation can make a considerable contribution to sustainability.

A.9.6.2. Authorities should consider, wherever practicable and cost effective, to maximise the use of:

- local materials to minimise transport costs, support the local economy, and to maintain local character. This will be of particular importance for the use of visible materials in conservation areas; and
- products made from recycled materials.

A.9.6.3. Sustainable purchasing and materials utilisation may have cost implications and authorities will need to balance these against the environmental benefits. They should also consider carefully whether some limited reduction in material specification might be acceptable in order to achieve a more sustainable outcome without excessive cost.

A.9.7. WASTE MANAGEMENT AND RECYCLING

A.9.7.1. Authorities may have statutory or other indicators and targets relating to waste disposal and it is important that highway infrastructure maintenance provides support to these so far as practicable.

A.9.7.2. The Waste and Resources Action Programme (WRAP) is a Government-funded programme established to promote resource efficiency.

A.9.7.3. Authorities should seek wherever practicable and cost effective to:

- retain and re-use materials on site to avoid environmental implications of transport and disposal;

- maximise the value of the re-used material rather than utilise for low grade purposes;
- make use of 'recycle in place' processes in appropriate situations;
- support recycled market development through the purchase of recycled products wherever possible; and
- ensure that the quantity of material that cannot be re-used or recycled is minimised and disposed of at licensed sites.

A.9.8. AIR QUALITY AND POLLUTION CONTROL

A.9.8.1. A number of maintenance operations have the potential to cause noise, air or water pollution and authorities will need to take particular account of statutory requirements. Advice from Environmental Health Departments and the Environment Agency, or equivalent, should also be sought where necessary. In some cases environmental inconvenience to the community may be inevitable, but authorities should seek to mitigate this wherever practicable, for example by phasing and scheduling of works to avoid sensitive periods and potentially difficult weather conditions.

A.9.8.2. Storage areas for fuel, salt and other materials, both in depots and on site, have the potential for pollution and care should be taken in siting them. Permanent and temporary storage areas should be sited and managed in accordance with requirements of the Local Planning Authority and the EA. In particular, they should not be sited where they could cause damage to landscape or nature conservation or have the potential to pollute watercourses or groundwater.

A.9.9. NATURE CONSERVATION AND BIODIVERSITY

A.9.9.1. Highway verges and the wider 'soft estate' both have implications for conservation and biodiversity. Specialist advice should be sought on the management of these areas to achieve the correct balance between safety, amenity, nature conservation and value for money. Where landscape management plans, biodiversity action plans, or environmental databases exist they should be consulted before any work is carried out.

A.9.9.2. Certain named species and habitats are protected by law and all highway infrastructure maintenance works must comply with these requirements. Where designated sites are within or adjacent to the highway boundary, advice should be sought from Natural England, or equivalent, or local wildlife trusts, etc. Legislation requires that Natural England, or equivalent, are informed where important habitats and species may be affected, such as the removal of trees used as bat roosts. This should be done well in advance of maintenance work to allow for seasonal factors.

A.9.9.3. Authorities should recognise the contribution that trees make to the economic, social and environmental well-being of the community. In urban areas roadside trees have a particular landscape value, are often highly regarded by the community, and should be carefully managed. Authorities should develop a policy for the installation, subsequent condition inspection and maintenance of highway trees. Care should be taken to avoid damage to trees during highway infrastructure maintenance and improvement works and guidance for the planning, installing and maintenance of utility services in proximity to trees issued by NJUG should be followed.

A.9.9.4. In 2014, the Tree Design Action Group (TDAG) produced a good practice guide Trees in Hard Landscapes: A Guide for Delivery in association with the CIHT, ICE, ICF and CIBSE.

RECOMMENDATION 35 – ENVIRONMENTAL IMPACT, NATURE CONSERVATION AND BIODIVERSITY
Materials, products and treatments for highway infrastructure maintenance should be appraised for environmental impact and for wider issues of sustainability. Highway verges, trees and landscaped areas should be managed with regard to their nature conservation value and biodiversity principles as well as whole-life costing, highway safety and serviceability.

A.9.10. PLANTS AND INJURIOUS WEEDS

A.9.10.1. The Wildlife and Countryside Act 1981 makes it an offence to plant, or otherwise cause to grow any plant in the wild at a place outwith its native range. This can cause restrictions on verge and other maintenance operations. The Wildlife and Natural Environment (Scotland) Act 2011 has brought in new provisions governing the introduction of non-native species in Scotland.

A.9.10.2. The Noxious Weeds Act 1959 places a responsibility on the authorities to take action to inhibit the growth and spread of injurious weeds growing within the highway.

A.9.10.3. Where injurious weeds on highway land are a nuisance to adjacent landowners, it is advisable to work with the landowner to ensure that weed control measures are undertaken simultaneously to avoid recontamination across the highway boundary. The prescribed weeds are:

- ragwort;
- broad leaved dock;
- curled dock;
- creeping thistle; and
- spear thistle.

A.9.10.4. Ragwort, in particular is extremely hard to eradicate and some authorities have bylaws to control it. The seed can survive 20 years in the soil before germinating and any root left behind when dug up will re-grow. It is also highly toxic to horses, cattle and sheep. It is normally biennial producing small rosettes in the spring and flowers in its second year from July onwards. Cutting is used by many authorities for control to prevent the plant flowering and seeding, and two full cuts of the verge by the end of June every year for five years will inhibit seeding and spreading.

A.9.10.5. Ragwort can be only be completely eradicated by digging out before it flowers, which in most cases will be impractical for authorities with large areas of verge, or by spraying an appropriate weed killer. On ungrazed land such as roadside verges, unselective weed killer use could also destroy many desirable wild species and labour intensive spot treatment may be preferable.

A.9.11. ENVIRONMENTAL INTRUSION

A.9.11.1. Depots and areas for materials storage will provide the most visible evidence of the extent of environmental awareness in the service. Every effort should be made to ensure that they are located, designed, maintained and operated to the highest practicable environmental standards. In many cases these standards will be required as a condition of planning, but planning conditions are not able to address all operational issues and should therefore be considered as a minimum.

A.9.11.2. Poorly managed materials and temporary storage areas can rapidly be adopted by others as illegal waste dumps for which authorities may become liable. In any event such poorly managed storage areas would clearly be incompatible with the objective of sustainability.

A.9.11.3. Increasing emphasis on quality of public space and streetscene brings increased importance to the avoidance of ‘clutter’. Excessive and redundant signs and other street furniture can contribute to environmental intrusion and adversely affect overall streetscape. Signing which is inappropriate or no longer necessary is, at best, intrusive and, at worst, a distraction and risk to users. Opportunities should be taken to remove or simplify redundant signing wherever possible in conjunction with planned maintenance works.

A.9.11.4. The Department for Transport’s Local Transport Note 1/08 Traffic Management and Streetscape aims to enhance streetscape appearance by encouraging designers to minimise the various traffic signs, road markings and street furniture associated with traffic management schemes, and hence minimise clutter.

RECOMMENDATION 36 – MINIMISING CLUTTER
Opportunities to simplify signs and other street furniture and to remove redundant items should be taken into account when planning highway infrastructure maintenance activities.

A.9.12. ENVIRONMENTAL CONSULTATION AND ASSESSMENT

A.9.12.1. Environmental issues cover a very wide range, each of which is a specialist area and on which experience and good practice continues to develop. There will be a wide range of local environmental and conservation groups having specialist interests. Although engagement with such local groups will present particular challenges to highway infrastructure maintenance managers, including the management of differing points of view, perseverance is likely to bring benefits both in terms of advice and environmental competence and also through greater public understanding of highway maintenance problems.

A.9.12.2. Environmental assessments may be required for certain works and authorities should be clear on the circumstances where such assessment is necessary.

A.9.13. FACTORS TO CONSIDER FOR SUSTAINABILITY

A.9.13.1. Tables 6 and 7 provide factors for consideration when undertaking a sustainability appraisal either of individual maintenance schemes or of the maintenance service as a whole. Actions to be taken to address each of the issues are not specified but should be determined locally taking into account local priorities and constraints. The list is not exhaustive but includes a number of the key issues that may need to be addressed.

Table 6 – Factors to Consider for Sustainability (i)

Issue	Check
Local Economy	
Viability and vitality	Does the service or scheme affect the vitality and viability of the local community?
Local employment	What contribution is made to local employment by the service or scheme?
Local materials	Does the service or scheme fully make use of opportunities to use local materials?
Community Value	
Community engagement	Does the service engage well with all sections of the local community?
Meeting community needs	Does the service or scheme meet the needs of all sections of the local community?
Quality of public space	Does the scheme make an effective contribution to the quality of public space?
Noise Pollution	
Offices and depots	Are all opportunities realised to minimise noise pollution at offices and depots?
Works sites	Are all opportunities realised to minimise noise from vehicles and plant at works sites?
Traffic	Are locations of high traffic noise identified and mitigation measures included in schemes where appropriate?
Air Pollution	
Vehicles	Is there a policy and programme for vehicle replacement and modification to minimise air pollution (with targets)?
Plant and machinery	Is there a policy and programme for plant replacement and modification to minimise air pollution (with targets)?
Water Management	
Offices and depots	Are there arrangements in all offices and depots to minimise water use (with targets)?
Works sites	Are there arrangements in all works sites to avoid water wastage (with targets)?
Pollution control	Are there policies and procedures in place at all depots and works sites (with targets) to avoid water pollution especially from oil spills and salt leachate?
Flood management	Are locations of high flood risk identified and mitigation measures included in schemes where appropriate?

Table 7 – Factors to Consider for Sustainability (ii)

Issue	Check
Visual Intrusion	
Depots	Are all depots located and designed to minimise visual intrusion?
Works sites	Are all works sites located to minimise visual intrusion?
Materials Utilisation	
Location	Does the materials selection criteria give priority to local sources?
Design	Does the design process include consideration of minimum materials?
Performance	Do the design criteria allow for reduced specification in order to mitigate environmental affects?
Waste Management	
Minimisation	Do the design process and criteria facilitate the designing out of waste?
Reuse	Does the design process encourage the use of re-used materials as the first option?
Recycling	Does the design process encourage the use of recycled materials as the second option?
Energy Management	
Offices and deports	Are there policies and procedures in place at all offices and depots (with targets) to minimise energy usage?
Works sites	Are there policies and procedures in place at all offices and depots (with targets) to minimise energy usage?
Schemes	Do all works and schemes maximise the use of cold rather than hot technology?
Biodiversity	
Policies	Has the service adopted biodiversity policies and procedures?
Trees and landscaping	Are all policies and practices for maintenance of trees and landscaping designed to maximise nature conservation value?
Works programmes	Are works programmes adjusted to assist biodiversity requirements?

SECTION A.10. PROCUREMENT

A.10.1. PROCUREMENT GUIDANCE

A.10.1.1. Guidance on procurement issues in England can be found through the HMEP website.

A.10.1.2. In Scotland guidance can be found in the Scottish Road Maintenance Review and in Northern Ireland via the DfI Procurement Branch.

WELL-MANAGED HIGHWAY INFRASTRUCTURE

PART B. HIGHWAYS

SECTION B.1. INTRODUCTION TO PART B – HIGHWAYS

B.1.1. INTRODUCTION

B.1.1.1. Part B of Well-managed Highway Infrastructure covers specific issues and themes regarding highways themselves, and includes the following asset types:

- carriageways;
- footways;
- public rights of way;
- cycle routes;
- highway drainage systems;
- embankments and cuttings;
- landscaped areas and trees;
- fences and barriers;
- traffic signs and bollards; and
- road markings and studs.

B.1.1.2. The overarching principles and common themes of maintaining highway infrastructure are covered within Part A. Asset specific guidance for structures and lighting are covered in Part C and Part D respectively.

SECTION B.2.
LEGAL FRAMEWORK – HIGHWAYS

B.2.1. INTRODUCTION

B.2.1.1. General duties and powers are dealt with in Part A of this Code. This section contains information on duties and powers specifically related to highways.

B.2.2. HIGHWAY SPECIFIC LEGAL CONSIDERATIONS

B.2.2.1. The Highways Act 1980 sets out the main duties of Highway Authorities in England and Wales. In particular, Section 41 imposes a duty to maintain highways maintainable at public expense, and almost all claims against authorities relating to highway functions arise from the alleged breach of this section.

B.2.2.2. Section 58 provides for a defence against action relating to alleged failure to maintain on grounds that the authority has taken such care as in all the circumstances was reasonably required to secure that the part of the highway in question was not dangerous for traffic.

B.2.2.3. In Scotland, the key road maintenance legislation is contained in the Roads (Scotland) Act 1984, Section 1, which provides a duty for local roads authorities to keep a list of 'public roads' and to maintain and manage them. There is no direct equivalent of the Highways Act 1980 Section 58 providing defence against alleged failure to maintain, although case law will have established some basis for this.

B.2.3. WINTER SERVICE

B.2.3.1. The statutory basis for Winter Service in England and Wales is addressed through Section 41 (1A) of the Highways Act on the 31st October 2003, by Section 111 of the Railways and Safety Transport Act 2003. The first part of Section 41(1) reads:

a) 'The authority who are for the time being the Highway Authority for a highway maintainable at the public expense are under a duty, subject to subsections (2) and (4) below, to maintain the highway.

b) (1) In particular, a Highway Authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice'.

B.2.3.2. Section 150 of the Highways Act 1980 also imposes a duty upon authorities to remove any obstruction of the highway resulting from '*accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause*'.

B.2.3.3. In addition, the Traffic Management Act 2004 placed a network management duty on all local traffic authorities in England. It requires authorities to do all that is reasonably practicable to manage the network effectively to keep traffic moving. In meeting the duty, authorities should establish contingency plans for dealing promptly and effectively with unplanned events, such as unforeseen weather conditions, as far as is reasonably practicable.

B.2.3.4. Given the scale of financial and other resources involved in delivering the Winter Service, it is not considered reasonable either to:

- provide the service on all parts of the Network; and
- ensure carriageways, footways and cycle routes are kept free of ice or snow at all times, even on the treated parts of the network.

B.2.3.5. In Scotland statutory responsibilities are defined by Section 34 of the Roads (Scotland) Act 1984 which requires that "a road authority shall take such steps as it considers reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads".

B.2.3.6. In Northern Ireland, the Roads (NI) Order 1993 SI 1993/3160 (NI 15) provides, in Article 10, a duty for the Department for Infrastructure to "*remove snow, soil etc which has fallen on a road*". Section 9 of the Order also enables the authority to "*take such action as it considers reasonable to prevent snow or ice interfering with the safe passage of persons and vehicles using the road*". However paragraph 7 of Article 10 provides protection from liability and states that "*Nothing in this Article operates to confer on any person a right of action in tort against the Department for failing to carry out any duty imposed on it under the Article*".

SECTION B.3. ASSET MANAGEMENT INFORMATION – HIGHWAYS

B.3.1. INTRODUCTION

B.3.1.1. Asset data management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

B.3.1.2. Asset management systems are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance, Part C. This document should be referred to and the advice below considered supplementary.

B.3.2. PRINCIPLES AND CONSIDERATIONS

B.3.2.1. A highway asset management system is essential to deliver an effective and efficient approach to asset management. This should typically have the capacity to cover all of the asset types outlined in Section B.1.1.1, with the actual data collected aligning to the authority's own asset data management strategy.

B.3.2.2. Authorities will require a system to suit particular local needs and responsibilities, procurement arrangements and other factors. It may include specialist applications indirectly related to highway maintenance, for example traffic and accident analysis.

B.3.2.3. Compatibility between highway asset management systems and those for structures and lighting will support a holistic approach to managing the network.

B.3.2.4. UKPMS is the national standard for pavement management systems, where the usage of the word 'pavement' refers to the technical definition of 'the collective term for all hardened surfaces within the highway, including carriageways, footways and cycle routes'.

B.3.2.5. Other asset management systems that operate outside of the UKPMS accreditation system may also provide suitable functionality and value for Highway Authority users. The specifications and performance of such systems should be reviewed and assessed against both user requirements and areas where national consistency is required.

B.3.2.6. Systems that are accredited to the UKPMS standard have successfully demonstrated that they meet the current national standards with respect to:

- Loading network, inventory and condition data, including data collected by:
  - Visual surveys (CVI and DVI);
  - SCANNER and TRACS Type Surveys (TTS);
  - Footway Network Surveys (FNS);

  - SCRIM;
  - GripTester; and
  - Deflectograph.
- Data processing
- Condition reporting, including national reports for England, Northern Ireland, Scotland and Wales and local reports for unclassified roads and footways
- Financial reporting to support asset management, including
  - Inventory reports;
  - Accumulated and annual depreciation of carriageways; and
  - Supporting information for footways, cycletracks and paved verges.

B.3.2.7. UKPMS accreditation is governed by the Road Condition Management Group (RCMG) on behalf of the UK Roads Board. More information about UKPMS – including a current list of accredited systems - is available from the RCMG page on the UKRLG website.

SECTION B.4. ASSET CONDITION AND INVESTIGATORY LEVELS – HIGHWAYS

B.4.1. INTRODUCTION

B.4.1.1. This section deals with asset condition for each element of the network and its contribution to safety, serviceability and sustainability.

B.4.2. PRINCIPLES AND CONSIDERATIONS

B.4.2.1. Each element of the network could have different condition requirements, a minimum one to satisfy the need for safety, and higher ones, designed to meet local requirements for serviceability or sustainability, as part of the asset management strategy adopted by the authority. These different higher levels have previously been given a range of names including ‘warning levels’, ‘intervention levels’ and ‘investigatory levels’. In this Code the term has been referred to as ‘investigatory levels’, as failure to reach the defined level in most cases could give rise to a range of responses each of which needs to be further investigated, prior to action being taken. There will be certain circumstances, of course, primarily for safety reasons, where an immediate response is necessary.

B.4.2.2. The term ‘intervention level’ has been retained only for use with the automatic treatment selection criteria used in UKPMS, as the system does actually ‘intervene’ at the defined level of condition. It will, however, always be referred to as system intervention level (SIL) for the avoidance of confusion.

B.4.2.3. The following paragraphs set out the suggestions for the nature of contributions made by each element of the network towards safety, serviceability and sustainability.

B.4.2.4. Each element of the network will contribute differently to the objective of customer service and possibly within different timescales. For example, good surface condition or signing will have an immediately positive effect, whilst the effect of good quality drainage will probably be imperceptible for most of the time.

B.4.2.5. As outlined in Section A.4.1.4, the level of customer service is generally more relevant when applied to the whole of the network and it is therefore not dealt with by this Code under each of the individual elements in the following sections.

B.4.3. CONDITION OF CARRIAGEWAYS

B.4.3.1. The condition of the carriageway fabric can contribute to the core objectives as follows:

Network Safety	nature, extent and location of surface defects;
	nature and extent of edge defects; and
	nature and extent of surface skidding resistance.
Network Serviceability	nature and extent of surface defects;
	ride quality of the surface; and
	resilience of the network.
Network Sustainability	surface noise attenuation characteristics;
	nature and extent of surface defects;
	nature and extent of carriageway deflection; and
	usage and verge creep.

B.4.4. CONDITION OF FOOTWAYS

B.4.4.1. The condition of footways can contribute to the core objectives as follows:

Network Safety	nature, extent and location of surface defects; and
	nature and extent of kerb and edging defects.
Network Serviceability	nature and extent of surface defects;
	extent of encroachment and weed growth;
	the level of friction provided by the surface;
	the quality of the surface; and
	integrity of the network.
Network Sustainability	convenience and ease of use;
	nature extent and location of surface defects;
	extent of damage by over-running and parking; and
	rural footways being lost to grass ingress.

B.4.4.2. Securing improvement in the safety and serviceability of footways and cycle routes, in particular network integrity, will be a necessary component for encouraging active travel, e.g. walking as an alternative to the car. It will be important for maintenance strategy positively to address this.

B.4.4.3. It will also be important in determining priorities for footway maintenance to ensure that opportunities are taken to aid social inclusion, particularly improving accessibility for older and people with disabilities and also the use of prams and pushchairs. This should be included as part of the Value Management process described in Section B.6.9. Proposed treatments may include the provision of dropped kerbs in suitable locations and textured paving adjacent to crossing points at marginal cost during the course of works. There is a statutory duty on service providers under the Equality Act 2010 to take reasonable steps to remove or alter physical features to improve access for people with disabilities, or provide an alternative method of making services available.

B.4.4.4. Although ensuring the safety of footways for users will be a priority, in some cases the presence of roadside trees may complicate the provision of footway surface regularity. The radical treatment or complete tree removal necessary to ensure surface regularity may not be possible or desirable and reduced levels of surface regularity may be a more acceptable outcome.

B.4.4.5. Where footways are remote from carriageways, safety and security of users will be an important consideration, both from the point of view of unauthorised vehicular use and quality of lighting. Maintenance strategy should pay particular attention to this.

B.4.5. CONDITION OF CYCLE ROUTES

B.4.5.1. The condition of cycle routes can contribute to the core objectives as follows:

Network Safety	nature, extent and location of surface defects; and
	nature and extent of kerb and edging defects.
Network Serviceability	nature and extent of surface defects;
	extent of encroachment and weed growth;
	the level of friction provided by the surface particularly with regard to ironwork;
	the quality of the surface; and
	integrity of the network.
Network Sustainability	convenience and integrity of the network;
	nature extent and location of surface defects;
	extent of damage by over-running and parking; and
	cycle routes being lost to grass ingress / verge creep due to usage.

B.4.5.2. Securing continuous improvement in the safety and serviceability of cycle routes, in particular network integrity, will be a necessary component for encouraging cycling as an alternative to the car. It will be important for maintenance strategy positively to address this.

B.4.5.3. Network integrity is a particularly important consideration where cycle routes are segregated for part of their length, but intermittently rejoin the carriageway. In these circumstances a reasonably consistent level of maintenance should be provided and attention paid to carriageway edge condition in the un-segregated sections.

B.4.6. CONDITION OF PUBLIC RIGHTS OF WAY

B.4.6.1. The condition of PROW can contribute to the core objectives and to the broader quality of life objectives associated with leisure and recreation.

B.4.6.2. The requirements for PROW will be determined as part of a Rights of Way Improvement Plan (ROWIP), in consultation with the Local Access Forum established by the Countryside and Rights of Way Act 2000.

B.4.6.3. PROW are not a Roads Authority function in Scotland.

B.4.7. CONDITION OF HIGHWAY DRAINAGE SYSTEMS

B.4.7.1. The condition of highway drainage systems can contribute to the core objectives as follows:

Network Safety	accumulation of water on carriageways, footways and cycle routes.
Network Serviceability	accumulation of water on carriageways, footways and cycle routes.
Network Sustainability	polluted effluent from clearing of highway drainage should not be directed into watercourses;
	authorities have a duty to prevent nuisance and danger to adjoining landowners by flooding and should also work with others in the wider community to minimise the future risk of flooding;
	inadequate drainage of the highway structure will reduce effective life and increase maintenance liability; and
	integrity of systems, root ingress, blockage / collapse, exceedance.

B.4.7.2. Highway drainage elements fall into five main categories:

- gullies, grips and ditches, which may be obstructed by the growth of vegetation or damaged by traffic. In most cases the responsibility for maintenance of ditches will rest with the adjoining landowner;

- culverts under roads which may be affected by blockage, subsidence or structural damage;
- other piped drainage which may be affected by blockage or subsidence;
- sustainable urban drainage systems, which may require special maintenance attention for maximum effectiveness; and
- surface boxes and ironwork for both drainage and non-drainage applications, which may be affected by subsidence or obstructed access.

B.4.7.3. More information on culverts can be found in Section C.2 of this Code.

B.4.7.4. HMEP has produced guidance on the management of highway drainage assets. Authorities should consider this guidance when making decisions on the management of drainage assets.

B.4.7.5. Material arising from all road drainage emptying and cleansing operations has potential implications for pollution and should be disposed of correctly in accordance with Environment Agency, or equivalent authority, requirements.

B.4.7.6. Where despite effective maintenance operations, flooding of the highway occurs, with implications for safety or serviceability, relevant warning signs should be placed in position as quickly as possible and users advised through local media. The cause of the flooding should be determined and addressed as appropriate, in order to restore the highway to a reasonable condition.

B.4.7.7. The highway may flood if the surrounding land is in flood and there are limitations to the action that can be reasonably taken. If it is subsequently determined that the flooding is attributable to deficiencies in infrastructure or the maintenance regime, given the nature of the weather conditions under which it occurred, then action to permanently relieve the problem should be considered. If the event is attributable to the actions of a third party, the matter should be taken up with them at the earliest opportunity.

B.4.7.8. Ironware comprising covers, gratings, frames and boxes set in carriageways, footways and cycle routes has the potential to compromise safety and serviceability, and in certain cases cause noise and disturbance to local residents.

B.4.8. CONDITION OF PRIVATELY OWNED INFRASTRUCTURE

B.4.8.1. Responsibility for defective infrastructure, e.g. ironwork, cabinets and poles, where this is part of the apparatus installed by a utility company lies with the company. Defects identified during inspection or from users should be formally notified to the utility, with a follow up procedure to ensure that dangerous defects are remedied within a specified timescale. However, authorities need to be mindful of their duty to maintain and the circumstances in which they can be held liable for defective privately owned infrastructure.

B.4.9. CONDITION OF EMBANKMENTS AND CUTTINGS

B.4.9.1. The condition of embankments and cuttings can contribute to the core objectives as follows:

Network Safety	risk of loose material falling to injure users or damage facility.
Network Serviceability	risk of damage or service interruption.
Network Sustainability	damage or loss of habitat;
	interruption or pollution of watercourse;
	extent of damage and reduced life; and
	integrity of structure.

B.4.9.2. The probability of failure will be affected by soil conditions and drainage. The impact of embankment or cutting failure will generally be high in all situations, but particularly so on important high speed links, or where dwellings could be affected. In such circumstances, the condition of embankments and cuttings will require a robust regime of inspection, and possibly continuous condition monitoring.

B.4.9.3. Slips and rock-falls from embankments and cuttings are relatively infrequent but the frequency and severity of such events may be affected by climatic change. Authorities should have records of relevant locations and should establish an inspection and maintenance regime based on a local risk assessment. In higher risk locations, or where ground conditions are difficult, specialist geotechnical advice should be obtained.

B.4.10. CONDITION OF LANDSCAPED AREAS AND TREES

B.4.10.1. The condition of landscaped areas and trees can contribute to the core objectives as follows:

Network Safety	obstruction to user visibility and legibility of traffic signs;
	fallen trees or overgrown vegetation that physically obstructs part of the highway;
	falling branches from trees;
	leaf fall from trees causing slippery surface; and
	root growth affecting surface regularity.
Network Serviceability	potential for service interruption; and
	quality of user experience.
Network Sustainability	landscape conservation;
	mitigation of climate change effects;
	support for habitat and biodiversity;
	problems of root growth for surface, structure and highway drainage; and
	maintaining healthy trees, root severance, ivy clearance.

B.4.10.2. The probability of landscaping and tree failure will generally be low but is likely to increase as a result of climate change and during periods of severe weather. Probability of failure will increase with a rise in the incidence of disease such as ash dieback. The impact will generally be related to safety or damage to road surfaces or property, and will increase on higher speed roads, areas with higher pedestrian levels and the proximity to property. The inspection and maintenance regime should identify high risk locations.

B.4.10.3. The condition of landscaped areas has major implications for all of the core objectives. The maintenance regime will therefore require particularly careful consideration to ensure that the necessary balance continues to be achieved. It is also possibly the most visible aspect of the highway, of wide interest to both public and special interest groups, and provides the opportunity to demonstrate sensitivity and flexibility in maintenance policy.

B.4.10.4. The obstruction of street lighting and traffic signs can be a major safety risk to users. A risk based inspection process should be developed to identify such obstructions. Trees and other foliage should be trimmed back to allow the lighting to function and the signs to be legible, while maintaining the shape of the tree wherever possible. More details can be found in Section D.5 of this Code

B.4.10.5. The soft estate includes areas of land having various functions, for example habitat, nature conservation interests, screening, planting, and wild flower diversity. The verge serves a safety and refuge function and to a lesser extent and in certain situations an amenity. The soft estate can be included in highway maintenance strategy but it requires a specialist expertise.

B.4.10.6. Dealing first with requirements for safety, vegetation either on verges, other parts of the soft estate or on private land, should not restrict visibility at junctions, access points and bends. Many highways have evolved rather than being formally designed and visibility and sight lines do not always exist. However, where they do, these should be kept clear and signs, lights, and marker posts should not be obstructed. It may also be necessary for vegetation to be cut back in order to enable inspections or surveys.

B.4.10.7. Authorities should provide for flexibility in applying judgement in urban and rural areas, and these should take account of the character of the area rather than be determined solely by speed limit considerations.

B.4.10.8. The growth of weeds in footways and cycle routes, hardened verges, central reserves filter drains and along kerb lines, may cause structural damage, drainage issues and the general perception of such growth is that it is untidy. Indeed, in some circumstances weeds have been considered to have implications for pedestrian safety. Weed growth is also a source of significant community interest and service requests. Weed treatment should therefore be undertaken according to traffic and pedestrian usage and to a level of usage that takes account of local concerns. The use of weed-killers should be the minimum compatible with the required results.

B.4.10.9. It will be important to co-ordinate arrangements for weed spraying with street cleansing arrangements, which may be the responsibility of other authorities and it may be possible to facilitate co-operative arrangements.

B.4.10.10. Specialist environmental guidance should be adhered to regarding the materials used for weed spraying and the frequency of application, in the light of developing levels of usage. Noxious weeds should be dealt with on an ad hoc basis. All weed spraying should be carried out in accordance with the Control of Pesticides Regulations 1986. Only approved pesticides may be used, these are chemicals listed in the Plant Protection Products (Sustainable Use Regulations) 2012.

B.4.10.11. In 2015, the Department for Environment, Food and Rural Affairs (Defra) published their Best Practice Guidance Notes for Integrated and Non-chemical Amenity Hard Surface Weed Control, which aims to minimise the use of pesticides in public places. Following this release, APSE issued a briefing note on The Need for Integrated Weed Control.

B.4.10.12. Cutting of trees should be considered where there are special requirements in visibility areas or across central reserves, and owners of private hedges should be requested to adopt similar levels of cutting. Significant pruning or felling of trees, even for safety reasons, can be the subject of significant local concern and should only be done with specialist advice and support. BS8545 demonstrates that if the right trees are properly planted and given correct structural pruning at the right time, the trees should not need any further significant pruning.

B.4.10.13. Trimming of hedges should ensure that visibility sight lines and road signs are not obscured, and will often be the responsibility of adjoining landowners. Any action taken must be in accordance with the requirements of the European Birds Directive (2009) and the Wildlife and Countryside Act 1981, which includes protection for birds, their nests and other relevant legislation. Significant nature conservation benefits will result from this practice. Any trimming should, as far as possible, be done in late winter, to avoid the bird-nesting season and to allow birds and mammals the maximum opportunity to take advantage of any fruits or seed present.

B.4.10.14. The requirements for tree maintenance can be greatly reduced by the careful selection of trees when planning planting or replacement operations. Pruning after planting should only be necessary where it is required to enhance or guide the shape of the tree. Trees which require pollarding should be avoided as it is costly, time consuming and unattractive. Expert advice should always be sought in the management of any tree within the highway environment, whether on highway land or not. Proposed tree planting should consider proximity to existing or planned street lighting, to minimise the risk of shrouding the street lights, or casting shadows on the highway.

B.4.11. CONDITION OF FENCES AND BARRIERS

B.4.11.1. The condition of fences and barriers can contribute to the core objectives as follows:

Network Safety	integrity and location of safety fencing for vehicles, pedestrians and all road users.
Network Serviceability	risk of livestock disrupting traffic.
Network Sustainability	appearance and condition of fencing.

B.4.11.2. The impact of vehicle safety on fence failure will be higher with increasing difference in vertical level between the road and the adjacent land. It will be particularly so adjacent to railways and at approaches to bridges over railways. The DfT publication *Managing the Accidental Obstruction of the Railway by Road Vehicles* provides more guidance on. Impact will also be higher on higher speed roads. Impact of failure to pedestrian barriers will increase with volumes of vehicles and pedestrians, especially children, and again where railways, rivers and similar high risk features are concerned.

B.4.11.3. All high risk situations will require a robust inspection regime with a commensurate high level of condition. Road restraint systems should be maintained in a sufficiently sound structural condition to serve their function and not be dangerous to road users or pedestrians.

B.4.11.4. All fences and barriers, whether for safety purposes or general use, are potentially important features and their overall appearance is an environmental consideration. They should be cleaned and painted when necessary and where safety fencing is provided with chevron markings, these should be dealt with in accordance with the cleaning regime for traffic signs.

B.4.12. CONDITION OF TRAFFIC SIGNS AND BOLLARDS

B.4.12.1. The condition of signs and bollards can contribute to the core objectives as follows:

Network Safety	identification of risk to users; and
	separation of potential traffic conflicts.
Network Serviceability	contributes to ease of use; and
	contributes to network integrity.
Network Sustainability	support of sustainable transport mode;
	contribution to local economy; and
	heavy traffic routing can optimise maintenance.

B.4.12.2. The impact of failure will be greater for regulatory signs than for warning signs, the impact of which will be greater than direction signs. The probability of sign failure is generally low, although it will be higher in areas subject to vandalism. However, the probability of sign illegibility, defectiveness or clutter is much higher.

B.4.12.3. Traffic signs and bollards represent a highly visible component of the highway network, highly valued by users. At best they can significantly affect both network efficiency and the convenience of users. At worst they can be intrusive, confusing and capable of detracting even more significantly from the local environment, if in poor condition.

B.4.12.4. Although in many circumstances illuminated signs are essential, the use of high-reflectivity, non-illuminated signs can bring benefits in terms of sustainability. This should be a consideration where legally permitted, both for new signs and on replacement, and should also be considered during any network integrity inspections.

B.4.13. CONDITION OF ROAD MARKINGS AND STUDS

B.4.13.1. The condition of road markings and studs can contribute to the core objectives as follows:

Network Safety	route delineation, particularly in darkness and poor weather; and
	potential for damage and injury if loose.
Network Serviceability	ease of use, particularly in darkness and bad weather.
Network Sustainability	support of sustainable transport modes;
	edge delineation to reduce edge damage; and
	movement of wheel tracking to reduce localised damage.

B.4.13.2. The impact of failure will be greater for mandatory markings than others. The probability of sign failure is generally low, but the probability of marking wear is higher and increases with traffic volume.

B.4.13.3. Many road markings are used to give effect to regulatory provisions and it is important that their legal status is not affected by undue wear or damage. A high proportion of road markings are essential for road safety or fundamental to the implementation of integrated transport policy, for example traffic calming schemes, bus priority measures and the delineation of cycle routes. If such markings are not kept in good order, the measures may lose effectiveness and the success of transport integration compromised. Where road markings become obscured by mud or spillages action should be taken to clean the road surface.

B.4.13.4. All mandatory road markings existing before resurfacing or surface dressing should either be masked during treatment or replaced as soon as reasonably practicable after the completion of work. If it is not possible to restore immediately in permanent materials, temporary markings should be used at sites where their absence is likely to give rise to dangerous conditions, taking into account the type of new surface laid. During resurfacing 'No Road Markings' boards should be displayed until all markings have been replaced.

B.4.13.5. Road studs that are either missing, or have become defective, should be replaced individually or by a bulk change, depending on the individual highway circumstances. Displaced road studs lying on the carriageway, hard shoulders or lay-bys, and loose studs if considered to be a hazard, should be removed immediately if reasonably practicable.

B.4.14. REGULATORY FUNCTIONS

B.4.14.1. Regulatory functions such as traffic orders associated with parking and vehicle movement can contribute to the core objectives as follows:

Network Safety	risk to users and adjoining property.
Network Serviceability	minimising and signing of obstruction.
Network Sustainability	inconvenience to disabled people; and
	structural damage from parked heavy vehicles.

B.4.14.2. In England the introduction of the statutory duty for network management introduced by the Traffic Management Act has significantly increased the emphasis on regulatory activity. A range of Codes of Practice also provide fairly clear guidance on required levels of service.

B.4.14.3. In Scotland, the Scottish Road Works Commissioner has a range of performance indicators for both Roads Authorities and utility companies. These are generated from the Scottish Road Works Register.

B.4.15. USER AND COMMUNITY RESPONSE

B.4.15.1. User and community responses can make a significant indirect contribution both to safety and serviceability by ensuring that service requests and complaints are dealt with appropriately and converted into actions. Adequate provision of information will also enable users to obtain better serviceability from the network. Authorities may consider whether community action and self-help might be encouraged and promoted.

B.4.15.2. User and community responses can be considered at three levels:

- user and community satisfaction with arrangements for their engagement in the policy development process;

- user and community satisfaction with the delivery of the highway maintenance service; and

- authority response to user and community contact in person, or by phone, mail and email.

B.4.15.3. Authorities should have an effective public communications process that provides clarity and transparency in their policy and approach to repairing potholes. This should include a published policy and details of its implementation, including the prevention, identification, reporting, tracking and repair of potholes.

B.4.15.4. To provide clarity, authorities should adopt dimensional definitions for potholes based on best practice as part of their maintenance policy.

SECTION B.5. INSPECTION, ASSESSMENT AND RECORDING – HIGHWAYS

B.5.1. INTRODUCTION

B.5.1.1. The general principles to be applied to inspections, assessment and recording are outlined in Section A.5 of this Code. This section covers guidance for each category of inspection relating to highways assets.

B.5.1.2. The approach adopted locally should be documented fully, and approved by the appropriate senior decision makers within each authority. All inspection and assessment results should also be recorded and accessible, preferably via a suitable asset management system.

B.5.2. SAFETY INSPECTIONS

B.5.2.1. Authorities should determine the most appropriate way to undertake inspections in order to clearly observe any defects for each asset type. This may include inspections from a slow moving vehicle or, in busy urban areas, and particularly when inspecting footways, it may be difficult to obtain the necessary level of accuracy from vehicle-based inspections and walking should be used. It would seem logical for cycle routes to be inspected by cycle, although inspection of parts of some shared routes may be possible by walking or by vehicle as appropriate. .

B.5.2.2. Authorities may choose to carry out combined inspections including safety, obstruction and all network management functions. These may be planned or responsive following user complaints.

B.5.2.3. Frequencies of safety inspections should be derived using the principles outlined in Section A.4 this Code (categorising the network into an appropriate hierarchy) and Section A.5 (covering risk based approach for inspections).

B.5.2.4. In urban areas, it may be desirable to combine footway and carriageway inspections to mitigate against problems associated with heavy traffic and parked cars.

B.5.2.5. Where carriageway and footway hierarchies intersect, for example at pelican or zebra crossings, bollards, or other defined crossing points at junctions, the higher inspection frequency should take precedence in determining of inspection frequency, defect definition and responses. This principle should also apply to intersections between carriageways and cycle routes and between cycle routes and footways.

B.5.2.6. Where footways or cycle routes remote from carriageways form part of an integrated route or network intended to encourage walking and cycle use, or are promoted by the authority, consideration should be given to adopting a consistent safety inspection frequency for the route or network as a whole.

B.5.2.7. Authorities have not generally established specific systems for safety inspections for PROW based on hierarchy. The Statement of Action required by ROWIPs provides the opportunity for authorities to consider the relevance of a more formal system of safety inspections, for at least some parts of the network.

B.5.2.8. Section A.4 of this Code advises where certain PROW are considered part of the footway hierarchy, safety inspections should be carried out accordingly.

B.5.3. DEFECT RISK ASSESSMENT

B.5.3.1. Risk management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance, Part C, and Section A.5 of this Code.

B.5.4. SAFETY INSPECTION OF HIGHWAY TREES

B.5.4.1. Trees are important for amenity and nature conservation reasons and should be preserved but they can present risks to highway users and adjoining land users if they are allowed to become unstable, cause obstruction or create visibility issues.

B.5.4.2. In England and Wales the Highway Authority is also responsible for ensuring that trees outside the highway boundary, but within falling distance, are safe. Section 154 of the Highways Act 1980 empowers the authority to deal, by notice, with hedges, trees and shrubs growing on adjacent land which overhang the highway, and to recover costs.

B.5.4.3. In Scotland, Sections 88 and 92 of the Roads (Scotland) Act 1984 give roads authorities the responsibility to remove projections which impede or endanger road users, and provide restrictions on planting of trees near carriageways.

B.5.4.4. Safety inspections should incorporate highway trees, including those outside but within falling distance of the highway. For trees off highway limits inspections should only be made so far as can be seen without trespassing. Owners' permission should be obtained to enter property where suspect trees are observed. Inspections should take note of any encroachment or visibility obstruction and any obvious damage, ill health or trip hazards.

B.5.4.5. Authorities should include some basic arboricultural guidance in training for inspectors but it is important that arboricultural specialists should advise on the appropriate frequency of inspections and works required for each individual street or mature tree that is considered to hold a high risk to users of the network. A separate programme of inspections for such trees, should also be undertaken by arboricultural advisors. LANTRA have produced a training course for professional tree inspection.

B.5.4.6. Extensive root growth from larger trees can cause significant damage to the surface of footways, particularly in urban areas. A risk assessment should therefore be undertaken with specialist arboricultural advice on the most appropriate course of action, if possible to avoid harm to the tree. In these circumstances, it may be difficult for authorities to reconcile their responsibilities for surface regularity, with wider environmental considerations and a reduced level of regularity may be acceptable.

B.5.4.7. Overhanging branches may present a risk to high vehicles and also buildings adjoining the highway. In such circumstances, the necessary comprehensive consideration of respective risks and liabilities of the authority and landowner will require specialist technical, arboricultural and legal advice to determine the most appropriate course of action.

B.5.5. COMPETENCE

B.5.5.1. Competence of staff is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part C. This document should be referred to and the advice below considered supplementary.

B.5.5.2. The Institute of Highway Engineers (IHE) administers the UK Highway Inspectors training and certification scheme approved by the UK Roads Board in 2010. It established the Highway Inspectors Board in 2011. Candidates who successfully complete the courses run by an approved centre are eligible for inclusion on the National Register of Highway Inspectors for a period of five years.

B.5.5.3. Registration with the Highway Inspectors Board can contribute positively to risk management and defence of compensation or liability cases.

B.5.6. SKIDDING RESISTANCE SURVEYS

B.5.6.1. The maintenance of adequate levels of skidding resistance on carriageways, footways and cycle routes is a most important aspect of highway maintenance, and one that contributes significantly to network safety, particularly for cyclists, motorcyclists and equestrians. However, whilst the frequency of accidents is expected to increase as skidding resistance falls, the effect will be more pronounced for more 'difficult' sites and there is no skidding resistance boundary at which a surfacing passes from being 'safe' to 'dangerous'. Difficult sites are those where the geometry, for example, bends, junctions, roundabouts, steep gradients, pedestrian crossings and traffic signals increase the risks of skidding accidents.

B.5.6.2. Authorities should publish their Skid Resistance Strategy as part of their Asset Management Framework. The strategy, which should be informed by risk assessment, should define:

- the network to which it applies taking account of traffic flow and characteristics and accident risk;
- the test equipment to be used, i.e. SCRIM or Grip Tester. Authorities should state if they will use the Pendulum Skid Tester for detailed investigations;
- the method of survey to be used to provide an estimate of the summer skid resistance, referred to as the Characteristic SCRIM Coefficient (CSC). Authorities can choose between the Single Annual Survey Method, Mean Summer SCRIM Coefficient Method, or Annual Survey with Benchmark Method;
- quality assurance procedures for data collection;
- frequency of surveys;

- the approach to setting investigatory levels, including the range of investigatory levels which are to be used for different categories of site;
- frequency of re-assessment of investigatory levels;
- competence levels of staff authorised to set or approve investigatory levels;
- the approach to be followed in site investigation, including prioritisation of investigations, and staff competent to undertake site investigations. Each site investigation should be undertaken or led by suitably competent personnel;
- intervention criteria;
- how remedial works will be prioritised in relation to available funding in the overall context of the Asset Management Framework;
- whether they will follow existing highway design guidance (HD 28/15) or produce their own strategy for dealing with early life skid resistance;
- a realistic/achievable timetable for each part of the strategy;
- responsibilities for delivering each part of the strategy; and
- the documentation to be retained to enable implementation of policy to be demonstrated (in court if necessary).

B.5.6.3. The decisions taken when setting investigatory levels should be recorded, dated and signed. Investigatory levels should be reassessed whenever a significant change to the network is made, for example the installation of traffic lights, a pedestrian crossing, or roundabout. The investigatory levels for each category of hierarchy of the network should be reviewed as a result of risk assessment.

B.5.6.4. Authorities need to decide whether to use SCRIM or Grip Tester for network testing and whether they will use Grip Tester or the Pendulum Skid Tester (recommended for localised investigations only). Research has been undertaken into the correlation between Grip Tester and SCRIM.

B.5.6.5. All sites where the skid resistance is at or below investigatory level should be identified as soon as is practicable.

B.5.6.6. The results of the investigations, including whether further action is required, should be documented and retained, together with the identity of the assessor and other parties consulted.

B.5.6.7. Where the skid resistance is considerably below the Investigatory Level (an appropriate figure should be determined locally), “Slippery Road” signs should be erected as a matter of urgency.

B.5.6.8. In other cases “Slippery Road” signs should be erected at locations where a site investigation has shown that there is a need for treatment to improve skid resistance.

B.5.6.9. "Slippery Road" signs should be removed as soon as they are no longer required. This should be after the remedial action has been taken and maintenance engineers are satisfied that skidding resistance levels have been returned to an appropriate level. In some cases this will not be immediately after treatment, for example at sites where surface binder has to be worn off before the skid resistance becomes adequate.

B.5.6.10. Where skidding resistance is determined as being substantially below the Investigatory Level (an appropriate figure should be determined locally) and there are clear indications that improving the condition of the surfacing is likely to significantly reduce the risk of accidents occurring, remedial treatment should be prioritised as a relatively urgent task.

B.5.6.11. Priority should then be given to the following sites:

- where the skid resistance is below the investigatory level by a certain degree (an appropriate figure should be determined locally);
- where low skid resistance is combined with low texture depth; and
- where the accident history shows there to be a clearly increased risk of wet or skidding accidents.

B.5.6.12. Where investigations show that treatment is necessary, consideration should also be given to other planned maintenance works programmes to ensure that potential efficiencies are identified and actioned where possible. Surface treatment may not always be a necessary response and other measures to reduce the accident risk of the site may be both more cost effective and consistent with local transport policy.

B.5.7. SERVICE INSPECTIONS – GENERAL

B.5.7.1. Service inspections should be strongly focused on ensuring that the network meets the needs of users and comprise more detailed specific inspections of particular highway elements, to ensure that they meet the levels of service defined within the Asset Management Framework. These surveys are dependent upon the asset management regime adopted by the authority to determine programmes of work. Any safety defects encountered during service inspections should be assessed and dealt with in accordance with the requirements of the safety inspection regime.

B.5.7.2. This category also includes inspections for regulatory purposes, including NRSWA, which are also primarily intended to maintain network availability and reliability, and inspections for network integrity.

B.5.7.3. Risk assessments for service inspections are dealt with differently to safety inspections. In regard to safety related defects, risk assessments are based purely on the safety aspect and defects must be rectified in accordance with the timescales appropriate to their risk and local policy. Serviceability related defects, however, are mainly related to network reliability and integrity and the ability of the network to meet the needs of users. Risks should be assessed by reference to the Asset Management Framework by taking due consideration of levels of service, relative priorities and available budget.

B.5.7.4. As part of developing their asset management regime, authorities may develop individual risk assessments for each service inspection by following a similar procedure to that identified for safety inspections. This risk based approach to service inspections, together with any condition surveys, will contribute to identifying the need, frequency and period for remedial action for each of the service inspection items.

B.5.8. SERVICE INSPECTIONS FOR CARRIAGEWAYS, FOOTWAYS AND CYCLE ROUTES

B.5.8.1. Service inspections for carriageways, footways and cycle routes should be undertaken at a frequency determined on a local basis. This should be based on local user and community requirements for network serviceability and identified as part of the Asset Management Framework. They may be undertaken separately, or in conjunction with other inspection types. These surveys may be undertaken either by slow moving vehicle, on foot or by utilising data such as video depending upon the circumstances.

B.5.9. SERVICE INSPECTION OF HIGHWAY DRAINAGE SYSTEMS

B.5.9.1. In general inspection of drainage has proved problematic to authorities for a variety of reasons, including inaccurate records of drainage locations, uncertainty of ownership and lack of resources. In 2012 HMEP produced Guidance on the management of Highways Drainage Assets, which provides advice to Highway Authorities on how to prioritise 'at risk' areas and make interventions. It provides a baseline for authorities to review current practices against and to identify potential improvements, and is freely available to download from the HMEP website.

B.5.9.2. Guidance on the maintenance and inspection of Sustainable Urban Drainage Systems for Roads has been developed by SCOTS and the SUDS Scottish Working Party, along with an Excel tool.

B.5.10. SERVICE INSPECTION OF EMBANKMENTS AND CUTTINGS

B.5.10.1. Significant embankments and cuttings should be defined and an inspection regime identified based upon the geological characteristics and the potential risk of slippages or rockslides. Service inspection arrangements should be based on specialist geotechnical advice, but should usually be programmed wherever possible to follow periods of extreme or severe weather, including heavy rain, severe frost or prolonged dry weather. A risk based approach should be adopted to identify any issues critical to network performance, after which an enhanced service inspection regime should be adopted.

B.5.11. SERVICE INSPECTION OF LANDSCAPED AREAS AND TREES

B.5.11.1. Highway trees contribute to amenity and nature conservation and in urban areas can enhance the space between buildings, reinforcing the area's character and appeal. Close co-operation between arboriculturists, highway engineers, landscape architects and urban designers is essential to preserve and enhance the range and quality of street trees, ensuring that a considered approach has been taken to supporting sufficient species diversity to make the overall town or neighbourhood tree population more robust to the advent of disease/and or more resilient to climate change. Avenues, boulevards, town squares and formal spaces, and informal rural locations all require the application of different planting principles. Trees and planting may reflect the history, architecture and tradition of places. Small pockets of poor quality planting can undermine the quality of the streetscape.

B.5.11.2. Street trees and planting are not appropriate in every instance. Trees and planting should always form part of the overall urban context, and not be added or preserved without question. Trees may be planted where trees have not been planted previously particularly in urban areas that have changed use (e.g. warehousing to residential) or in areas where historically they were considered unworthy of tree planting.

B.5.11.3. Authorities should develop, with advice from arboriculturists, landscape architects and urban designers, a local policy for the installation, management, removal and replacement of highway trees and landscaping. The policy should recognise the amenity and nature conservation value of trees, along with benefits such as air pollution removal, carbon storage or stormwater attenuation, and also seek constructively to manage ongoing risk to the authority. The policy should include the approach to service inspections, to be undertaken by arboriculturists, including frequency, for various types of tree.

B.5.12. SERVICE INSPECTION OF FENCES AND BARRIERS

B.5.12.1. Steel and wire road restraint systems should be inspected at intervals determined through risk assessment in respect of mounting height, surface protective treatment and structural condition, to ensure that they remain fit for purpose. Tensioning bolts of tensioned safety fences should be checked and reset to correct torque at intervals determined by risk assessment. Safety barriers adjacent to bridges should be inspected as part of the highway asset, as well as part of General and Principal Inspections for structures.

B.5.12.2. Inspection and testing of safety barriers with respect to mounting height and integrity should be undertaken at a frequency determined locally using a risk based approach.

B.5.12.3. Pedestrian safety fences, boundary fences and environmental barriers for which the authority is responsible, should be also inspected in respect of integrity, and where appropriate stock proof qualities, during the course of service inspections of carriageways, footways and cycle routes. A higher frequency may be necessary in some locations (e.g. in areas with known higher incidence of vandalism). Inspections of structural condition and protective treatment should be carried out at regular intervals. All inspection intervals should be determined using a risk based approach.

B.5.12.4. Vehicle restraint systems should be inspected in accordance with an authority's strategy based upon the UKRLG/DfT October 2011 document – Provision of Road Restraint Systems for Local Authorities.

B.5.12.5. Safety barriers and fences adjacent to railway lines should be inspected by the Highway Authority irrespective of liability, with inspection intervals determined using a risk based approach. The DfT publication *Managing the Accidental Obstruction of the Railway by Road Vehicles* provides more guidance on this (see Section B.4.11 of this Code).

B.5.12.6. The Road Restraints Risk Assessment Process (RRRAP) has been developed as an Excel based tool, which allows the need for a vehicle restraint to be established for individual sites/schemes and, if so, its performance requirements:

B.5.13. SERVICE INSPECTION OF TRAFFIC SIGNS AND BOLLARDS

B.5.13.1. Traffic signs are the most visible elements of the highway network, highly valued by users, and contribute significantly to network serviceability through facilitating efficient and effective use of the network.

B.5.13.2. The primary objective is to keep all traffic signs legible, visible and effective as far as possible at all times in relation to the road use and traffic speeds. The following defects in signs and bollards should be considered as factors in a local risk assessment. The speed of permanent repair will depend on the degree of danger but important warning and regulatory signs should be replaced as a matter of urgency:

- matters affecting the legality of important warning and regulatory signs;
- damage, deterioration, or vandalism to signs and bollards leaving either the sign or situation to which it applies in a dangerous condition; and
- missing traffic cylinders across gaps in central reserve fence at emergency crossing points.

B.5.13.3. Vegetation potentially obscuring road signs should be recorded during safety inspections and service inspections of carriageways, footways and cycle routes, and treated accordingly. The level of risk associated with such vegetation may change during periods of maximum growth.

B.5.13.4. Special signing schemes, for example blockwork chevron treatments at roundabouts and traffic calming schemes using special signing may deteriorate more quickly than conventional signing. They are also likely to have been installed to improve network safety. Inspection arrangements should reflect this via risk assessment.

B.5.13.5. The condition of non-illuminated road signs should be inspected in daylight, and also at night for degradation of colour, retro-reflectivity, deteriorating fittings, legibility distance, and average surface luminance, after cleaning. The frequency of cleaning required will be influenced by the risk of soiling in local areas.

B.5.13.6. Inspections should initially be visual and condition assessed. Any suspect areas identified by the visual inspection should be noted and further testing instigated. The coefficient of retro-reflection of sign face sheeting is a specialist site test that may require the services of a specialist organisation. Authorities should choose sign performance levels depending on the overall risk assessment and road hierarchy. Highways England have published TD25/01 which contains more information on the inspection and maintenance of traffic signs.

B.5.13.7. Inspection of "Stop and Give Way" signs at minor roads should be included in the inspections of signs on the major road to which they control entry.

B.5.13.8. Service inspections should ideally identify signing that is inappropriate or no longer necessary and may be a distraction to users, or detrimental to the streetscene. Such signing should be noted for removal or replacement either as part of future programmed works or more urgently, if necessary.

B.5.13.9. The Department for Transport published a Traffic Advisory Leaflet (TAL 1/13) which gives practical advice on reducing sign clutter. It emphasises that designers should use their engineering judgement and local knowledge to complement guidance to ensure signing solutions are effective.

B.5.14. SERVICE INSPECTION OF ROAD MARKINGS AND STUDS

B.5.14.1. Inspections in respect of wear, spread, colour, skid resistance and retro-reflectivity shall be undertaken for paint markings and for thermoplastic markings, at frequencies determined by risk assessment. Inspections for reflective conspicuity should be carried out during the hours of darkness and programmed to enable maintenance works to be completed before the onset of winter.

B.5.15. SERVICE INSPECTIONS FOR NETWORK INTEGRITY

B.5.15.1. Although each element of each component within each category of network hierarchy might be well maintained within the framework of an overall asset management strategy, the network might still not deliver best value, as the asset might not be performing to optimum efficiency. Operational efficiency is primarily a network management consideration but aspects of it are closely related to the maintenance function, for example:

- traffic signs or markings may be poorly sited or the legend may be either incorrect, confusing or not reflect current priorities;
- traffic signs or markings may be redundant;
- facilities for walking, cycling or public transport might be discontinuous or poorly defined. Opportunities for installation of dropped kerbs or textured paving should be taken; and
- opportunities might be taken to modify layout as part of future relevant maintenance schemes.

B.5.15.2. Such network deficiencies are unlikely to be noted as part of safety, or condition inspections, but are nevertheless relevant to network efficiency. Authorities may undertake service inspections of network integrity at intervals determined by risk assessment, or prior to planning of network maintenance and improvements.

B.5.16. CONDITION SURVEYS – GENERAL

B.5.16.1. The most significant financial investments in highway maintenance will be in repairing, reconditioning and reconstructing carriageways, and to a lesser degree, footways and cycle routes. Condition surveys identify the current condition of the network and from this condition, both long-term and short-term maintenance funding decisions can be made. Repeatable condition surveys allow trend analysis to be used to confirm the original decisions or allow for changes as a result of the changing network condition, and inform lifecycle planning.

B.5.16.2. There are a number of types of survey, each providing information from a differing perspective, and which in combination can provide a comprehensive picture of the condition of the asset. These surveys may broadly be sub-divided into network level and project level. At network level surveys may include:

- SCANNER (Surface Condition Assessment of the National Network of Roads);
- Coarse Visual Inspections (CVI);
- skidding resistance (SCRIM or Grip Tester);
- Detailed Visual Inspections (DVI) or Footway Network Surveys (FNS) for footways; and
- other locally developed surveys.

B.5.16.3. Network level surveys may be supplemented at a local or project level by further investigation. The nature of this investigation will depend on the circumstances of the case. Survey methods include:

- Deflectograph;
- Falling Weight Deflectometer (FWD); and
- Ground Penetrating Radar (GPR).

B.5.16.4. SCANNER surveys are traffic speed surveys that collect data on transverse and longitudinal profiles, texture and cracking of carriageways. These are fast surveys with real time processing of condition information, that were introduced with the aim of providing both reliable and repeatable information, for the assessment of carriageway condition. They can support national requirements for reporting where applicable.

B.5.16.5. CVI is normally carried out from a slow moving vehicle, complemented in some cases with machine measured rut depth data. It is a fast, cost-effective survey that enables authorities to cover large parts of their road network on a regular basis. Rather than recording detailed measurements of individual defects, the survey identifies and categorises lengths of features having generally consistent defectiveness.

B.5.16.6. DVI may be used on carriageways where more detailed information is required to support and validate treatment decisions and scheme identification (supplementing CVI data), and also on a cyclical basis for those parts of the network where a more detailed routine visual assessment is required (e.g. in urban areas). DVI can also be used for concrete carriageways. Segregated cycle routes may also be surveyed by DVI.

B.5.16.7. Network surveys such as SCANNER and CVI provide regular whole network coverage and are used to target more detailed investigations of provisional treatments, using more detailed project level surveys.

B.5.16.8. The Scottish Road Maintenance Condition Survey (SRMCS) is an annual survey which assesses the condition of the entire Scottish Local Authority road network. It is provides roads authorities with performance information required for Statutory Performance Indicator 3.

B.5.16.9. Guidance on SCANNER, CVI and DVI condition surveys can be found on the UKRLG website.

B.5.16.10. The Footway Network Survey (FNS) is intended to provide a cost effective, efficient and consistent approach to footway surveys, based on a linear basis. The survey is carried out by a single surveyor walking along the footway, referenced to chainage within a UKPMS section. Further details on the survey may be found on the UKRLG website.

B.5.16.11. An alternative methodology is used in Scotland which Scottish Local Authority staff can access via the RAM Knowledge Hub.

B.5.16.12. The Deflectograph is a tool to indicate the structural condition of the whole carriageway, particularly on local authority roads which are not deemed long life. (A long life carriageway is defined as a carriageway with over 300mm of bituminous materials and a low deflection.)

B.5.16.13. SCANNER only measures surface condition. Where defects have been identified by SCANNER, the Deflectograph may be used at project level to augment this condition information by providing the structural condition of the defective section for flexible and flexible composite carriageways. This will assist in supporting treatment decisions. Where SCANNER and Deflectograph show that remedial works can be limited to the surface, no strengthening is required. However where the Deflectograph shows that the structure needs to be strengthened, the Deflectograph results provide recommendations for overlay thickness or reconstruction. At this stage, other tools such as FWD, GPR, coring and trial pitting can also be employed to provide useful data.

B.5.16.14. With SCANNER data giving a good indication of the overall condition and deterioration pattern for long life carriageways, there is a potentially reduced need for Deflectograph surveys. However, for roads which are not long-life, SCANNER surveys will not take into account structural condition until it has manifested itself as rutting or cracking.

B.5.16.15. CSS (now ADEPT) have produced a guidance note for local authorities on the future use of the Deflectograph.

B.5.16.16. The analysis should take into account the reduction in residual life since the survey. Authorities should bear in mind that deleting short lengths (i.e. part sections) of the network is unlikely to be economic or practical. Other techniques such as FWD, GPR, coring and trial pitting may be more cost effective.

B.5.17. INSPECTIONS FOR REGULATORY PURPOSES

B.5.17.1. A significant element of highway maintenance comprises regulation and enforcement of activities on or affecting the highway, which vary across the UK. The most significant of these involves responsibilities under the New Roads and Street Works Act 1991 (NRSWA). In England, most of these issues are now incorporated within the statutory duty for Network Management imposed by the Traffic Management Act 2004, and are the responsibility of the authority's Traffic Manager.

B.5.17.2. The JAG(UK) website contains a range of guidance, information and assistance.

B.5.17.3. Other regulatory activities include:

- ensuring 'expeditious movement of traffic';
- management of the Highway Register or equivalent;
- management of the Definitive Map for PROW;
- dealing with encroachment on the highway;
- dealing with obstruction on highways or PROW;
- dealing with illegal and unauthorised signs;
- issuing permits or permissions for utilities, skips, hoardings, temporary closures and other authorised occupation of the highway;
- construction of vehicle crossings;
- dealing with illegal parking on verges and footways; and
- adoption of new highways.

B.5.17.4. Although each of these are separate duties, many of them have wider implications for highway maintenance, for example:

- many of these items, for example illegal signs or encroachment, may have the potential to contribute to accidents; and the details of how the occurrence was dealt with (or not dealt with) by the authority may be a material consideration in legal proceedings; and
- illegal parking on verges and footways, especially by heavy vehicles, could cause considerable damage and where this has occurred it might be relevant to increase inspection frequency and consider new materials or prevention.

B.5.17.5. It will therefore be important to establish a regime for regulatory inspection on the basis of risk assessment.

B.5.18. RELIABILITY OF DATA

B.5.18.1. Asset data management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance, Part B. This document should be referred to and the advice below considered supplementary.

B.5.18.2. Opportunities to ensure quality and reliability of data occur at a number of levels including:

- survey instructions and documentation;
- selection and appointment of inspectors;
- training and accreditation;
- specification and procurement of surveys;
- audit procedures;
- survey procedures;
- data capture software;
- processing software;
- maintenance and calibration of equipment; and
- record keeping.

B.5.18.3. Considerable care should be taken in the derivation of locally enhanced versions of surveys to ensure that data can be extracted, without bias from the survey.

B.5.18.4. In the case of machine surveys, where these are used, such as SCANNER, Deflectograph, SCRIM, FWD, GPR and Grip Tester, these should be carried out by accredited surveyors using accredited software. Further information on accreditation can be found on the UKRLG website.

B.5.18.5. Care should also be taken in the specification of surveys when deciding whether these are to be carried out in house or by contract, to ensure that appropriate quality provisions are included in the specification that address:

- selection and training of inspectors;
- survey procedures and documentation; and
- quality management procedures, audit and error correction.

B.5.18.6. Competence is especially important in the case of inspections and surveys where the quality and treatment of data could have significant legal and financial implications. All training, experience and other forms of staff development should be recorded and documented.

B.5.18.7. Audit and quality control procedures are essential, and where highways staff change role within an authority, competence for the new position should be reviewed and any required training or development should be provided if necessary.

B.5.19. RECORDING OF INFORMATION

B.5.19.1. Information from all inspections and surveys, together with any immediate or programmed action, including nil returns, should be accurately and promptly recorded, monitored, and utilised with other relevant information in regular reviews of maintenance strategy and practice. This is particularly relevant in the case of safety inspections.

B.5.20. DEVELOPMENTS IN SURVEY TECHNOLOGY

B.5.20.1. Authorities should consider using proven technology and systems for the effective identification and management of defects. Regular reviews of survey strategy should take account of new technologies and methods. This could include the use of in-vehicle location and communications technology to record the position of defects and to ensure that they are instantaneously recorded with the works gang. This may also provide opportunities to change the number, type and quantity of inspections and thus generate efficiencies.

B.5.20.2. New survey techniques may also be considered to improve quality of data and increase efficiency. An example is Light Detection and Ranging (LiDAR), a technique that uses multiple scanning lasers to collect spatially referenced point clouds, which can be used to produce high resolution panoramic imagery that is fully synchronised and geo-referenced

SECTION B.6. PROGRAMMING AND PRIORITIES – HIGHWAYS

B.6.1. INTRODUCTION

B.6.1.1. Programming and priorities are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

B.6.1.2. The general principles to be applied to programming and priorities are outlined in Section A.8 of this Code, with this section covering guidance relating to highways assets.

B.6.2. BALANCING PRIORITIES BY TYPE

B.6.2.1. The broad priorities for the respective types of highway maintenance will largely be determined by the outcome of safety and service inspections and condition surveys, assessed against local risks and policies specified by the authority in the light of this Code. In general it will be important to establish priorities and programmes for each of the following:

- emergency / reactive maintenance – attending to defects and other safety matters that require urgent action arising from inspections or user information;
- planned maintenance – attending to defects and other less urgent matters that may benefit from further planning leading to permanent repairs ;
- programmed maintenance – providing lifecycle / road condition based work streams;
- routine maintenance – providing locally defined levels of service;
- regulatory functions – regulating occupation, interference or obstruction of the network; and
- Winter Service – providing locally defined levels of service of salting and clearance of ice and snow.

B.6.2.2. The determination of priorities and programmes for items within the categories of regulatory functions and Winter Service will tend not to require any special consideration and will largely arise out of the design of the services. For the other four categories listed above, it will be helpful to establish a more structured approach as outlined in the following paragraphs.

B.6.2.3. In 2012, the Potholes Review was published by HMEP and provides guidance on areas including preventative maintenance and delivering “right first time” repairs:

B.6.2.4. The Potholes Review also recommended that authorities should consider the guidance provided in the ADEPT report Potholes and Repair Techniques for Local Highways and adopt as appropriate to their local circumstances.

B.6.2.5. The Scottish Roads Research Board have also published a Best Practice guide for the selection of pothole repair options.

B.6.3. PRIORITIES FOR EMERGENCY / REACTIVE MAINTENANCE

B.6.3.1. Emergency / reactive maintenance involves attending to the rectification of defects and other safety matters that require urgent action arising from inspections or user information in accordance with the locally determined levels of response. Although all such matters will by definition have a degree of urgency, some may have potentially even more serious consequences, and priorities will usually be determined exclusively on the basis of risk assessment.

B.6.3.2. The option selected, together with relevant follow up, will largely be determined by operational practicalities and also whether the site is already part of a programme for more comprehensive treatment, in which case a temporary repair may be an appropriate course of action.

B.6.3.3. Authorities may use 'Highway Wardens', 'Community Wardens' or 'Care Teams' to provide an integrated service of safety inspection, signing and temporary repair. In some cases, these are also extended to provide 'Integrated Street Management' services, and teams will need clear guidance on the application of priorities as well as appropriate training to ensure competency.

B.6.3.4. Examples of emergency / reactive maintenance are given below:

- all assets – sign and make safe for safety purposes;
- all assets – provide initial temporary repair for safety purposes; and
- all assets – provide permanent repair for safety purposes.

B.6.3.5. Authorities should adopt permanent repairs as the first choice. Temporary repairs should only be used where safety cannot be managed using alternative approaches and in emergency circumstances.

B.6.4. PRIORITIES FOR PLANNED MAINTENANCE

B.6.4.1. Planned maintenance involves attending to the rectification of defects and other less urgent matters that do not require immediate action and where further planning may lead to the opportunity for permanent repairs.

B.6.5. PRIORITIES FOR PROGRAMMED MAINTENANCE

B.6.5.1. Programmed maintenance is undertaken primarily in the interests of providing for a sustainable outcome, seeking to minimise cost over time and to add community value to the network or to the environment. It can also be for safety purposes by, for example, improving skidding resistance or contributing to serviceability by, for example, improving ride quality.

B.6.5.2. It will be necessary to develop priorities and programmes for the structure, surface and edge of carriageways, footways and cycle routes, using data such as age, condition, hierarchy and lifecycle planning.

B.6.5.3. HMEP has developed a lifecycle planning toolkit for use by Local Highway Authorities to provide planning level decision support, including the following:

- assessing the impact of different levels of funding on asset performance and asset maintenance needs;
- investigating current and future levels of funding required to sustain or improve the condition or performance of the asset;
- identifying the level of funding required to minimise whole life costs; and
- allocating resources to assets and treatments that provide the best whole life costs.

B.6.5.4. Three different versions have been published, namely for carriageways, footpaths and ancillary assets. The carriageway model incorporates work that was carried out to develop default deterioration models for bituminous carriageways suitable for the local road network in England. The lifecycle planning toolkit, together with a user guide and information on the carriageway deterioration models, may be downloaded from the HMEP website.

B.6.5.5. In Scotland and Wales, guidance and lifecycle planning tools are available to members of the SCOTS/CSSW Roads Asset Management Project group via the RAM Knowledge Hub. Cost projection tools are available for carriageways, footways, street furniture and other asset types.

B.6.5.6. Programmed maintenance schemes may be more expensive than routine or reactive treatments in initial cost, but should be designed to have a lower whole life cost, therefore providing value for money. The determination of priorities between competing schemes needs to be based more objectively, utilising processes such as Value Management.

B.6.5.7. One method of identifying programmed maintenance schemes for carriageways, footways and cycle routes is through a highway asset management system, using the following stages:

- the information obtained from condition surveys should be processed by a UKPMS accredited system to establish a preliminary programme; and
- the preliminary programme should then be developed into individual schemes that meet the levels of service in the Asset Management Framework. The schemes may then be prioritised using a process of Value Management (Section B.6.9). Schemes should not necessarily be prioritised on the basis of 'worst first' as this is unlikely to provide the best value for money in terms of whole life cost. In some circumstances a 'just in time' approach may provide better value.

B.6.5.8. Examples of programmed maintenance are given below, but this list is not exhaustive:

- carriageways – minor works, resurfacing or reconstruction;
- footways – minor works, resurfacing or reconstruction; and
- cycle routes – minor works, resurfacing or reconstruction.

B.6.6. PRIORITIES FOR ROUTINE MAINTENANCE

B.6.6.1. Routine maintenance is primarily for the purpose of providing defined levels of network serviceability, maximising availability, reliability, integrity and quality. The priorities and programmes will be determined largely, but not exclusively, from non-urgent defects identified during service inspections together with items from safety inspections not requiring urgent attention and user requests.

B.6.6.2. Priorities and programmes will need to be defined for all routine maintenance categories. Routine maintenance for each category may be undertaken separately, according to the frequency defined in each case, but it will usually be more efficient to combine a number of operations into a co-ordinated programme. It may also be convenient in central urban areas to consider co-ordination with other related street activities.

B.6.6.3. Particularly in rural areas, it will be helpful to prepare a regular programme of visits to local council areas for the purpose of undertaking the widest possible range of routine maintenance activity and to inform the local council and community in advance. Such arrangements may also be appropriate for neighbourhoods within urban areas.

B.6.6.4. Examples of routine maintenance are given below, but this list is not exhaustive:

- carriageways, footways and cycle routes – minor works and patching;
- drainage systems – cleansing and repair;
- embankments and cuttings – drainage and stability;
- landscaped areas and trees – management;
- verges – grass cutting;
- fences and barriers – tensioning and repair;
- traffic signs and bollards – cleansing and repair; and
- road markings and studs – replacement.

B.6.7. REGULATORY FUNCTIONS

B.6.7.1. Examples of regulatory functions are given below, but this list is not exhaustive:

- maintenance of Highway Register and Definitive Map;
- co-ordination of road and street works (responsibility of Traffic Manager or equivalent);
- charging schemes and permits for highway occupation (responsibility of Traffic Manager or equivalent); and
- other regulatory functions – encroachment, illegal signs, parking.

B.6.8. WINTER SERVICE

B.6.8.1. Winter Service is covered in Section B.7.

B.6.9. VALUE MANAGEMENT

B.6.9.1. Value Management is a process that may be used to prioritise the competing needs of highway schemes, identified through condition and economic prioritisation. It provides a structured, consistent and quality controlled approach for assessing the benefits of undertaking maintenance and the associated risks of not undertaking maintenance. The outcome should be a prioritised programme of schemes that will be entered into the Asset Management Framework. An example of this process is summarised in Part B of the HIAMG.

B.6.9.2. Before an authority may establish a Value Management regime, it will need to identify the frequency of review and the overall approach to be adopted. It is important that this takes into consideration the corporate and transport priorities within the authority and the overall context of the Asset Management Framework. For example, the regime should identify:

- Value Management frequency - it is possible that some activities would be performed on a continuous basis. However, it is anticipated that a Value Management review would be held annually in order to determine the programme of works to be included in the Asset Management Framework for the following years; and

- prioritisation criteria – the criteria considered under Value Management to be used to prioritise needs. It is important that the prioritised needs should align with the levels of service and the volumes of work identified in the Asset Management Framework.

B.6.9.3. Each category (e.g. safety, socio-economic and environmental, value for money, risk) is assigned a weighting to represent its importance in the delivery of the objectives of the authority and the context of the Asset Management Framework. While it is recognised that safety will be of primary importance, other issues should also be addressed; otherwise the process may focus solely on safety and fail to address serviceability, sustainability and customer service. Clearly, assigning weights to the various criteria is not an easy task, particularly when it is evident that the preference on the criteria may be conflicting. A number of systems are available to establish preferences for a number of criteria, taking into account the views of interested stakeholders. One of these is the Analytic Hierarchy Process (AHP). The system should also provide robust justifiable scores.

B.6.9.4. The Value Management process is usually conducted in the form of workshops with a number of interested parties from various departments within the authority. The process involves the assessment of the performance of each of the programmed maintenance schemes under the various criteria. The outcome of the Value Management process should be an outline programme prioritised on scores obtained from the process. The work volumes and cost estimates should align with the work volumes and the funding estimates in the Asset Management Framework. The process should also highlight the risks related to the programme.

B.6.9.5. The overall aim of the Value Management process is to ensure that maintenance schemes are assembled into programmes of work that align with the objectives of the authority and deliver value for money. Value of these schemes will be maximised by co-ordination with other highway improvement programmes and integrated transport schemes on related parts of the network, thus minimising disruption to users and maximising benefits to the community.

B.6.10. VALUE ENGINEERING

B.6.10.1. Value Engineering is a refinement of the Value Management process. It is a second stage process that is conducted on an individual scheme, to optimise both the design and construction phases. In principle, it reduces the risk associated with unforeseen issues at the time of scheme development. Value Engineering also provides the authority with a further chance to explore potential opportunities for innovation. Key individuals from works teams and specialists from each discipline should be present during this process.

B.6.11. MATERIALS, PRODUCTS AND TREATMENTS

B.6.11.1. The importance of materials, products and treatments in meeting the core objectives of customer service, safety, serviceability, sustainability and the agreed levels of service is outlined in Section A.9. This section contains information specifically related to highways.

B.6.11.2. The Road Surface Treatments Association (RSTA) has developed numerous guidance documents that aim to raise awareness of the range and benefits of road surface treatments, and to encourage product and process innovation. Many of these have been produced in conjunction with the ADEPT Soils and Materials Design Group, and cover topics including service lives, surface dressing, innovative patching products and systems, high friction surfacing, structural road recycling, crack sealing and slurry surfacing, geosynthetics and steel meshes, asphalt preservation systems, grouted macadam, retexturing and ironwork installation.

B.6.11.3. *Best Practice Guidelines for Specification of Modern Negative Texture Surfaces* provides a methodology for site evaluation and material selection to ensure that the right material is installed in the right site together with a structural approach to the factors which may have a bearing on distress mechanisms.

B.6.11.4. The Waste and Resources Action Programme (WRAP) is a major Government-funded programme established to promote resource efficiency and provide information resources such as The Quality Protocol for Recycled Aggregates.

SECTION B.7. WINTER SERVICE

B.7.1. INTRODUCTION

Background

B.7.1.1. Although sometimes termed “Winter Maintenance”, the particular network management requirements during winter are not “maintenance”, in the traditional sense, but specialist operational services. The term “Winter Service” has been adopted by this Code.

B.7.1.2. Winter Service deals with regular, frequent and reasonably predictable occurrences like low temperatures, ice and snow, as well as with exceptional events. Whilst the effects of climate change are likely to result in an increased frequency and intensity of severe winter events, these can be taken into account in Winter Service planning. Therefore Winter Service can and should be subject to the same regime of plan, deliver, review and improve as other aspects of the highway maintenance regime.

Policies and plans developed for Winter Service are likely to have relevance in emergency planning for dealing with extreme weather conditions including flooding, high winds and high temperature. The incidences of such events may be affected by climate change. They are also likely to have some relevance to the wide range of non-weather related emergencies that could affect the highway network.

B.7.1.3. Although a very specialised area, Winter Service is a significant aspect of network management both financially and in terms of its perceived importance to users. It can also have significant environmental effects. The organisation of the service is likely to have considerable implications for the overall procurement and management of other highway maintenance services. This Section of the Code should therefore be read in conjunction with other sections dealing with these issues.

B.7.1.4. This section of the Code provides the background and higher level policy aspects of the Winter Service. Guidance relating to practical issues and the delivery of the Winter Service is contained within the National Winter Service Research Group (NWSRG) Practical Guide for Winter Service. Authorities may wish to consider the content of the NWSRG Practical Guide in conjunction with the information contained within this section of the Code.

Objectives

B.7.1.5. Winter Service can contribute significantly to each of the core objectives set out in this Code as described below:

Safety

B.7.1.6. Safety is a consideration for Winter Service, even though statutory obligations and users’ needs vary in different parts of the UK.

Customer

B.7.1.7. There are, in all parts of the UK, very considerable user needs and expectations and these can be a major influence on customer satisfaction through demonstrating an efficient, effective and proportionate response to winter conditions.

Serviceability

B.7.1.8. Maintaining availability and reliability of the highway network is a key objective for Winter Service and one where user judgements of performance will be immediate rather than longer term.

Sustainability

B.7.1.9. Low temperatures and the formation of ice can cause serious damage to the fabric of carriageways, footways and cycle routes and accelerated damage of the network. Effective Winter Service can contribute to a reduction in whole life costs and minimise damage to the environment.

B.7.2. WINTER SERVICE POLICY

B.7.2.1. Authorities should formally approve and adopt policies and priorities for Winter Service, which are coherent with wider objectives for transport, integration, accessibility and network management, including strategies for public transport, walking and cycling. They should also take into account the wider strategic objectives of the authority.

B.7.2.2. Issues for consideration in developing policy should include:

- network resilience;
- treatment of facilities for public transport users;
- treatment of facilities for road users;
- treatment of facilities for walking and cycling;
- treatment of transport interchanges;
- treatment of promoted facilities such as community or leisure centres;
- extent of priority for emergency services;
- extent of priority for key public services and critical infrastructure;
- extent of priority for vulnerable users;
- resilience of Winter Service resources; and
- other local circumstances.

B.7.2.3. Authorities should develop local service levels for Winter Service which define the Overall Winter Period, the Core Winter Period, the level of resilience and treatment networks.

B.7.2.4. These local policies and service levels should be developed as far as reasonably possible with users and key stakeholders and should also be based on a risk assessment to define the scope of the service. The documents should be designed and drafted to be used by staff at all levels. Authorities should utilise the time outside the winter season to put these policies and plans in place.

B.7.3. RESILIENT WINTER SERVICE

B.7.3.1. Better planning will result in a more resilient Winter Service and reduce the risk in the delivery of the service during normal and severe winter conditions. It also has the potential to deliver the service in a more efficient way. This includes not only the management of salt stocks, but other resources such as fuel, plant and labour.

B.7.3.2. Winter Service should be regarded as part of the authority's wider resilience planning. More detail on this can be found in Section A.6 of this Code.

Minimum Winter Network

B.7.3.3. As part of their contingency planning, authorities should define a minimum winter network. This network is likely to have a close relationship to the Resilient Network, see Section A.6, and may be a subset of their normal treatment network.

B.7.3.4. The trigger point and protocol for activating the minimum winter network should be agreed within the authority, documented and communicated as appropriate. In doing so agreement should be made with the emergency planning department and senior officers. The decision to activate the minimum winter network may also be made in conjunction with other authorities. The overall approach should be detailed within the Winter Service Plan.

Winter Service Resilience Levels

B.7.3.5. Authorities should consider, consult on and formally adopt local service levels for resilience of their Winter Service in terms of number of days' continuous severe conditions salting on a defined Minimum Winter Network for the Overall Winter Period and for the Core Winter Period.

Establishing a local Winter Service level of resilience requires consideration of the number of days' resilience to be adopted, definitions of the Overall Winter Period and Core Winter Period, whether it should refer to the normally salted network or to a smaller locally determined Minimum Winter Network.

B.7.3.6. Recommendations on winter resilience for English Local Highway Authorities were provided by The Quarmby Report of 2010 and the UKRLG report Lessons from the Severe Weather February 2009.

B.7.3.7. Delivery of the Winter Service relies on suitable resources being available, including salt, fuel and trained staff and operatives. Any one resource in short supply puts additional strain on service delivery.

B.7.3.8. The number of days' resilience during the Core Winter Period should be based on a number of days' severe conditions plus replenishment time and taking into account weekends, and combinations of public holidays and weekends such as Christmas and the New Year.

B.7.3.9. This approach based on a reasonable number of days' resilience in the ability to deliver a defined Winter Service should ensure that Highway Authorities hold or have easy guaranteed access to sufficient salt, gritters and drivers and other essential resources to deal with severe winter weather conditions.

B.7.3.10. Some Highway Authorities may already have a good level of resilience, but if individual authorities decide they need to increase resources, they will need to consider the practical implications and a reasonable implementation period. Implications may include any new arrangements or facilities required and cost.

B.7.3.11. In developing their local level of service based on days' resilience, authorities should assess the risks that are faced in the delivery of the Winter Service. The assessment should cover all items of policy and management including:

- network for treatment;
- adjoining highway networks;
- salt management policies;
- operational resources (including equipment, salt stocks and fuel);
- access to Winter Service depots and salt storage areas;
- staff training; and
- availability of operational staff.

B.7.3.12. An example of how authorities may express and apply their Winter Service level of resilience is included in the NWSRG Practical Guide.

B.7.3.13. The Department for Transport has put in place a year-round salt stock monitoring system to ensure optimum resilience of salt supply, through a nationally severe winter. Authorities should provide to the Department for Transport the information required for this system in a timely manner.

B.7.4. CO-ORDINATION AND COLLABORATION

B.7.4.1. Authorities should consider whether collaborative arrangements such as shared services, lead authority arrangements, collaborative service procurement, and sharing depots and salt stock, would provide an effective and value for money approach to Winter Service resilience.

B.7.4.2. Co-ordination and co-operation between authorities in Winter Service planning including defining treatment routes, response, and treatment times is of crucial importance. This should be a formal process between the adjoining local authorities and with the authority responsible for the strategic network. The intention should be to negotiate effective service integration across administrative boundaries and to enable operation of the plant and vehicles required to achieve adequate resilience. Consideration should be given to Section 8 of the Highways Act 1980 regarding agreements between Local Highway Authorities for doing of certain works.

B.7.4.3. In these circumstances close liaison both with public transport operators and local authority transport co-ordinators is essential, at the annual review, on an ongoing basis throughout the season and on a continual basis in severe weather conditions. This is particularly important as, although changes to public transport routes and frequencies will be made throughout the season, it will not usually be practical or desirable for consequent changes to the treated network during the season. This may influence the nature and timing of changes to public transport routes.

B.7.4.4. The efficient operation of many essential services may be dependent upon ice or snow removal from key areas of private land, which is fundamentally the responsibility of land owners.

B.7.4.5. Authorities should determine critical areas and infrastructure in conjunction with key public services and other stakeholders and seek to ensure that appropriate winter treatment has been considered by the appropriate party.

B.7.4.6. Authorities should explore the potential for sharing depots as this may provide opportunities for efficiencies. Other areas where collaboration should be considered include decision support services for weather particularly where authorities have similar climatic conditions.

B.7.5. WINTER SERVICE PLANNING

B.7.5.1. Planning and preparation is fundamental to delivering a successful Winter Service. Careful planning in advance of the winter season will greatly assist in adequate resources and contingency arrangements being put in place by authorities to improve their overall resilience.

Communication

B.7.5.2. It is good practice to communicate effectively with the public, key public services, stakeholders and other Highway Authorities. However, communication within the authority is also critical. Preparation and planning of communication in advance will assist in the effective delivery of the service.

Setting Expectations

B.7.5.3. It is important to ensure that the public, elected members and senior management are engaged in the Winter Service. The Department for Transport (DfT) has produced a leaflet titled “Are You Ready for Winter?” with important information for councillors and senior officers about preparation for winter. Public leaflets, websites and briefing notes all contribute to setting expectations with a low associated cost and time requirement.

B.7.5.4. Clearly setting out what will and will not be done as part of the delivery of Winter Service can reduce the number of complaints and questions raised by the public and stakeholders. Improved communication and understanding may therefore improve time available for the Winter Service delivery team to focus on delivery of the service.

B.7.5.5. Members of public may travel across boundaries of several different authorities, thus treatment regimes should align across boundaries to provide a seamless service. Simple measures such as comparing treatment routes and decision making criteria between authorities will assist with this, especially within urban areas.

B.7.5.6. Authorities should ensure that there is appropriate consultation and communication with other Highway Authorities, key public services and other stakeholders to ensure improved service for the public.

B.7.5.7. Information should be provided directly to key stakeholders, including adjacent Highway Authorities, all emergency services, public transport operators, motoring organisations, the education authority, schools, their bus operators, and key local organisations. This information could include:

- sharing Winter Service Plans;
- a non-technical summary of the Winter Service Plan;
- maps of treatment routes;
- operational decisions on a timely basis;
- diversion routes in the event of closure of major routes; and
- salt stock information via the Salt Portal.

B.7.5.8. Liaison between Highway Authorities should be routine throughout the winter season. Communication of treatment decisions provides useful information that may inform future decision making, promotes seamless service and can potentially generate efficiency savings.

B.7.5.9. Collaboration with other authorities can be as simple as arranging an informal meeting to discuss the respective Winter Service policies and plans on an annual basis. Other topics could include resource availability, mutual aid or joint training and exercising.

B.7.5.10. It is good practice to liaise with the relevant trunk road and motorway operator (where appropriate) to confirm current route planning. This will minimise duplication of treatments where the two networks cross and avoid sections being missed at complex intersections.

Contact Information

B.7.5.11. Staff contact details and other stakeholders involved in the Winter Service need to be updated before the start of the winter season. A contact check is a simple and effective means of ensuring that staff can be contacted when required. The contact check also facilitates a refresh of communications with other authorities and stakeholders.

Media Information

B.7.5.12. Authorities should establish effective working arrangements with local press and broadcast media. This should enable the presentation of timely and accurate information and advice on network condition and use. Information could include travel information, network availability and risk of severe conditions such as snow and black ice. These arrangements should include in-season proactive media output to engage the public with the Winter Service. This is especially important during prolonged cold weather and is likely to involve television, radio and the internet. Local radio in particular considers this to be a most important aspect of their service to the community and it therefore provides the opportunity to build good working relationships over wider issues. Many authorities have specialist press and public relations personnel and it will be important to clarify and agree respective service and specialist responsibilities.

B.7.5.13. Whilst every severe weather event poses its own unique issues, the baseline media information required remains relatively constant. Statistics such as the number of spreaders, ploughs and salt stored are popular requests. The structure of messages to be relayed is generally similar.

B.7.5.14. Robust processes should be in place to ensure a rapid and accurate issue of media information is possible. It is suggested that pre-prepared media briefs are developed in advance of the winter season for use during times of severe weather.

B.7.5.15. It is important to define and agree key contacts with press and broadcast media and also establish a clear understanding of the most effective timings for information to be provided, in order to reach necessary audiences and broadcast schedules. It may be helpful to arrange joint workshops or training sessions to build understandings and relationships. Advance compilation of commonly requested information will reduce the media workload during a severe weather event.

B.7.5.16. There may also be a need in more widespread and extreme conditions to provide information to the public using national press and broadcast. This may be undertaken either directly or by arrangement with local media, and arrangements should be discussed with them. It may also be possible to utilise variable message signs.

B.7.5.17. Where possible, authorities should use their media relations staff to prepare generic statements and press releases for rapid issue at the onset of winter conditions. These can be pre-approved for use during periods of severe conditions, when both Winter Service delivery teams and the press team will be busy. Consequently authorities may identify the need to provide media training to winter staff. This will help to ensure that the right message is put across in the correct manner at all times.

B.7.5.18. When severe weather is forecast the media rapidly start requesting information and it is important that correct and accurate information is available to them. If information is not provided by an authority the media will attempt to source it from elsewhere, which may not be accurate.

B.7.5.19. Experience has shown that some individuals will take heed of advice issued to the public for or avoiding travelling during severe conditions. If sufficient advanced warning is provided, drivers will be able to change their plans.

Information for the Public

B.7.5.20. Authorities should ensure effective communication of information for the public before and during both normal and severe winter conditions.

B.7.5.21. Authorities should make widely available for users and the community a non-technical summary of the Winter Service Plan, including plans of the treated network, together with guidance on safe use of the network. They should also establish arrangements for local radio and web based information.

B.7.5.22. Section A.6 of this Code deals with arrangements for community involvement in highway maintenance and the importance of information and publicity. This provides opportunities and challenges, which should be positively addressed by authorities and provide an important opportunity to demonstrate understanding of users' needs, and a strong service commitment.

B.7.5.23. It is of crucial importance that policies and levels of Winter Service provided by authorities are widely available and understood by users and the community. As far as possible highway users should be made familiar with treatment routes, particularly in severe weather conditions. This will help in ensuring that expectations are realistic and consistent with the resources available as well as maintaining public safety.

B.7.5.24. Many authorities provide leaflets summarising policies and service levels, including maps showing routes treated, contact information and advice on safe network use. The leaflets should be reviewed annually and made available through the internet, libraries, information centres, schools and a wide range of outlets. Further details on the content and use of leaflets are included in the NWSRG Practical Guide.

Public Self Help

B.7.5.25. Guidance to the public has been published by DfT on how they can assist their communities in clearing snow and ice without fear of litigation.

B.7.5.26. Many authorities have provided salt bins and shovels to parish councils and other stakeholders in order to help them keep local areas free of ice and snow. Ensuring suitable risk assessments and method statements are in existence will minimise the risk of accidents occurring.

B.7.5.27. Local volunteer groups may provide support to local communities and the vulnerable for clearing footways. This needs careful management to ensure the safety and welfare of all involved. This is an area that emergency planning departments are likely to have experience of, either directly or through involvement with Local Resilience Forums.

B.7.5.28. One means by which authorities can assist the local community in areas not on priority routes or at known trouble spots, including gradients and sharp bends is by the provision of public access salt bins. Where these are provided authorities should make arrangements for their replenishment as necessary and to ensure that they do not become unsightly or used for the unauthorised disposal of waste.

Winter Service Plan

B.7.5.29. It is important that the Winter Service Plan is designed to be used by staff at all levels and that those that require it have ready access to the document.

B.7.5.30. Authorities should formally approve, adopt, and publish, in consultation with users and key stakeholders, a Winter Service Plan based on the principles of this Code.

B.7.5.31. Once the policy and plan documents are complete, those involved in delivering the Winter Service should be aware of the current approach. Ideally, a briefing should take place at the start or early in the season to disseminate this information to staff involved in the delivery of the Winter Service. The briefing should also remind staff of the critical role they play in mitigating the impact of winter weather on the road network.

B.7.5.32. The Winter Service Plan should be reviewed annually in consultation with a wide range of stakeholders.

B.7.5.33. It is good practice to monitor compliance with the Winter Service Plan throughout the season. Simple audits on decisions made and short debriefs of snow events will achieve this. These audits should be regular and clearly documented to ensure maximum benefit can be achieved.

B.7.5.34. Suggested contents of the Winter Service Plan are detailed in the NWSRG Practical Guide. The Plan should recognise the fundamental differences between the main components of Winter Service for carriageways, cycle routes, footways and any critical areas and infrastructure as follows:

- pre-treatment - “precautionary” salting;
- post-treatment - continuing salting following the formation of ice;
- clearance of ice and snow; and
- dealing with continuous severe conditions.

Treatment Routes

B.7.5.35. Authorities should define treatment route plans for carriageways, cycle routes and footways for pre-treatment and snow conditions, based upon the general maintenance hierarchy, but adapted to take into account the factors identified by this Code.

B.7.5.36. The treatment routes for Winter Service should take as a starting point the hierarchy developed for other maintenance purposes but this is likely to require extensive modification to consider:

- wider transport and other policy priorities referred to above;
- the Resilient Network;
- special requirements of carriageways, footways and cycle routes;
- safe and reliable access to emergency facilities including Fire and Rescue, Police, Ambulance Services and hospitals;

- other public services access needs and critical infrastructure where the maintenance of access may be critical;
- public transport routes and access to stations, bus garages and depots;
- safe and reliable access to main industrial and business centres of key importance to the local and regional economy;
- any significant variation between summer and winter traffic;
- accessibility dependencies of remote communities for example Scotland's island and peninsular communities;
- the special needs of disabled people or older people particularly where these can be effectively targeted;
- known problems, including significant gradients, exposed areas and other topological factors;
- climatic and thermal capacity differences within the area; and
- co-ordination and co-operation with other authorities.

B.7.5.37. Consideration of these issues is likely to suggest differences in networks adopted for each element of Winter Service. Such decisions will usually not be clear cut. For example treatment of footways will differ from carriageways and for low traffic roads it may be difficult to justify high priority for service provision.

B.7.5.38. Risk assessments should be undertaken to establish which routes should be included in a programme of treatment during winter. In particular, the treatment of carriageways, footways and cycle routes must be considered taking account of risk to all highway users and consideration of the available resources.

B.7.5.39. Where the authority is actively promoting facilities, or there are clear trends of increasing use, a more proactive approach to Winter Service may send an important message.

B.7.5.40. Transport interchanges perform a key role in the delivery of integrated transport, which should be reflected in Winter Service policies and priorities. These include airports, rail and bus stations and the means of access to them whether by main routes for walking, cycling, public transport or car. Parts of the interchange may be subject to differing management regimes and it will be important to agree common levels of service and ensure effective co-ordination of resources.

B.7.5.41. It should be recognised that many authorities will have difficulty treating all bus routes as part of their precautionary salting routes. The treatment of bus routes should be based on risk assessment of local circumstances such as service frequency and their importance to integrated transport services. It is important that treatment routes include the access roads to bus garages.

B.7.5.42. Similar considerations apply to school bus routes where, although authorities should endeavour to provide Winter Service support, there may be practical difficulties in wide spread treatment of such a diverse network.

B.7.5.43. Network Rail recommends that salting should not be undertaken between the stop lines of level crossings, even when covered with snow. Before ploughing over a level crossing the driver must stop and telephone the signalman for permission to proceed and then inform the signalman when past the crossing. Snow blowers must not be used on level crossings.

B.7.5.44. Consideration should be given in certain circumstances for the temporary erection of snow fencing to reduce the effect of drifting snow. The legal powers to provide snow fences in England and Wales are contained in Section 102 of the Highways Act 1980. Where no agreement can be reached with the landowner, Sections 239, 240 and 250 of the Act provide for compulsory powers. The power to provide snow fences in Scotland is in Section 30 of the Roads (Scotland) Act 1984. There is no equivalent of these specific powers in Northern Ireland but Article 100 of the Roads Order, which deals with the acquisition of land, could be used in these circumstances.

B.7.5.45. In periods of especially severe weather in certain parts of the UK, temporary road closures may be necessary. Where roads are known to be particularly vulnerable consideration should be given to the installation of permanent flap down or variable message signs. These signs should be located well in advance of any anticipated obstruction and should be operated in conjunction with the Police. In determining the optimum location consideration should be given to the availability of alternative routes and, if necessary, holding areas. With manually operated signs, and in more remote areas, it is essential that the signs are easily accessible and can be quickly operated by authority or police to give timely information. Consideration should be given to the merits of remotely controlled matrix signing.

Contingency Planning

B.7.5.46. Winter Service procedures should be designed to provide a planned response during even exceptionally severe weather. Through careful planning it is possible to reduce the need for reactive response. It is important to ensure that the Winter Service Plan contains details of the escalation procedures, alternative resources and minimum winter (resilience) networks.

B.7.5.47. The delivery of a more resilient Winter Service should enable local communities, business, public transport and emergency services to function in more severe conditions prior to the need to implement contingency arrangements. Effective contingency planning is therefore a key element of delivering a more resilient service.

B.7.5.48. Authorities should prepare contingency Winter Service Plans for severe weather conditions which include possibilities such as salting a Minimum Winter Network. Authorities should seek agreement on plans in advance with other Highway Authorities and key public services such as hospitals and public transport providers. There should be a co-ordinated approach to implementing Minimum Winter Networks across adjacent Highway Authorities.

B.7.5.49. When weather is sufficiently severe, a contingency plan should be activated. The success of this plan is dependent on advance planning and co-ordination, including treatment routes, resource needs, mutual aid and communications.

B.7.5.50. With improved resilience of Winter Service, the normal response is likely to cope with more severe conditions before the need for escalation. Once escalated, the response will then be likely to mitigate the effects of more extreme conditions. Providing winter decision makers with well-designed contingency arrangements allows them to escalate an issue before it becomes a significant threat to continuity of service and to have the tools available to best manage the situation.

B.7.5.51. When resilience measures and processes have been developed and incorporated into the Winter Service Plan, relevant staff and stakeholders will need to be trained. Resilience planning should be tested through exercises. This will resolve any potential problems in the approach prior to it being used operationally.

B.7.5.52. Local authorities, as Category 1 responders under the Civil Contingencies Act 2004, will already have emergency plans in place. Authorities should benefit from these plans in developing a more resilient approach to Winter Service. Business continuity planning with respect of severe conditions is also important to ensure that Winter Service can be delivered and other critical functions can be adequately supported.

B.7.5.53. Resources such as salt, fuel, spreaders, depots and labour are finite. Plans therefore need to demonstrate how the service will be delivered if one or more of these resources is in short supply. Shortages of fuel, spreaders or operators may not coincide with severe weather.

B.7.5.54. Where practicable, authorities should make arrangements for obtaining reserve supplies of key resources to support their minimum level of resilience. This should include salt, fuel, power and labour.

B.7.5.55. Mutual aid is a pre-agreement between one or more organisations to assist each other, as far as practicable, to overcome disruptive challenges. Mutual aid between authorities is often used in the response to “wide” area emergencies, as the impact on the local authorities, emergency services and other resources can be overwhelmed. Sharing, e.g. depots and salt stocks, through mutual aid may be helpful. Where planning to do so authorities should make contingency arrangements in advance.

B.7.5.56. Mutual aid can be an informal or formal process having written agreements. Arrangements are usually between organisations that work closely together on a regular basis or as part of local resilience forums. Both approaches work well if they are flexible enough to change in response to the dynamics of a situation. Guidance on mutual aid is available online.

B.7.5.57. Authorities should explore the potential for mutual aid in salt supply and other aspects of Winter Service and should make contingency arrangements in advance.

B.7.5.58. During a salt shortage there may be various potential mechanisms to reduce salt consumption bearing in mind the issues discussed in the NWSRG Practical Guide. Each has its own implications which the authority must carefully consider prior to implementation.

B.7.5.59. During a severe weather event increased levels of communication are likely to be required. Communication during a 'crisis' is not simply about media output. Proactive internal communication and keeping the numerous stakeholders informed is also critical. It is important to ensure that good communication is achieved both with internal staff and external stakeholders. Media liaison is a relatively straightforward task once suitable contacts are made. The use of authority websites is a good way to get accurate information to the public without reliance on the media.

B.7.6. WINTER SERVICE DELIVERY

Decisions and Management Information

B.7.6.1. Authorities should take full advantage of decision support systems and services to enable timely, efficient and accurate decision making.

B.7.6.2. The decision support information will be used by the authority's designated Winter Service controller, or similar, together with local experience, and against the background of a range of pre-determined scenarios, in deciding the action to be taken. The decision should usually be delegated to a single person, although in larger authorities with varying climatic conditions the role may be delegated to two or more persons. Controllers will of course need to maintain close consultation with others both within and adjoining the authority and also those dealing with the strategic network.

B.7.6.3. Information to aid decision making is included in the NWSRG Practical Guide.

B.7.6.4. The quality of decisions made by the controller will be the key factor in determining both the effectiveness of the Winter Service and also how it is perceived by users and the community. Instigating a decision check process ensures high quality decisions are acted upon and is good practice.

Information Recording and Monitoring

B.7.6.5. Authorities should continually monitor performance during service delivery and respond effectively to changing conditions or network incidents.

B.7.6.6. Comprehensive and accurate records should be kept of the all Winter Service activity, including timing and nature of all decisions, the information on which they were based, and the nature and timing of all treatment. Note that time taken running dead mileage at end of salting run is not included in treatment time. It is preferable to record both the time at the end of actual salting and the time of return to depot. Where the dead mileage at the end of a salting run is significant this should be considered when planning for severe conditions as it will prevent rapid redeployment of resource.

B.7.6.7. Authorities should make use, wherever possible, of electronic vehicle location systems together with automatic recording of salt spreading. This will simplify and improve the accuracy of records as well as provide corroboration of service delivery in cases where failure to salt is alleged.

B.7.6.8. The condition of routes should be monitored following treatment in order to confirm that the treatment has been effective. If it has not been fully effective, contingency treatments should be considered to achieve the required condition.

Resources

B.7.6.9. Winter Service requires numerous staff, a significant amount of plant and large volumes of consumables such as salt for de-icing and fuel. It is important that supplies and suppliers are planned and managed to ensure these resources are available when required. Sufficient trained and experienced staff are required for the delivery of an effective Winter Service. This includes winter managers, decision makers, supervisors, spreader drivers and other equipment operators.

B.7.6.10. Authorities provide Winter Service through combinations of their own resources and those of service providers contracted to them. There is a wide variety of approaches. Many Highway Authorities provide some of their own facilities with others provided by the private sector. In all cases, service providers' activities are governed by their contract with the Highway Authority.

B.7.6.11. In some authorities refuse collection, street cleansing and grounds maintenance services often provide support to the Winter Service, especially in times of prolonged ice and snow. Arrangements should be made and documented well before the commencement of the season.

B.7.6.12. Detailed route planning and for each aspect of Winter Service will need to be optimised to ensure economic, efficient and effective resource allocation. This will depend on:

- spreading vehicle characteristics and capacity;
- depot and salt location;
- response times (the period between decisions being taken to begin treatment and vehicles leaving the depot. It is suggested that authorities should adopt a target response time of no more than one hour. This should apply both within and outside normal working hours);
- treatment times (the period between vehicles leaving the depot and the completion of treatment on all priority routes. Authorities should adopt target treatment times based on risk assessment of local circumstances that provide for the completion of pre-treatment before ice forming. They should however recognise however that treatment times might vary in different weather conditions); and
- turnaround times (the period between a vehicle completing salting on its route and being ready to recommence salting having reloaded at the depot)

B.7.6.13. A key factor in ensuring that response and treatment times are met once a decision has been taken to treat is the availability of appropriately trained personnel. Identifying the extent of resources needed under various scenarios and the potential source of these will be an important aspect of pre-season planning. This planning should cover the whole range of requirements and conditions likely to be encountered, including:

- pre-season preparation;
- precautionary treatment;
- footway and cycle route treatment;

- post treatment;
- snow clearance;
- continuous severe conditions; and
- post snow emergencies (flooding etc).

B.7.6.14. Planning of resources should cover the entire workforce involved in the Winter Service. It is particularly important not to overlook:

- the need for staff to be available throughout defined risk periods;
- the need for the treatment operations to be co-ordinated and supervised;
- resources and equipment for treating carriageways, footways and cycle routes;
- resources for dealing with vehicle breakdowns, problems with fuel supply and communications failure; and
- resources for the storage, delivery and loading of salt.

B.7.6.15. In planning resources, the following issues regarding personnel also need to be addressed:

- implications of Drivers' Hours Regulations;
- extent and nature of double manning and driver support;
- shift system arrangements; and
- provision for holidays and sickness.

B.7.6.16. It is important that a realistic assessment of the resources required has been made to ensure the continued treatment of the Minimum Winter Network during exceptional conditions. Authorities in planning their resources should ensure that they are compatible with the wider level of resilience adopted by the authority.

B.7.6.17. Authorities often place reliance in times of prolonged ice and snow on temporary contracts with contractors, farmers and others to supplement resources for snow clearing. Arrangements should be documented and the necessary insurance cover should be put in place.

B.7.6.18. In rural areas, authorities should examine the potential for using local council snow wardens, who may have an effective role in gathering information and providing Winter Service Managers with details of specific local problems. If snow warden schemes are adopted clear terms of reference should be established.

Training and Development

B.7.6.19. Delivery of a successful Winter Service is dependent on the individual decisions made and actions taken by all those involved. These actions and individual decisions must be supported by adequate training of the staff and operatives involved.

B.7.6.20. To ensure appropriate level of competence, the training and development needs of all personnel should be established and reviewed annually, including health and safety and appropriate vocational qualifications. Training should then be provided where appropriate before the Winter Service season.

B.7.6.21. Issues where training is required are described below. This is not an exhaustive list and will largely be based on local circumstances:

- the content and operation of the Winter Service Plan;
- route familiarisation (as appropriate);
- driving in difficult and hazardous road conditions including duty of care to other road users;
- circumstances where special safety considerations apply;
- snow ploughing, in particular around rail level crossings, tramways, partially segregated areas,
- dealing with emergencies; and
- dealing with post ice and snow emergencies especially flooding.

B.7.6.22. In addition to such specific training it will be necessary to ensure that all personnel are provided with information during operational periods on current network characteristics and constraints, including:

- traffic management in place; and
- network unavailability.

B.7.6.23. Authorities should prepare specific health and safety policies, guidance, and risk assessments with their service provider. These should be issued and discussed with all personnel, including temporary contractors, and should form the basis of further training as necessary.

B.7.6.24. Training provided to service delivery personnel should also include specific reference to the health and safety needs of users, including:

- avoidance of spraying pedestrians, cyclists and vehicles where practicable with salt or slush when salting or ploughing;
- avoidance of risks to pedestrians and cyclists when using vehicles in segregated or partially segregated areas and in treating footways;
- ploughing and manoeuvring in restricted circumstances; and

- other road vehicles that may not be under proper control.

B.7.6.25. Authorities should consider qualifications and practical experience training. Examples of currently available training courses include the IHE Professional Certificate in Winter Highway Maintenance and various City & Guilds and CITB courses, as well as courses provided by independent training organisations and providers of equipment and services. Many authorities have found it useful for those personnel involved in Winter Service management and decision making to undertake training in familiarisation and interpretation of weather forecast information.

B.7.6.26. Authorities are encouraged to have a system to plan and record all Winter Service related training. This may form part of a wider training management system. This system can then be checked prior to winter to ensure any necessary refresher training is undertaken.

B.7.6.27. There are several groups of individuals that comprise an authority's resources to deliver the Winter Service. These individuals require training to fulfil their duties within an authority's Winter Service. These are listed below:

Winter Decision Maker and Manager

B.7.6.28. The appropriate experience required to deliver the service can only be gained through involvement in decision making and service delivery, over a number of years, initially under supervision. Good practice requires that novice decision makers should undergo briefings on the Winter Service Plan, meteorological training, experience of operational delivery and mentoring by more experienced staff. This should continue until their experience and competence is proven. It is essential that such training is validated by appropriate testing and well documented to ensure that competence can be demonstrated. Weather forecast providers are able to provide training on meteorology and providers of road weather sensors provide training relating to the use of their equipment, as well as on some wider issues relating to the weather and road surface condition. Exercises can provide decision makers with experience of the management of severe conditions.

Drivers and Operators

B.7.6.29. Any operative involved in the use or operation of any plant or machinery should receive relevant formal training to do so. Where reserve drivers are available as part of an authority's contingency plans it is essential that they are trained to an equal level of competence.

Winter Supervisors

B.7.6.30. The first tier of management should be aware of their duties and sufficiently competent to fulfil them. City & Guilds 6159 includes a specific module for winter maintenance supervisors.

Senior Management and other Key Stakeholders

B.7.6.31. Authorities may benefit in providing basic training to senior management and certain key stakeholders in delivery of Winter Service. This can be valuable in managing the expectations in delivering the service during both normal and severe winter conditions.

Training Plan and Records

B.7.6.32. Authorities are encouraged to ensure they have a system of formal training records. The purpose of the system is to record and monitor the training and competence of each individual involved in Winter Service. The system should use the data within it to help identify those people whose training requires refreshing and renewing. Where authorities contract out Winter Service they should require their suppliers to maintain similar records.

B.7.6.33. The system should comprise a development action plan for each individual and record progress in meeting that plan. This will enable training sessions to be targeted, planned and executed in a cost efficient manner.

B.7.6.34. Before commencement of the winter season training records should be checked to identify whether out of season training has occurred and individual training records have been updated. Additionally any mentoring schemes or similar experience-based learning should also be consulted to avoid any issues later in the season.

Route and Equipment Familiarisation

B.7.6.35. Relevant staff and operatives should undertake familiarisation training with winter arrangements, treatment routes and equipment. This is especially important for operational staff that may be new to the authority's Winter Service. Tool box talks and dry runs of treatment routes are useful approaches to deliver this training. Records of this training should be recorded on the training management system as described above.

Exercising

B.7.6.36. Planning and preparing for the winter season are essential activities, but often the measures implemented are only tested in a live situation. Exercising and testing aims to confirm that the plans and procedures are suitably robust to cope with conditions in a safe and non-consequence environment. Authorities and relevant organisations should provide training and conduct periodic exercising to test plans for responding to severe weather events.

B.7.6.37. Authorities and relevant organisations should provide training and conduct periodic exercising to test plans for responding to severe weather events.

B.7.6.38. The Civil Contingencies Act 2004 requires Category 1 responders to exercise their plans to validate and test them. Although winter planning does not necessarily fall into the plans that must be exercised it is clear from recent winter events that severe snowfall will result in the invoking of various other emergency plans via local and regional resilience fora.

B.7.6.39. It would be beneficial for authorities to build severe weather conditions into regional or local training exercises or to develop specific Winter Service exercises involving adjacent authorities and relevant partners. Such testing of plans and personnel associated with the Winter Service would ensure authorities are fully prepared. It would also assist with ensuring that resilience of Winter Service is addressed and communication networks developed and improved. The NWSRG Practical Guide contains further guidance regarding the design and delivery of winter exercises.

Plant and Vehicles

B.7.6.40. A range of vehicles, plant and equipment is used to deliver Winter Service, which should be well maintained, calibrated and reliable. This Code does not deal in detail with the equipment used for Winter Service, but refers to certain more strategic issues relating to procurement and sustainability.

B.7.6.41. In assessing the required plant and vehicles authorities should ensure that sufficient resources are available for the delivery of the Winter Service during severe and prolonged ice and snow. This should be compatible with the level of resilience adopted by the authority.

B.7.6.42. It is unlikely that, with the level of investment involved, authorities will be able to make frequent changes to the fleet, other than replacement or renewal. It is important however, that opportunities are taken when overall service procurement changes are being contemplated to thoroughly review Winter Service and equipment procurement.

B.7.6.43. There have been significant advances in the equipment available on the market in recent years. Vehicles are now capable of delivering a range of treatment types and can have sophisticated technology. The procurement of such technology potentially allows a more targeted and effective approach to treatment of the road network and an improved audit trail of where treatments have been undertaken.

B.7.6.44. It is often extremely difficult and inefficient to remove significant depths of snow using only salt and therefore consideration should be given to the use of snow ploughs mounted on spreaders or other suitable vehicles. Snow ploughs are durable, require little maintenance and should therefore prove very cost effective. However, in urban areas there may be considerable difficulties in utilising snow ploughs, for instance where traffic calming schemes have been implemented, and in this situation any consideration should be on a risk based approach.

B.7.6.45. It is also important to consider equipment requirements for dealing with footways and cycle routes. Specialist equipment, such as footway ploughs and footway salt spreaders, may be necessary for this purpose.

B.7.6.46. The location of depots should be kept under review and specifically addressed when consideration is being given to procurement arrangements. It would be unlikely if all present depots from which authorities undertake Winter Services are ideally located, and significant financial and operational savings can often be achieved from re-location.

B.7.6.47. The environmental effects of highway maintenance depots and operations are dealt with in Section A.9 of this Code, and these can be particularly significant in the case of the Winter Service, where operations will inevitably involve unusual hours of working. Every effort should be made to minimise the environmental intrusion of depots and so far as is practicable the effect of Winter Service operations.

B.7.6.48. A significant contribution to minimising environmental effects can be made by providing covered storage for all vehicles, equipment and materials, which can also reduce waste and maintenance problems.

B.7.6.49. Purchase and ownership of vehicles and equipment will also be a key issue for consideration in relation to the procurement of services. Private sector partners may be able to assist with financing arrangements and authorities will need to balance the financial advantages of this against the contractual and operational risks involved.

B.7.6.50. The need to ensure vehicles are correctly calibrated, well maintained and repaired quickly is essential to the delivery of the service. Whatever arrangements are used the response time, speed of repair, availability of spare parts, quality of repair and audit trail should be carefully established and documented.

Precautionary treatments

B.7.6.51. These are the application of de-icers to road surfaces before the onset of freezing conditions (i.e. frost, snow or freezing rain). The purpose of precautionary treatments is to prevent the formation of ice, or to weaken or prevent the bond of freezing rain or snow to road surfaces.

B.7.6.52. It is usually impractical to spread sufficient salt to melt freezing rain or more than a few millimetres of snow. Therefore, in advance of forecast snow or freezing rain, salt is spread to provide a debonding layer so that:

- snow is more readily removed by ploughing; and
- compacted snow and ice are more easily dispersed by traffic.

B.7.6.53. It is very difficult to remove a layer of compacted snow or ice that is bonded to the road surface, so precautionary treatments are essential before heavy snowfall.

Salt and De-icing Materials

B.7.6.54. Rock salt is the prime material for dealing with ice and snow on roads but can have environmental consequences. It can adversely affect vegetation, pollute watercourses and leave a residue on footways. It can also damage the road structure, bridges and structures, utility apparatus and vehicles. However, used responsibly it can have minimal environmental impact. In the interests of sustainability therefore authorities should ensure that only the minimum of salt is used to deal with the prevailing conditions. Suggested rates of spread are given in the NWSRG Practical Guide.

B.7.6.55. The NWSRG Practical Guide lists a number of alternative materials that authorities could consider using in place of rock salt in particular circumstances. The costs of some of these are extremely high and particular materials also have some environmental consequences. They may prove, however, to be cost effective in specific locations, such as the treatment of footways, where the need for additional sweeping can be avoided, and bridges, where the damage caused by the use of salt can be avoided.

B.7.6.56. As rock salt requires the passage of traffic to improve effectiveness, it may be necessary to use brine in some cases for example some cycle routes.

B.7.6.57. Care should be taken in Winter Service operations, particularly in salting footways, to avoid excessive amounts of salt being washed or swept into tree pits or piled around trees.

Salt management

B.7.6.58. Salt is a finite resource and UK suppliers are constrained by mining operations amongst other factors as to how much may be produced and supplied. Supply can therefore be outstripped by demand during severe weather. It is therefore important to make optimum use of salt for de-icing and make every effort to store and use it efficiently, regardless of the weather conditions, in order to minimise consumption. In addition there can be significant financial benefits to be gained adopting such an approach.

B.7.6.59. Salt is consumed in significant quantities during the winter season, so even small percentage savings in salt use through accurate calibration of spreaders, considered decision making and appropriate treatments is important. These measures will help to minimise the overall consumption of salt on a national basis. The NWSRG Practical Guide contains further information regarding spreader calibration. Ultimately, authorities should consider ways of reducing overall salt consumption while maintaining agreed levels of service on their network. Considerable savings can be made in the amount of salt used to treat carriageways if the salt is maintained in good condition and spreaders are correctly calibrated.

B.7.6.60. Many authorities award salt supply contracts to a single supplier on a call-off basis. Contracts are often awarded on a balance of quality and price, with price usually being the driving consideration. This approach has resulted in a price driven market where salt supply is often treated as a commodity purchase. Authorities carry the risk of being able to obtain the salt they require when they require it. Suppliers carry the risks involved in producing and stock piling salt before sale. Commodity purchase arrangements do not necessarily embrace the service relationships between authorities and their salt suppliers which should lead to improved reliability, and knowledge and anticipation through good communications, and which are facilitated by contemporary procurement arrangements.

B.7.6.61. Authorities and salt suppliers should treat the supply of salt as a service rather than a simple commodity purchase.

B.7.6.62. Authorities should place orders for summer restocking, and make arrangements for in-season restocking. It may be beneficial to consider the option of changing de-icing material to minimise consumption and improve resilience.

B.7.6.63. It has become common to restock at intervals during the winter season using salt management systems based upon predicted use of salt and delivery times. The salt shortage in winter 2008/09 demonstrated that it is difficult for salt supply arrangements to accommodate significantly increased short term demand. Authorities should therefore ensure sufficient resilience in their salt stocks.

B.7.6.64. Authorities should develop close working relationships with salt suppliers and ensure that initial salt quantities and reorder triggers are set to achieve their local level of resilience.

B.7.6.65. It may not be easy for some authorities to achieve an appropriate level of resilience through storing salt at their own depots. Salt suppliers may be able to hold dedicated stock at locations around the UK and authorities should consider whether such an approach is possible.

B.7.6.66. Communications and relationships with salt suppliers may be improved by the development of supplier user groups and authorities should consider participation in such groups.

B.7.6.67. The salt shortages in winter 2008/09, 2009/10 and 2010/11 prompted various local, regional and national salt stockpiling arrangements. This has significantly increased salt stockholding nationally and therefore added resilience. However it is important that Authorities do not routinely rely upon these stockpiles as they are intended only for use during sustained severe winter weather. The Department for Transport Salt Portal plays a key role in managing reserve stocks as it allows early visibility of potential salt supply issues and also enables continual assessment of current stockholding across England.

Salt storage

B.7.6.68. Moisture content can have a significant impact on spreader calibration with over or under spreading possible. Authorities may therefore achieve more consistent spreading of salt through maintaining a constant moisture content in the salt throughout the entire season. The NWSRG Practical Guide contains further details regarding the moisture content of salt.

B.7.6.69. As part of pre-season preparation, authorities should review how their salt is stored in order to identify how greater efficiency may be attained in its use. This may include developing the business case for salt barns or covering open storage facilities. Moisture content of salt is a critical factor in determining spreading rates and distribution.

B.7.6.70. The correct storage of salt is essential to minimise environment damage and storage in salt barns helps to prevent leaching, eases handling, helps in maintaining low salt moisture content, and is of particular value where additives are used. Detailed advice is available on alternative types and construction methods available. Where open stockpiles are used these should be covered with sheeting, which can provide an effective alternative. Some authorities spray their open stockpiles with bituminous emulsion in order to reduce the effects of the weather.

B.7.6.71. Both permanent and temporary salt storage areas should be sited and managed in accordance with requirements of the Local Planning Authority and the Environment Agency. In particular they should not be sited where they could cause damage to landscape or nature conservation or have the potential to pollute watercourses or groundwater. Authorities should be aware of the deterioration in the quality of salt stored for long periods and the need for effective stock rotation. The NWSRG Practical Guide contains further details regarding salt storage options.

B.7.6.72. Where grit is used for treatment, for example in the more extreme conditions applying in Scotland, storage requirements may be less stringent and local advice should be sought.

B.7.6.73. As a means of enhancing local salt storage capacity, authorities and salt suppliers may wish to jointly consider supplier owned salt stocks held on a short or long term basis in a number of widely distributed locations around the country. A joint approach may include agreements such as purchase of some or all stock by the end of a season or provision of land.

Reserve Stockpiles

B.7.6.74. In addition to operational stock, local authorities and strategic road operators have created reserve stockpiles. These stockpiles can be categorised into three different types:

- local reserves – held by a single authority for its own use during times of limited operational salt stocks;
- regional reserves – held on a regional / consortium basis whereby reserve stocks have been made available for use by more than one authority; and
- national reserves – stockpiles held across the UK for use by any authority during times of shortage. In England this is currently being delivered via Highways England and is likely to have certain conditions of use. Transport Scotland and Transport for London have their own arrangements.

B.7.6.75. These stockpiles are not used during normal Winter Service but will be available if salt suppliers are unable to maintain operational stocks at an acceptable level. Release of salt should be subject to agreed protocols with the relevant operators. Authorities should put these arrangements in place before the start of the winter season.

B.7.6.76. Identifying the size, location and storage type of these stockpiles is important. Salt is a bulk commodity, but a reserve stockpile is still a significant investment. It should be stored in a location to allow convenient access to the area it serves and of course remain accessible during times of severe weather. The site should be secure to avoid trespass and theft of salt. Provision should be made in planning for loading facilities although there is unlikely to be a need for permanent on site plant.

B.7.6.77. Reserve stocks are unlikely to be barn stored. However, they should be well covered to prevent leaching and deterioration of the salt. To avoid any gaps in planning any jointly held reserve stocks should have a salt stock management plan specific to that stockholding.

Salt Procurement

B.7.6.78. Authorities should seek a broad approach to salt supply, for example establishing framework contracts with more than one supplier.

B.7.6.79. Ideally, the suppliers should be geographically separated to reduce the risk of them being impacted by the same high demand situation.

B.7.6.80. Authorities should consider whether efficiency benefits can be obtained from collaborative salt procurement and should also consider ways to improve the balance of risk between salt suppliers and themselves, e.g. longer contracts, performance contracts with minimum guaranteed purchase and supply, and contracts that include supply of salt and investment in facilities.

Post Snow Inspection and Maintenance

B.7.6.81. Immediately following the completion of snow clearance operations priority should be given to the clearance of gullies and offlets to ensure that melt water from snow on verges and island or central reservations can quickly drain away. However, it may be especially difficult to prevent melt water which is running across the carriageway from freezing and several applications of salt may be necessary.

B.7.6.82. It is recognised that following severe weather a degree of flexibility may be required to enable Highway Authorities to re-establish inspection regimes. It will also be necessary to inspect the network to ensure that any damage is dealt with either as an urgent defect or as programmed maintenance as appropriate. The inspection should be treated as a special safety inspection and deal with the items usually included. Special attention should be given to the routes treated and the following items:

- removal of accumulations of grit from carriageways, footways, cycle routes and drainage channels;
- inspection and clearance of all bridges, culverts and drainage systems liable to flooding;
- inspection for frost effects and any damage caused by Winter Service equipment;
- check and replenish salt stocks in depots and grit bins; and
- inspect, clean, lubricate, check and repair all vehicles and plant.

B.7.6.83. In addition, it will be important to debrief all personnel involved to ensure that their experience and observations are recorded. These should be used to inform the Annual Service Review and contribute to the process of continuous improvement. It will also be useful in a less formal way for authorities to invite observations from snow wardens and others that may have also contributed to the operations.

B.7.7. REVIEW

B.7.7.1. All aspects of the Winter Service Plan, including service delivery arrangements, should be reviewed annually in consultation with key stakeholders to take account of changing circumstances.

B.7.7.2. All vehicles, plant, fuel provision, equipment and maintenance arrangements should be checked annually and in accordance with manufacturers' requirements to ensure that any necessary action can be taken to ensure full operational service status prior to the Winter Service season. This should include checking the calibration of all de-icing equipment and spreaders.

B.7.7.3. Authorities should review the administrative and management arrangements for Winter Service annually. This should include the role of the private sector in delivering highway services, and the use of support services such as refuse collection, street cleansing and grounds maintenance services.

B.7.7.4. As part of the Annual Review authorities should consult with bus operators regarding changes to routes. In doing so and where practicable bus operators should be encouraged not to change routes throughout the winter season where there would be an effect on treatment routes.

B.7.7.5. The Annual Review should include an analysis on whether service delivery meets the Winter Service policy and plan. It should also include a review of the current thinking with regards to the impact of climate change. Service efficiency improvements such as route optimisation should also be considered.

B.7.7.6. Following any significant winter weather event, a formal review involving representatives from all levels of the management and delivery of Winter Service should be carried out. The review should specifically identify the successful elements of the service as well as potential improvements and actions to be taken. Where applicable, other stakeholders should be involved. The review process should be documented to ensure all learning is captured, considered and actioned. This should feed into the Annual Review.

WELL-MANAGED HIGHWAY INFRASTRUCTURE

PART C. STRUCTURES

SECTION C.1. INTRODUCTION TO PART C – STRUCTURES

C.1.1. INTRODUCTION

C.1.1.1. Part C of Well-managed Highway Infrastructures has been drawn up specifically for highway structures associated with the adopted road network which meet the dimensional criteria defined in Section C.1.1.4. In addition, the general principles apply to structures associated with all other highways that are used by the public, e.g. segregated footpaths and cycle routes, and the Public Right of Way network. The types of highway structure covered by the Code are those within the boundaries of the highway or which otherwise materially affect it and include:

- bridges including footbridges, cycle route bridges, bridleway bridges, accommodation bridges, occupation bridges, subways, underpasses and culverts;
- retaining walls;
- sign/signal gantries;
- cantilever road signs; and
- tunnels.

C.1.1.2. The overarching principles and common themes of maintaining highway infrastructure are covered within Part A. Asset specific guidance for highways and lighting are covered in Part B and Part D respectively.

C.1.1.3. The term 'highway structures' is used throughout the Code to refer collectively to all of the above structure types.

C.1.1.4. The following definitions are aligned with the Code of Practice on the Highways Network Asset definitions. Authorities may include similar structures outside the dimensions listed for the purposes of management of highway structures at an operational level.

- bridge – a structure with a span of 1.5m or more spanning and providing passage over an obstacle, e.g. watercourse, railway, road, valley. This category also covers subways, footbridges and underpasses;
- cantilever road sign – a structure with a single support that projects over the highway in order to carry a traffic sign;
- cellar or vault – an underground room or chamber with a maximum plan dimension of 1.5m or more;
- culvert – a drainage structure with a span of 1.5m or more passing beneath a highway embankment that has a proportion of the embankment, rather than a

bridge deck, between its uppermost point and the road running courses. Culverts are normally rectangular or circular in cross section;

- retaining wall – a wall associated with the highway where the dominant function is to act as a retaining structure, and with a minimum retained height of 1.35m;

- road tunnel – a tunnel with an enclosed length of 150 metres or more through which a road passes; and

- sign/signal gantry – a structure spanning the highway, the primary function of which is to support traffic signs and signalling equipment.

C.1.1.5. Bridge Managers should be aware that BD 2 (Technical Approval of Highway Structures) applies to all highway structures with a clear span or internal diameter greater than 0.9m, and to retaining walls of height greater than 1.5m.

C.1.2. THE ROLE OF HIGHWAY STRUCTURES

C.1.2.1. Bridges and other highway structures are fundamental to the transport infrastructure because they form essential links in the highway network. It is not therefore in the public interest to allow highway structures to deteriorate in a way that compromises the functionality of the highway network, be it through restrictions or closures caused by unsafe structures or the disruption of traffic through poor planning of maintenance work.

C.1.2.2. Highway structures represent a significant national investment, with most being publicly owned and many being prominent features in the local environment. In the UK the management of highway structures is undertaken by a variety of owners/agencies. In the Code they are collectively referred to as ‘owner’ or ‘authority’ as appropriate.

SECTION C.2.
LEGAL FRAMEWORK – STRUCTURES

C.2.1. INTRODUCTION

C.2.1.1. General duties and powers are dealt with in Part A of this Code. This section contains information on duties and powers specifically related to highway structures.

C.2.1.2. There is a statutory obligation on Highway Authorities to maintain the public highway, Highways Act 1980, or equivalent.

C.2.1.3. Where "failure" of a structure is described below, it refers to an inability to meet either or both of the functions outlined in C.1.2.

C.2.1.4. Most highway structures are readily accessible by the public. Numerous instances have occurred where specific structures have a high incident rate for suicides. Bridge owners should consider these occurrences in any management planning for the associated structures and thus give due consideration to restricting access to the means of suicide at certain high risk bridge sites. A Personal Safety Incidents at Bridges briefing sheet has been produced, however this is a developing area and latest good practice should also be reviewed.

C.2.1.5. In Wales, reducing access to the means of suicide is one of the objectives of Talk to Me 2 – Suicide and Self Harm Prevention Action Plan for Wales 2015-2020. The Welsh Government is promoting a multi-stakeholder approach involving Public Health Wales, asset owners, Samaritans and other health specialists to tackle this issue.

C.2.2. STRUCTURES SPECIFIC LEGAL AND PROCEDURAL REQUIREMENTS

C.2.2.1. The Highways Act 1980 sets out the main duties of Highway Authorities in England and Wales. In particular, Section 41 imposes a duty to maintain highways that are maintainable at public expense. Where a highway passes over a bridge, Section 328(2) vests the bridge as part of the highway and the normal duty to maintain under Section 41 of the 1980 Act applies under these circumstances. However this does not preclude bridges under highways being in private ownership and rightly the responsibility of the private owner. Issues regarding retaining walls are covered below.

Bridges

C.2.2.2. The majority of bridges are maintainable at public expense unless they were built under an Act of Parliament for the construction of the canal and railway networks or built by private owners under the authority of a Royal Charter or an Act of Parliament in consideration for being allowed to charge tolls. Where a bridge carries a road, but is not maintainable by the Highway Authority (e.g. Network Rail), it is important for the Highway Authority to have an agreement with the owner of the bridge to clarify the demarcation of maintenance responsibilities.

C.2.2.3. Other possible exceptions are bridges built by private land owners as a means of access over or under the highway. These are often covered by agreements with the Highway Authority. Section 176 of the Highways Act covers licences for bridges over the highway, whilst bridges under the highway are generally covered by agreements under the general provisions of the Highways Act and Section 111 of the Local Government Act 1972.

C.2.2.4. Section 7 of the Trunk Roads Act 1946 and later Section 55 of the Highways Act 1980 led to the adoption by the strategic Highway Authority of all private bridges when a road was trunked. These bridges have generally been passed to the Local Highway Authority if the road was subsequently de-trunked in accordance with Section 2 of the Highways Act 1980.

C.2.2.5. Between 1989 and 1999 as the result of a European Directive, authorities were charged by Central Government with assessing the strength of bridges carrying the adopted road network and, where appropriate, with strengthening to ensure adequacy for the introduction of the 40 tonne European Standard to roads in the UK on 1 January 1999.

C.2.2.6. The British Railways Board, the London Board, and the British Waterways Board, now the Canal & River Trust (or their successors in title) are referred to as “the Boards” throughout the following section.

C.2.2.7. In the case of bridges owned by the Boards and their successors, an initial assessment was required to the new code BD21 The Assessment of Highway Bridges and Structures and its successive developments and, in the event of the assessment indicating inadequate strength, a further assessment generally to BE4, to determine whether or not the owner’s load bearing obligation for the structure was met. A programme of strengthening was implemented to deal with any shortfalls of strength with cost sharing determined on the degree of shortfall, the form of strengthening and the desired loading requirements for the route. Schemes are progressed under national templates for works agreements prepared by the Boards and ADEPT Bridges Group. Further details are provided in Strengthening of Railtrack owned highway bridges, published jointly by CSS (now ADEPT) and Railtrack, March 1999.

C.2.2.8. BS EN 1991-2 defines models of traffic loads for the design of road bridges, footbridges and railway bridges.

C.2.2.9. References to the London Board are to be construed as reference to Transport for London. See also the Channel Tunnel Act 1987, s6(3), Sch.2, Pt III, para 21(4) for the application of this section to the concessionaires as defined by that Act. Other enabling legislation has been introduced to empower replacement organisations, such as London Underground Limited, to retain similar powers.

Retaining Walls

C.2.2.10. Most retaining walls, which directly support the highway or support land carrying the highway ("highway retaining walls") and are within the highway boundary, are maintainable at public expense. Occasionally such retaining walls have been built by adjoining landowners to create a more level site and so afford more useable space, e.g. for a mill, these are generally owned by, and should be maintained by, the landowner. Whilst this cannot be insisted upon by the Highway Authority unless covered by an agreement, the highway does have a right of support under Common Law and this can be used if the wall starts to collapse.

C.2.2.11. The responsibility for the maintenance of retaining walls which support property adjacent to the highway ("property retaining walls") is more difficult to determine. These walls may have been built as part of the highway and as such are maintainable at public expense unless built as accommodation works for the adjoining landowner with an agreement that the landowner would maintain them in the future. Some retaining walls may have been built by the adjoining landowner to create a more useable area and as such are maintainable by the landowner. In this case, if an existing wall is liable to endanger highway users, the Highway Authority can serve notice, under Section 167 of the Highways Act, on the owner or occupier requiring them to carry out repair work to remove the danger. This can be a protracted process and the authority needs to consider their general duty of care to the public. Serving of such a notice imposes a duty on the Highway Authority to act in default of action by the owner. Section 167 also states that no new retaining wall shall be built of height greater than 4 feet 6 inches (approximately 1.37m) within 4 yards (approximately 3.66m) of a street unless it is approved by the local council following consultation with the Highway Authority.

C.2.2.12. The ownership and maintenance of retaining walls can be a complex issue and it is suggested that authorities produce and maintain a guidance note to clarify retaining wall responsibilities.

Railway and Canal Bridges

C.2.2.13. The Transport Act 1968 (Part VIII Bridges and level Crossings etc) sought to clarify responsibilities for maintaining the structures that carry highways over the railways of the British Railways Board or the London Board, and over waterways of the British Waterways Board, now the Canal & River Trust (or their successors in title).

C.2.2.14. Part VIII of that Act states that where, at that time, any of the above Boards were responsible for maintaining the highway on the bridge or giving access to the bridge, they remain responsible for all but the surfacing of the highway which from that time becomes the responsibility of the Highway Authority as highway maintainable at the public expense. The Act provides that the authority is not responsible for any defect in the surface that is attributable to the failure of the Boards to discharge their responsibility. There are similar obligations on the authority to afford access to the Boards to carry out their maintenance work and to seek the consent of the Boards to works which might affect the loading and/or parapet height on the bridge.

C.2.2.15. The Transport Act 1968 imposed upon the Boards the need to provide bridges with the required load-bearing capacity and to maintain or improve their bridges as appropriate. Except for special cases where standards are specified by a Minister, the capacity was defined as the weight of traffic which ordinarily uses or may be reasonably expected to use the highway carried by the bridge on or about the day on which the section of the Act came into force for existing bridges or, if the bridge is constructed subsequently, when it is opened to traffic. In the case of railway bridges this was further defined by The Railway Bridges (Load Bearing Standards) (England and Wales) Order 1972 (SI 1072 No. 1705) where five standards of loading are applied depending on the age of the bridge or when it was reconstructed (special provision is made for specific bridges listed in Schedules 2 and 3 to this order). The five standards of loading are:

- Technical Memorandum (Bridges) No. BE4 The Assessment of Highway Bridges for Construction and Use Vehicles;
- Type HA (equivalent lane loading) standard;
- HA and 37.5 units of HB (abnormal loading);
- HA and 45 units of HB; and
- for bridges that were or were about to be weight restricted, the load bearing obligation was limited to the weight restriction.

Overbridges

C.2.2.16. Bridges carrying railways or waterways over highways are usually owned by the respective Boards or their successors. Adequate consultation and liaison should take place before either the other owner or the Highway Authority does any work that could impact upon the interests of the other.

C.2.2.17. Over-bridge strikes may result in fatalities, and cause substantial disruption and delays to the railway industry and road users arising from even the slightest impact, as the effect of which always needs to be checked before trains can be cleared to use the bridge again. However, the issue of striking bridges over roads is not just related to railway bridges. Many over-bridges are struck from time to time, the effect varying from simple scrapes to complete demolition, including those over the 5.0m minimum headroom threshold. To seek to combat the problem the DfT has set up a group, the Bridge Strike Prevention Group (BSPG), to raise awareness of the issues and identify and action initiatives to reduce the incidences of bridge strikes. The Group includes representatives of DfT, ADEPT, Network Rail, TfL (LUL and Surface), LoBEG, Railways Inspectorate/HSE, Freight Transport Association, Road Haulage Association, Association of Chief Police Officers, Highways England, Transport Scotland, Welsh Government, Transport NI and others. As part of the BSPG activities, ADEPT in collaboration with Network Rail have developed a protocol for highway managers and bridge owners to minimise the risk of bridge strikes.

Privately Maintainable Bridges

C.2.2.18. There are provisions in Sections 93 to 95 of the Highways Act 1980 for the Highway Authority to enter into agreements with the owners of private bridges for the transfer of ownership of the structure and responsibility for its improvement and maintenance. These agreements normally contain financial provisions or commuted sums to cover any outstanding liabilities. Equally Section 271 of the Act provides for agreement of transfer of tolls and subsequent compensation if necessary.

C.2.2.19. In the event of failure to agree future responsibilities either party can apply to the Secretary of State for an order under Section 93 of the Act. Such an order can require the owner or Highway Authority to reconstruct or improve the bridge, can determine who should maintain/operate the bridge in the future and can require the transfer of ownership.

Low, Narrow or Weak Bridges

C.2.2.20. The Traffic Signs Manual Chapter 4 contains guidance for the signing of low, narrow and weak bridges.

C.2.2.21. All bridges over highways with less than 5.0m headroom at any point over the carriageway are referred to as ‘low bridges’.

C.2.2.22. Sections 1 and 2 of the Road Traffic Regulation Act 1984, as amended, are used by a Highway Authority to make a TRO (called a “Weight Restriction Order” although actually a TRO) prohibiting certain vehicles from using a bridge which has a load bearing capacity less than that required to safely carry all vehicles permitted under The Road Vehicles (Construction and Use) Regulations 1986 or The Road Vehicles (Authorised Weight) Regulations 1998. “Weak Bridge” warning signs should be erected in accordance with Traffic Signs Manual Chapter 4 using guidance in BD 21 and BA 16 to determine the appropriate weight restriction with appropriate advance signing.

C.2.2.23. Load Mitigation Interim Measures should be imposed on weak structures in order to reduce the effects of the loading on the structure to an acceptable level, either by reducing the magnitude of the loading or by altering the response of the structure. These include weight restrictions, lane restrictions, propping, use of a temporary structure and closure.

C.2.2.24. Bridges with the members supporting central reserves, outer verges and footways, which are not protected from vehicular traffic by an effective barrier, should be assessed for accidental wheel or vehicle loading in accordance with BD 21, and if necessary appropriate mitigating solution, e.g. ‘effective barriers’, should be implemented.

C.2.2.25. Bridges can often create narrow pinch points along the highway network. These pinch points create hazards with an increased risk of collision. “Road Narrows” signs (Sign 516 and 517 from Traffic Signs Manual Chapter 4) should be used. At sites where the bridge parapets are subject to repetitive impact damage the use of speed control measures and bollards including additional hazard signage to highlight the presence of parapets/bollards (sign 528.1) should be considered as risk reduction measures. .

Culverts

C.2.2.26. Culverts, if constructed as part of a highway scheme, are maintainable by the Highway Authority. In doing this the authority may have interfered with the natural capacity of the watercourse upstream, and might as a result have some responsibility if flooding occurs because the culvert is not large enough to take all the flow. Depending upon the size of storm causing the flooding, this may be an actionable nuisance, as in the case of Bybrook Barn Centre v Kent CC, and should be duly considered, where relevant. This is also relevant to bridges over watercourses. As this is a complex issue, it is suggested that a Highway Authority produce and maintain a guidance note to clarify how the matter of flooding should be considered. The Environment Agency or equivalent, Lead Local Flood Authority (LLFA) or Internal Drainage Board (IDB), where appropriate, should be consulted when producing the guidance note and when undertaking work on culverts/bridges that may interfere with the natural capacity of a watercourse.

Tunnels

C.2.2.27. The Road Tunnel Safety Regulations (2007, amended 2009) apply to tunnels over 500 metres in length that form part of the trans-European road network.

Other Highway Structures

C.2.2.28. Other structures, such as gantries and cantilever traffic signs, constructed as part of a highway, are also maintainable at public expense and are usually managed by the Bridge Manager of the authority.

C.2.2.29. If a highway runs along a river or the seashore then an embankment, river wall, seawall and/or groynes may be necessary for protection. They will therefore need to be maintained by the Highway Authority as part of their duties to maintain under the Highways Act 1980, (see the case of Sandgate UDC v Kent County Council 1898). However, each case should be considered on its merits depending on the particular circumstances, as maintenance could be the responsibility of or shared with the District Council or Unitary Authority as Coast Protection Authority. More information on embankments can be found in Section B.4 of this Code.

Cellars and Vaults

C.2.2.30. The majority of cellars and vaults associated with the highway are privately owned and their maintenance and management is largely outside the remit of the authority. Nevertheless, when a private cellar or vault collapses it is frequently the responsibility of the authority's Bridge Manager to oversee initial investigation and subsequent repairs. In order to minimise the risk to the public and the length of time taken to return the highway to public use, the Bridge Manager may wish to implement procedures or protocols to mitigate the risk of collapse and deal with subsequent investigation and repair. Guidance is provided in the following paragraphs on developing such a protocol.

C.2.2.31. Sections 179 and 180 of the Highways Act 1980 give procedures for the control of the construction of cellars and vaults under the street, of the provision of openings under the street, and of pavement lights and ventilators. The duty to maintain and repair a cellar or vault is on the owner or occupier, whereas the Highway Authority has a right of support of the highway and has powers to enter and maintain existing structures if the owner or occupier fails to act. The Act does not necessarily impose an obligation on the owner or occupier to carry out works that enhance or improve, e.g. strengthening to carry current accidental wheel loads or vehicle loading, if the carriageway needs to be extended over the cellar or vault. In Scotland, Section 66 of the Roads (Scotland) Act 1984 applies.

C.2.2.32. Authorities should implement a procedure for dealing with cellars and vaults that reflects the nature and number of cellars and vaults associated with their highway. The procedure should take into account current data and knowledge (e.g. number of recent failures), the resources needed to collect further data (e.g. a survey to identify all cellars and vaults) and the benefits provided by this data. The following approaches should be considered:

- ad hoc approach – after a collapse the authority liaises with the owner/occupier regarding the repair. There is no set protocol for dealing with collapse/repair but the principles outlined within Section 6 (Network Resilience) of Part A should be followed.

- re-active protocol – after a collapse the authority follows a set protocol.

    - The protocol may include:

        - secure the site, e.g. site safety, traffic management, initial inspection and structural analysis;

        - identification of relevant parties, e.g. owner, occupier, highway and other authorities;

        - investigation, e.g. nature of the cellar/vault, extent and cause of damage, scope and cost of works required and constraints; and

        - repairs, e.g. establish who will carry out the repairs, identify work required to meet current standards and agree how costs will be shared between the parties.

    - This approach may be suitable for authorities that have a large number of cellars and vaults associated with their highway, but have had few collapses in the past and the risk of collapses in the future is assessed to be small.

- Pro-active protocol – based on the re-active protocol but add to this a pro-active approach to collapse mitigation using risk assessment. The authority, in agreement with cellar/vault owners, develops a risk assessment procedure that identifies those cellars and vaults most at risk. These structures should be inspected/assessed by the authority or the owner's engineering representative (as agreed) and the need for repairs and strengthening identified. Identification, inspection and assessment of all cellars and vaults are likely to be difficult and expensive tasks. This approach should be justified on the basis of minimum whole life costs (to the owner and authority) and may be suitable for authorities that have a large number of cellars and vaults

associated with their highway and have had a significant number of collapses in the past.

Improvements and Reconstruction

C.2.2.33. Sections 62 to 105 of the Highways Act 1980 give general powers to the authority to improve the highway be it widening, junction improvements or safety aspects. Improvements can include highway structures. Section 75(2) requires consent of the railway, canal, inland navigation, dock or harbour undertakers concerned, if affected.

C.2.2.34. Sections 91 and 92 of the 1980 Act respectively state that an authority can construct a bridge to carry the highway and that a bridge can be reconstructed either at the site or within 200 yards (approximately 183m) of the existing one. Section 93 of the Act permits the authority to apply to the Minister of State for an order to provide for reconstruction, improvement or maintenance of privately maintained bridges if they are considered dangerous or unsuitable for the requirements of road traffic.

C.2.2.35. The authority has the power under the 1980 Act, Section 110 to divert non-navigable watercourses if necessary or desirable as part of improvement or alterations.

C.2.2.36. Construction of bridges over, and of tunnels under, navigable waterways, requires an order from the Minister under Section 106 of the Highways Act 1980. If the waterway is also tidal, consent is required under the Coast Protection Act 1949 as amended by Section 36 of the Merchant Shipping Act 1988. If material is to be deposited in the tidal waterway, consent is also required in accordance with the Food and Environmental Protection Act 1985 Part II.

C.2.2.37. Each of these processes involves a statutory consultation process which includes the Environment Agency, Marine Management Organisation, navigation authorities, Trinity House, etc as necessary. For works required on highway structures within areas covered by a “Harbour Order” permission is required from the Harbour Authority.

Structures Over or Adjacent to Watercourses or Flood Defences

C.2.2.38. If highway structure works are required in, over, under or near a watercourse or flood defences (including sea defences), it is essential to contact the appropriate agency, for consent to work in watercourses. Consents can take a minimum of two months to obtain and should therefore be sought as early in the planning process as feasible. Consents to cover both temporary and permanent work are required.

C.2.2.39. Consents are the means of meeting requirements that the works do not endanger life or property by increasing the risk of flooding or cause harm to the water environment. Consents are given by the Environment Agency under the Water Resources Act 1991 in England for main rivers and by the lead local floods authority under the Land Drainage Act 1991 for works on or near ‘Ordinary Watercourses’. In some areas there are Internal Drainage Boards who deal with these matters on behalf of the Environment Agency.

C.2.2.40. Watercourses in Scotland are the responsibility of the Scottish Environment Protection Agency (SEPA), and local authorities. SEPA have produced a Practical Guide to The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended).

Party Wall Act

C.2.2.41. The Party Wall Act 1996 requires the issue of statutory notices when work affects adjacent properties within 3 metres of any construction works or within 6 metres if affecting foundation support. The Act is only considered applicable if the land is owned by the authority rather than 'simply' highway land. However, the authority still has a duty to maintain support of the highway under Common Law. Condition surveys should be undertaken prior to any major works and in some instances the processes prescribed within the Party Wall Act may prove beneficial. The process may lead to an affected party appointing an Independent Party Wall Surveyor to act on their behalf and thus later disputes may be avoided. Further information may be obtained from the website of the Pyramus and Thisbe Club, which is the organisation for professionals specialising in party wall matters.

National Variations

C.2.2.42. The Roads (Scotland) Act 1984, similarly sets out the main duties for roads authorities in Scotland. Sections 1 to 4 set out the general powers and duties and state that a local roads authority shall manage and maintain all such roads entered on the list of public roads. Sections 75 to 82 deals with bridges, tunnels and diversion of watercourses in a similar manner to Sections 106 to 111 in the Highways Act 1980 for bridges in England and Wales. Part V covers roads and building control, in particular Section 66 covers maintenance of vaults and cellars and requires owners to maintain and repair such structures, and gives the authority powers to serve notice on the owner to undertake repairs.

C.2.2.43. Section 90 of the Roads (Scotland) Act 1984 gives powers to the authority to consent to structures or apparatus constructed over the road. This is similar to Section 176 of the Highways Act 1980.

C.2.2.44. The equivalent legislation in Northern Ireland is The Roads (Northern Ireland) Order 1993 where the duty to maintain is contained in Article 8.

C.2.3. ENVIRONMENTAL REQUIREMENTS

C.2.3.1. Maintenance work and inspections on highway structures should be undertaken giving due consideration to the environment. Highway structures provide habitats for some species, such as reptiles, nesting birds, bats and plants especially lichens, mosses, and liverworts. They are often situated in and over key biodiversity corridors – i.e. rivers, streams and estuaries. Whilst they facilitate the passage of vehicles, cycles and pedestrians, over or under obstacles, bridges can also be a barrier to the migration of animals, which can result in conflict with traffic. Brief details of the requirements are given in Section 9 of Part A of this Code.

C.2.3.2. On 1 April 2013 the Environment Agency Wales was merged with the Countryside Council for Wales and Forestry Commission Wales into a single environmental body, Natural Resources Wales, which is the statutory drainage and flood defence authority for Wales.

C.2.3.3. Scottish Natural Heritage and Scottish Environment Protection Agency are the statutory bodies in Scotland that have responsibility for the environment.

C.2.3.4. Environment matters in Northern Ireland are dealt with by several departments: Department for Communities (DfC), Department for Infrastructure (DfI) and Department of Agriculture, Environment and Rural Affairs (DAERA).

C.2.4. SUSTAINABILITY REQUIREMENTS

Guiding Legislation

C.2.4.1. The Climate Change Act 2008 empowered the government to set national targets for the year 2050 for the reduction of greenhouse gas emissions and to encourage energy users to meet the objectives of the act, such as reducing such emissions or removing greenhouse gas from the atmosphere.

C.2.5. CONSERVATION REQUIREMENTS

C.2.5.1. The Planning (Listed Building and Conservation Areas) Act 1990 requires each authority to compile a list of buildings of special interest, either historic or architectural. Listed building consent is required to demolish such a structure, or to alter or extend it in a manner affecting its architectural or historic interest. The Act also provides for the protection of conservation areas that have special historical interest. The status can influence the processes required for structure maintenance in such an area.

C.2.5.2. There are different grades of listing, depending on the historical or architectural importance of the structure, ranging from Grade 2 through Grade 2* to Grade 1, with a further level of Scheduled Ancient Monument, which is covered by The Ancient Monuments and Archaeological Areas Act 1979. Secretary of State (Department of Culture, Media and Sport) approval of proposals for work on a Scheduled Ancient Monument is required before any works are carried out, except emergency works. The Ancient Monuments (Class Consents) Order 1994 gives consent in Class 5 for works which are urgently necessary in the interests of safety or health, provided that the works are limited to the minimum measures immediately necessary and notice in writing justifying in detail the need for the works is given to the Secretary of State as soon as reasonably practical. This would allow the replacement of the odd damaged stone or realignment of a displaced parapet, but not repair of more extensive damage. The Secretary of State relies heavily on the advice of Historic England and any proposals for work on such structures should involve early consultation with the local representative of Historic England. Proposals for works on structures recorded at the lower (listed) levels are usually approved by the planning department of the local authority. However, if the work will require complete or partial demolition, or if the work will alter or extend a Grade 1 or 2* structure in any manner which would change its character as a building of special architectural or historical interest, the planning department of the local authority has to consult English Heritage.

C.2.5.3. There are currently 25 World Heritage sites within the UK designated by UNESCO (United Nations Educational, Scientific and Cultural Organization).

C.2.5.4. Although these sites have no greater legislative protection, local planning authorities are encouraged to have management plans in place. Planning applications for works in these areas are likely to require greater consultation with Historic England and thus lengthier programmes should be accommodated. Details of the sites in England are provided on the Historic England website.

https://historicengland.org.uk/

C.2.5.5. As the requirements for the conservation of historic structures are specified in a number of disparate documents and there was a need to bring them together in a bridge-orientated publication, Highways England sponsored the publication of Conservation of Bridges and issued BD89 The Conservation of Highway Structures. Both these publications should be consulted before work is proposed on historic structures. The website Maintain our Heritage, although primarily for historic buildings, has information on various aspects of maintaining these structures.

National Variations

C.2.5.6. In Scotland, Historic Environment Scotland has been set up by the Scottish Executive to undertake a similar role to that of Historic England for ancient monuments. The same legislation is applicable for ancient monuments, except for listed buildings. They are covered by Planning (listed buildings and conservation areas) (Scotland) Act 1997.

C.2.5.7. Cadw, created in 1984, is the historic environment service within the Welsh Government and deals with the preservation of ancient monuments in Wales.

C.2.5.8. The Department for Communities, Historic Environment Division, established in May 2016 is the authority in NI for determining conservation matters.

SECTION C.3. ASSET MANAGEMENT INFORMATION – STRUCTURES

C.3.1. INTRODUCTION

C.3.1.1. Asset data management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

C.3.1.2. Asset management systems are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part C. This document should be referred to and the advice below considered supplementary.

C.3.2. PRINCIPLES AND CONSIDERATIONS

C.3.2.1. A structures asset management system should provide/support the following list of functions.

- collection, storage and retrieval of inventory data and condition data;
- works management and prioritisation;
- asset valuation – both gross replacement and depreciated replacement cost to support Whole of Government Accounting requirements;
- production and reporting of national and local performance data;
- deterioration modelling and life cycle planning; and
- management and storage, in electronic format, of drawings, photographs and reports.

C.3.2.2. The UK Bridges Board has developed a methodology for Structures Asset Management Planning, referred to as the Structures Toolkit (SAMPt). New versions are published annually on the CIPFA website, and are is used to produce the required figures for the Whole of Government Accounts.

C.3.2.3. Commercial software systems should implement the methodology of the valuation module in a consistent manner, in order that the valuation figures produced by any one system are comparable and auditable regardless of the system used.

C.3.3. MANAGEMENT OF ASSET INFORMATION

C.3.3.1. Asset data should be held in a format that allows it to be easily entered, analysed and manipulated during the planning process, preferably in a computerised format. Data entry may be performed by administration staff or engineers. In the latter case data entry, especially for General Inspections, should be combined with the identification of needs in order to produce a more time and cost efficient approach. The highway structures stock should be divided into groups and sub-groups that have similar deterioration characteristics and maintenance.

C.3.3.2. Consistency is vital to current and developing Bridge Management Techniques and to ensure that these are suitably supported, it is essential that element inventories are created and maintained in a consistent manner.

C.3.3.3. The London Bridges Engineering Group (LoBEG) has published a Good Practice Guide on Creating Consistent Element Inventories for Highway Structures. This describes the approach for creating consistent element inventories and provides guidance on the consistent evaluation of Bridge Condition Indicators.

C.3.3.4. The extent of data held depends on the particular requirements of the authority but the following should be considered:

- **basic inventory data** – the basic information about each highway structure, including structure name/reference, structural type, location, route carried, obstacle crossed (where relevant) and key dimensions;
- **legal data** – details of contracts, licences, legal agreements, letters, etc. that define who is responsible for management, e.g. authority, other owner, third party, maintaining agent;
- **condition data** – an up-to-date General Inspection pro forma should be held for all structures as a minimum. Holding additional more historic condition data will assist in monitoring and developing trends;
- **structural assessment and review data** – the assessment rating, date of latest structural review, details of a planned assessment, or details of why the structure is excluded from the review/assessment programme. See also Section C.5; and
- **Health and Safety File** – an H&S file should be maintained for each highway structure as construction work is carried out.

C.3.3.5. The data collected and managed by particular authorities may depend also on imposed requirements arising from government/corporate policy and targets (current and future, if known) relating to the environment and sustainability, resource accounting and budgeting, Best Value, asset valuation etc.

Inventory Data

C.3.3.6. The inventory should hold the basic data and information on the stock of highway structures in terms of descriptive parameters such as structural type, form, construction material and geometry (dimensions, span, width, skew etc). Attributes held in the inventory should enable management to operate at a number of levels, e.g. stock, groups or individual structures.

C.3.3.7. Suggested fields for a highway structures inventory are listed below:

- structure type, e.g. bridge, culvert, retaining wall;
- owner and, where appropriate, management, maintenance and inspection responsibilities;
- structure identifier – reference, name, key number, etc;
- route carried, e.g. Principal A road, B road, footway;
- structure location, e.g. map reference (easting and northing), GPS, section of road, local position reference;
- year of construction/reconstruction, designer and design code;
- location of drawings, photographs, design details, etc;
- headroom envelopes, minimum headroom, navigation clearance;
- historic listing or scheduled ancient monument;
- special access requirements, including details of confined space working, permit to entry or work, maintenance access needs etc;
- details, including date, of major upgrades and/or modifications, e.g. widening or strengthening;
- presence of utility services (stats) – a field indicating ‘yes’ or ‘no’ may be sufficient rather than specific details. This is for information only and a live search should be carried out to confirm stats prior to any works;
- external considerations and/or constraints, e.g. social, geographical, environmental, conservation, etc;
- structure arrangement, e.g. number and location of widenings, number of spans/panels, skew;
- structural form, e.g. arch, beam and slab;
- general material of construction, e.g. masonry, steel, concrete;
- obstacle crossed, e.g. road, watercourse, railway;
- dimensions, e.g. length, width, height;

- list of components, e.g. primary deck element, joints, bearings. The inspection pro forma developed by CSS (now ADEPT) provides an appropriate list;
- materials of construction;
- year of construction/installation;
- manufacturer and unit specifications, e.g. for parapets, bearings and joints;
- presence of asbestos; and
- capacity rating/abnormal load rating.

Inspection, Condition and Performance Data

C.3.3.8. General and Principal Inspections provide the majority of condition data. These are supplemented by Special Inspections, testing and monitoring, as appropriate, where the data sought is often focussed on a particular part of the structure or aspect of performance. Such data is often obtained on a "one-off" basis and may include measurements which cannot be conveniently entered into a paper based or electronic system. The database should indicate the location of the full report in such instances.

C.3.3.9. Condition data from previous inspections should be retained as the evolution of this data over time gives a clear indication of the rate of deterioration and residual service life. This data can be used to estimate deterioration rates for different element and structure types which may be used to develop lifecycle plans.

C.3.4. PERFORMANCE MEASUREMENT FOR HIGHWAY STRUCTURES

C.3.4.1. Setting targets and measuring performance are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

C.3.4.2. The following should be considered when identifying performance measures for use in asset management planning:

- performance measures for highway structures that are already in use, e.g. Condition PI;
- performance measures that have been developed, or are under development, for highway structures, e.g. Availability and Reliability PI, see below; and
- additional performance measures that may be needed to reflect the levels of service for the overall network and for measuring the effectiveness and efficiency of the planning and delivery processes.

C.3.4.3. The Government paper on Choosing the Right Fabric: A Framework for Performance Measurement provides useful further guidance for the identification, development and use of performance measures.

C.3.4.4. Performance Measures for Highway Structures: Part A provides guidance on performance reporting.

SECTION C.4. ASSET CONDITION AND INVESTIGATORY LEVELS – STRUCTURES

C.4.1. INTRODUCTION

C.4.1.1. All maintenance work should preferably be designed to current standards, although there may be situations where lesser standards are acceptable, e.g. repair of part of an element, repair of accident damage. Each case should be considered on its merits. Where lesser standards are accepted, the designer should check that the load carrying capacity of the structure at both serviceability and ultimate limit states and the durability of the repaired area are not less than that of the rest of the structure. Lesser standards may be unavoidable, e.g. maintenance of a listed bridge or scheduled monument. In this situation it is recommended that a safety audit or risk assessment is carried out. This documentation should be kept with the structure file for the structure in question. Where unacceptable risks or hazards are identified, the Bridge Manager should look for alternative mitigation measures. It is important that the implications for future maintenance are a prime consideration in the design and implementation of all maintenance schemes.

C.4.1.2. The Design Manual for Roads and Bridges (DMRB) and the Manual of Contract Documents for Highway Works (MCHW) are maintained by Highways England on behalf of all Overseeing Organisations (the national highway / roads authorities in England, Scotland, Wales and Northern Ireland).

C.4.1.3. The DMRB provides detailed guidance in the form of standards (BDs) and advice notes (BAs) for most aspects of highway structure design and assessment. The guidance includes criteria for structural loading, analysis, material properties, element design or assessment, in addition to geometrical requirements and best practice for design for durability. The MCHW provides model contract documents, specifications, notes for guidance and standard details. Care is required to remain fully aware of changes and additions to the DMRB and the MCHW.

C.4.1.4. The Overseeing Organisations also issue Interim Advice Notes (IAN), as interim guidance until full standards are available. Interim Advice Notes are available on the relevant national authority website. DfT publishes a Network Maintenance Manual (NMM) and Routine and Winter Service Code (RWSC) for the strategic road network in England.

Technical Approval

C.4.1.5. All structural design and assessment should be subject to a formal Technical Approval procedure such as those used by the Overseeing Organisations [BD 2; Technical Approval of Highway Structure] or Network Rail [GC/RT5101 Technical Approval Requirements for Changes to the Infrastructure]. Authorities should have such a procedure in place and have formally appointed an appropriate organisation or individual to act as Technical Approval Authority (TAA).

C.4.1.6. Both Highways England and Network Rail have a range of documents applicable to maintenance and that refer to the relevant British Standards and Eurocodes. Departures from these standards should be carefully recorded to enable an audit trail for certification.

National Variations

C.4.1.7. The DMRB is used by authorities in Scotland with some specific variations appropriate for use in Scotland. Transport Scotland issues interim amendments (TSIA) as necessary.

C.4.1.8. Similarly, the DMRB is implemented by the Welsh Government with some specific variations appropriate for use in Wales.

C.4.1.9. The DMRB is used in Northern Ireland by Transport NI (TNI), an Executive Agency within the Department for Infrastructure (DfI), with some specific variations appropriate for use in Northern Ireland. TNI issues interim amendments as DEMs (Director of Engineering Memoranda) as necessary and Northern Ireland specific policy as RSPPGs (Roads Service Policy & Procedure Guide).

Implementation of the Eurocodes

C.4.1.10. The Eurocodes are a series of European Standards developed by the European Committee for Standardisation, to provide a common approach for the design of buildings and other civil engineering works and construction products. The Eurocodes are not to be used for assessment.

C.4.1.11. Ten Eurocodes have been developed and published. They are organised in 58 parts and each part is supplemented by a National Annex.

- EN 1990 Eurocode: Basis of structural design;
- EN 1991 Eurocode 1: Actions on structures;
- EN 1992 Eurocode 2: Design of concrete structures;
- EN 1993 Eurocode 3: Design of steel structures;
- EN 1994 Eurocode 4: Design of composite structures;
- EN 1995 Eurocode 5: Design of timber structures;
- EN 1996 Eurocode 6: Design of masonry structures;
- EN 1997 Eurocode 7: Geotechnical design;

- EN 1998 Eurocode 8: Design for earthquake resistance; and

- EN 1999 Eurocode 9: Design of aluminium structures.

C.4.1.12. On 31 March 2010, all British Standards that conflicted with the Eurocodes were withdrawn. The Eurocodes have therefore replaced national codes that were previously published by national standard bodies and have become mandatory for European publicly funded works. As with other European standards, the Eurocodes will be used in public procurement.

C.4.1.13. The Association of Directors of Environment, Economy, Planning and Transport (ADEPT) published the Guidance Document on the Implementation of Structural Eurocodes in December 2010. This guidance was produced to encourage a common understanding of the changes to policies and procedures that are necessary to implement the Eurocodes within Local Highway Authorities. The document sets out recommended approaches and provides assistance to successfully manage the transition to fully adopting Eurocodes for structural design. It also describes the potential impacts of Eurocode implementation on Local Authority organisations, processes and staff training needs.

Predict Future Demand

C.4.1.14. Changes in demand in the future may alter how a structure should be managed, e.g. if a planned route widening will necessitate a bridge replacement in 10 years' time then the maintenance strategy for the existing bridge should reflect this. The most cost effective solution for the bridge may be to adopt a managed deterioration approach that provides the minimum required performance for the next 10 years but does not necessarily keep the bridge in a visibly good condition.

C.4.1.15. The prediction of future demand on highway structures should align with the network demands and are likely to include changes in vehicle weight, height and width, and traffic volume. Future demands should be predicted using available data, historical trends, and local factors. The following should be considered when developing rules for predicting future demand on highway structures:

- **vehicle weight** – current highway bridge design and assessment standards [BS EN 1991-2, BD21] use a conservative loading model that may be able to cater for some future increases in Gross Vehicle Weights (GVW). However, increases in GVW may require associated changes to the Authorised Weight (AW) regulations, i.e. limits on axle weights, numbers and spacing. If the AW regulations change, the effect on bridges would be examined nationally and appropriate guidance provided by the DfT to Highway Authorities;

- **height and width** – it is unlikely that any change in specified vehicle dimension would force a national programme of bridge 'raising', road 'lowering' or road widening. It should be sufficient to assess the vertical and horizontal clearance requirements on specific structures or structures on a route, e.g. routes/structures that currently have height/width restrictions, routes that may be reclassified as a high load route. Height is not controlled by UK legislation, unlike width, length and weight; and

- **traffic volume** – increases in traffic volume may require highway structures to be widened or replaced as part of a larger highway widening/upgrade scheme. Also, increases in HGV movements (for example, due to a quarry or

distribution centre opening) may have a significant impact on future management and maintenance. The Bridge Manager should seek to obtain advance warning of such schemes and use this in asset management planning.

C.4.2. RISK MANAGEMENT PRINCIPLES FOR HIGHWAY STRUCTURES

C.4.2.1. The principles of a risk based approach for highway infrastructure are dealt with in Section A.6 of this Code, and risk management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part C. This section contains information on risk specifically related to highway structures.

C.4.2.2. Risk management principles can be used by practitioners to help the decision making process for the management of highways structures. With limited budgets bridge owners can use principles of risk management to identify and prioritise the allocation of resources in the most appropriate location.

C.4.2.3. An integrated management approach is required. The assessment of a structure's performance (or lack of) needs to be assessed with a strong reference to the criticality of the structure's location on a network.

C.4.2.4. A small structure/culvert on a critical network link may warrant more attention than a much larger structure on a remote unclassified road. Alternatively, a small structure on an unclassified road (with no local diversion routes possible) that provides the only local link between adjacent villages could be assessed as being more important than a much larger structure on a more significant road (where simple diversions are possible). Hence bridge owners should consider the hierarchy of their structures relative to the hierarchy of the road network, coupled with local factors and constraints to ensure that by applying an integrated asset approach, more efficient management strategies with a reduced impact for users can be realised.

C.4.2.5. Undertaking risk assessment and developing management strategies from these assessments, should allow for funding to be prioritised in areas where the need is greatest. This can support practitioners in managing the deterioration of their bridge stock in a more proactive integrated manner. It should be noted that the risk assessment approach should be undertaken with caution. This process should not be used to justify a 'Do Nothing' approach, unless it can be shown that 'Do Nothing' is not adversely affecting the condition of the structure. Care should also be given to ensure that bridge owners do not place themselves at an excessive/unacceptable level of risk. Authorities should develop risk based policies to manage and coordinate decision making from risk management/assessment.

C.4.3. RESILIENCE REQUIREMENTS

C.4.3.1. The principles of resilience for highway infrastructure are dealt with in Part A of this Code. This section contains information on resilience requirements specifically related to highway structures.

C.4.3.2. Structural failures can result in network disruption with significant repair costs, damage to third party property, and more importantly the potential loss of human life. Bridges and other highway structures rarely experience complete collapse during non-extreme events, however when such collapses do occur, the results can be catastrophic. The review of past bridge failures allows bridge designers to apply lessons learned to new design projects and to the preservation of existing structures which will help prevent future failures.

C.4.3.3. Failure is defined as the inability of a structure, or one of its primary load-carrying components, to perform its intended function of being safe for use and fit for purpose. Failures can be caused by one, or a combination of the following (not exhaustive):

- errors in design, detailing and construction;
- effects of unanticipated stress concentrations;
- inadequate maintenance;
- use of improper materials or foundation types;
- unplanned extreme event;
- unknown deterioration and defects;
- hidden deterioration and defects;
- lack of appreciation of the significance of observed defects or of appropriate action;
- lack of inspection and monitoring;
- lack of funding for essential maintenance;
- pressure to keep structures in service; and
- effects of unanticipated or unforeseen change of use.

C.4.3.4. It has been shown through various studies that a bridge collapse is most likely to be caused by an extreme event, with the most prevalent type being flooding and scour. Recent extreme weather events have demonstrated this and in 2009 a large number of bridge failures were observed in Cumbria as a result of scour damage from flood events. The extreme flooding observed in 2009 resulted in significant infrastructure damage with an estimated value in excess of £250m. The estimated cost of the damage to the county's roads and bridges alone was circa £34m.

C.4.3.5. The frequency of occurrence of these events has been increasing. This rise in occurrences is considered to be due to the effects of climate change. Hence further events are possible which need to be planned for by the asset owners during the development of management strategies for the relevant assets. An assessment of high risk structures should be undertaken to understand the adequacy of such structures highlighting any potential for accelerated deterioration as a result of extreme events.

C.4.3.6. A risk assessed process should be followed to identify critical assets that have the potential to be affected by extreme events and the like, as described in Section A.6 of this Code. Subsequent actions could be monitoring post event and/or remediation work.

C.4.3.7. Extreme events should not solely be thought of as 'Flood' and 'Scour' events. Fire, vandalism and terrorism may also be significant factors that need to be considered in developing management strategies. Hence any resilience review on existing highway structures should consider all local factors in developing any management strategies. For new structures, building redundancy into the design should be considered; however, the economical balance of resilience v sustainability/lean construction needs to be understood in terms of whole life performance and best value. This assists with unforeseeable future change in use.

Bridge Inspection and Maintenance

C.4.3.8. Regularly scheduled inspections enable bridge owners to record the general conditions of the bridge to help detect any potential problems that could lead to a failure. Regular inspections give the asset owner a data set to base their decision on. Consequently the inspection process is invaluable and the quality of this information will impact the effectiveness of any agreed maintenance strategies.

C.4.3.9. When developing maintenance strategies for bridges and highway structures a good maintenance programme will help to reduce the potential for deterioration that leads to a bridge failure. If bridge inspections are not routinely performed, deteriorated areas in need of repair will increase, resulting in the increased potential for a bridge failure. Thus, the use of increased inspection intervals should be undertaken with care and due consideration given to the resilience of the structure and the potential for bridge failure as indicated above.

C.4.4. INTERACTION WITH OTHER OWNERS AND THIRD PARTIES

C.4.4.1. The Bridge Manager must be prepared to work with other owners and third parties in order to maintain the safe operation of the public highway and to carry out maintenance work.

Access

C.4.4.2. Maintenance work, including inspections, frequently requires access onto land in other ownership, either at the structure or gaining entry to it. The Highway Authority or other owner does not necessarily own the land adjacent to a structure or under a bridge or have a right to access covered by a legal agreement. Records should be consulted and any landowners contacted to agree arrangements. If agreement cannot be reached it may be necessary for the Highway Authority to use the powers in the Highways Act 1980 (Sections 289 to 292) or equivalent legislation in Scotland and Northern Ireland.

C.4.4.3. Access to the structure should be arranged so as to minimise damage to the environment. On agricultural land, for example, the timing of the inspection can be significant due to possible damage to growing crops or interference with other farming activities. There may also be a need for special precautions to avoid the spread of animal or plant diseases. Vehicles and equipment can cause rutting or ground compaction as well as direct damage to the vegetation.

Border Agreements

C.4.4.4. Section 3 of the Highways Act 1980 states that when a bridge straddles a boundary between authority areas an agreement has to be entered into between the two authorities whereby one of the authorities becomes the Highway Authority for the whole bridge and its approaches. Normally all the structures crossing a particular boundary are considered and a fair distribution of individual structures is agreed between the authorities.

C.4.4.5. These agreements should be adequately documented and recorded to enable effective future management and adjustments that may be required to accommodate changes to authority boundaries and any further local government reorganisation.

C.4.4.6. Maintenance on structures that straddle authority boundaries necessitates an especially high level of consultation, communication and joint planning of operations between the authorities. Work on strategic routes can also have a significant impact on the whole highway network of adjoining authorities and significant costs may result. Particular attention should be given to emergency planning for these types of structure as any major incident can have a significant effect on both authorities.

Structures Owned by Other Bodies

C.4.4.7. Highways are frequently supported by or go under structures owned by parties other than the Highway Authority for that highway. Typically, local highways go under and over trunk roads, trunk motorways, live and disused railways, canals, and private accesses. The bridges may be owned by Highways England, Scottish Ministers, Welsh Ministers, Network Rail, London Underground Limited, Canal & River Trust, Scottish Canals, Environment Agency, Internal Drainage Boards, other public authorities or private owners.

C.4.4.8. A clear definition of responsibilities in respect of the structure and related elements should be prepared for all such situations. Responsibilities are based generally on the reasons the bridge was built and on the need to ensure the integrity of safety and protection systems.

C.4.4.9. There is also a residual responsibility on the authority, in respect of the public using its roads, relating to bridges owned by other bodies. The authority has a responsibility to seek to ensure that other owners are exercising adequate stewardship over their structures. The Highways Act 1980 Section 56 allows proceedings for an order to enforce repair. Whilst it is reasonable to assume that major infrastructure owners such as Network Rail, Highways England and the Canal & River Trust will be competent in this regard, this level of confidence cannot be taken for granted elsewhere.

C.4.4.10. Section 130 of the Highways Act 1980 allows proceedings for the protection of public rights and can be used by authorities to enforce another owner to undertake maintenance. This was used in the particular case Railtrack Plc v London Borough of Wandsworth EWCA, where droppings from pigeons roosting in an overbridge were causing a public nuisance.

Structures Over or Adjacent to Operational Rail Lines

C.4.4.11. When required to undertake inspections or maintenance work on structures over or adjacent to operational railways, the Bridge Manager of the authority is required to adhere to Network Rail, procedures for outside parties. Early notice is necessary to enable the Outside Parties Manager of Network Rail to book track possessions and attendance to facilitate safe access to undertake the work. Similar procedures are required for operational underground and metro systems. Heritage railways often follow similar systems to their previous operators.

Structures Over or Adjacent to Canals or Navigable Waterways

C.4.4.12. Inspections or maintenance work on structures over or adjacent to canals or navigable waterways should be carried out in such a way as to ensure the safety of waterway users and the integrity of the waterway. The Canal & River Trust, Scottish Canals or the relevant navigation authority may require the Bridge Manager of the Highway Authority to adhere to their procedures. These procedures may be covered in the agreement for the construction of the structure, but in the absence of an agreement or if the agreement is silent, Highway Authorities can use their powers under Sections 289 and 291 of the Highways Act 1980 to gain entry with compensation being determined in accordance with Section 292. As the work being undertaken is primarily for the benefit of highway users and not canal users, Section 118 of the Transport Act 1968 does not apply. Documents, such as the Canal & River Trust Code of Practice and Scottish Canals Code of Practice are not mandatory, although certain sections need to be adhered to in order to ensure the safety of canal users.

C.4.4.13. Early consultation is necessary to enable the bodies concerned to programme the work so as to minimise the effect on users of the waterway. The Canal & River Trust require all work which may cause a restriction or closure of the waterway, to be agreed before the 31 March of the current financial year for work to take place in the following financial year.

Developer Promoted Structures

C.4.4.14. All proposals for new structures within or over an existing or proposed highway or works which affect existing highway structures should be subject to a formal Technical Approval (TA) process.

C.4.4.15. Highway managers and District Planning Authorities should inform developers at the outset of development proposals that they must obtain TA for their designs and inform Highway Authorities of the proposals immediately when they become known. This action will encourage liaison between the developer and the TAA at the beginning of the process and avoid potentially abortive work by the developer.

C.4.4.16. Structures being built as part of any development, irrespective of whether or not they will be maintainable by the Highway Authority, are included in the TA process if they:

- are adjacent to the highway and interfere with the support of the highway or access to it for inspection and maintenance;
- form part of any road that is to be adopted into the highway under a Section 38, Highways Act 1980, agreement; and

- form part of any road that is being built under a Section 278, Highways Act 1980, agreement.

C.4.4.17. Transport NI has published guidance for Technical Approval of Highway Structures: Information for Developers and their Designers.

Utility Companies and NRSWA

C.4.4.18. Utility companies operate under statutory powers provided and obligations imposed by enabling legislation which is specific to each industry. They are empowered by statute to undertake street works.

C.4.4.19. The New Roads and Street Works Act 1991 (NRSWA) as amended by the TMA controls and co-ordinates work carried out in the street by utility companies (undertakers). The Act also requires the Highway Authority to take due regard of undertaker's apparatus when planning and carrying out highway and bridge works. It is essential that, before any work in the ground occurs, all statutory undertakers are consulted regarding the presence of apparatus and appropriate notice given. Reliance should not be placed on information on a highway structures' database regarding apparatus as it could be out of date.

C.4.4.20. Detailed interpretation of and guidance on the use of the Act has been published in the DfT New Roads and Street Works Act 1991 and Traffic Management Act 2004; Code of Practice on Co-ordination; Volume 2: Operations and Guidance; Section 5: Street Works near Highway Structures.

C.4.4.21. The Highway Authorities and Utilities Committee (HAUC(UK)), a national group representing local authority associations and the National Joint Utilities Group, have produced a number of codes of practice dealing with the Act. Measures necessary where apparatus is affected by major works (Diversionary works), sets out the procedures involved from the early stages of a highway or bridge scheme including requirements for budget estimates, to the construction stage and early payments.

C.4.4.22. The JAG(UK) website also contains a range of guidance, information and assistance.

C.4.4.23. Section 50 of the Act contains provisions for issuing licences for apparatus to be installed in the highway by persons other than statutory undertakers, e.g. a private sewer. Advance notice to the undertakers is required to be given by the street authority when such a licence is to be issued and details of the installation are to be recorded by the street authority.

Obligations of Undertakers

C.4.4.24. Before carrying out any work, undertakers are required to give notice to the authority (not always the Highway Authority). Designated notice periods are given in the Act or associated Code of Practice. These notification periods are intended to give the street authority an opportunity to consider and comment on the implication of works proposals for the highway infrastructure.

C.4.4.25. Section 88 of the Act imposes an additional obligation on an undertaker proposing works affecting the structure of a bridge. The undertaker is required to consult the bridge authority before giving the usual notice. The undertaker is required to comply with reasonable requirements for safeguarding the structure.

C.4.4.26. Section 63 of the Act permits a street authority to designate certain streets as "streets with special engineering difficulties". Under this section, an undertaker must submit plans and sections for approval by the authority before street works can be undertaken. This is the only time that drawing details are required. The authority has the power to require modifications if considered necessary.

C.4.4.27. Section 63 of the Act suggests that the designation of streets with special engineering difficulties may be appropriate at bridges where strength, stability, waterproofing and access for maintenance may be affected. The designation need only apply to the structure and the street directly adjacent and includes areas adjacent to retaining walls where stability may be an issue. Designating all structures under this section is recommended because it gives the greatest control over statutory undertakers working in the proximity of a highway structure, although some sub-sections of Section 88 would not apply in this case.

Obligations of the Street Authority and the Structure Owner

C.4.4.28. The authority is required to keep a street works register under Section 53 of the Act and to include the streets with special engineering difficulties. All structures that are likely to be sensitive to undertaker's work should be recorded in the register. The resulting register provides the Bridge Manager with the earliest opportunity to advise undertakers on works likely to affect highway structures.

C.4.4.29. The Act defines the requirements when undertaking major highway and bridge works. The authority is required to serve notice of the proposed works under Section 58.

C.4.4.30. Where apparatus is to be diverted for major bridge works (i.e. replacement, reconstruction or substantial alteration of a bridge), the cost of any alterations to the apparatus will be shared providing advanced notice has been served under Section 85 of the Act and the authority pays in advance to the undertaker 75% of the estimated charge to the authority. The Act and codes of practice make provision for the authority's costs to be reduced to allow for betterment. Also, where the length of apparatus diverted exceeds 100 metres and that apparatus is more than 7 years old a cost adjustment should be made for financial benefit conferred on undertakers by reason of the deferment of the time for renewal of the apparatus. Guidance on the calculation of these sums is also provided in the Act. No costs of diversionary works to apparatus should be borne by the authority when apparatus is placed in the bridge after advance notice has been given. Advance notice may be served up to 10 years in advance of works for the replacement of a bridge and 5 years in advance for all other works. In view of the cost of diverting apparatus, it is recommended that this procedure is followed.

C.4.4.31. In all cases, there is no obligation on the part of the authority to provide space for additional apparatus in the future. Such an approach may be prudent when reconstructing a structure or carrying out major works in order to minimise problems in the future with inappropriately placed apparatus. Any costs incurred in making provision for additional apparatus requested by undertakers may be charged to them although it is advisable not to allocate spare ducts to undertakers until they need to lay apparatus across the structure.

Regional Variations

C.4.4.32. The NRSWA 1991 provides for road works in Scotland in Sections 107-165. England and Wales are covered in the earlier sections of the Act and refer to the relevant sections of the Highways Act 1980.

C.4.4.33. In Northern Ireland the equivalent legislation is contained in The Street Works (Northern Ireland) Order 1995].

SECTION C.5. INSPECTION, ASSESSMENT AND RECORDING – STRUCTURES

C.5.1. INTRODUCTION

C.5.1.1. The general principles to be applied to inspections, assessment and recording are outlined in Section A.5 of this Code. This section covers guidance for each category of inspection relating to structures.

C.5.1.2. Inspection, testing and monitoring should be used to:

- provide data on the current condition, performance and environment of a structure, e.g. severity and extent of defects, material strength and loading. The data enables the Bridge Manager to assess if a highway structure is currently safe for use and fit for purpose, and provides sufficient data for actions to be planned where structures do not meet these requirements;

- inform analyses, assessments and processes, e.g. change in condition, cause of deterioration, rate of deterioration, maintenance requirements, effectiveness of maintenance and structural capacity. The outputs inform asset management planning and enable cost effective plans, which deliver the agreed levels of service, to be developed; and

- compile, verify and maintain inventory data, e.g. structure type, dimensions and location, for all the highway structures the authority is responsible for.

C.5.1.3. The above points illustrate that the data provided by inspection, testing and monitoring is fundamental to highway structures management and hence to Good Management Practice. It is essential that authorities recognise the importance of inspection, testing and monitoring and seek to plan, perform, resource, and use them accordingly.

C.5.1.4. The extent of inspection, testing and monitoring of structures should be determined using a risk based approach, as defined in Section A.5 of this Code. This should consider the position of the structure on the highway network hierarchy and hence, its importance to the overall transport infrastructure, and also the characteristics of the structure itself in terms of its type, material, condition, vulnerability to closure or restriction due to component failure, flooding, impact etc.

C.5.1.5. Reducing the level of inspection, or increasing the interval between inspections increases the level of risk to the manager/owner of the asset. This should only be carried out using good practice and asset management techniques, such as deterioration modelling. Asset owners should not be put under unacceptable pressure to reduce inspection periods for any reason that may put public safety at risk.

C.5.1.6. The Inspection Manual for Highway Structures (Volumes 1 and 2) was commissioned by Highways England and published in May 2007. A Technical Project Board, representing UK highway bridge owners, oversaw the development; the manual is supported, endorsed and recommended by the UK Bridges Board.

C.5.1.7. The manual contains detailed guidance which covers the following areas:

- The inspection process;
  - scheduling inspections;
  - planning and preparing for inspections;
  - performing inspections;
  - recording inspection findings; and
  - input to maintenance planning process.
- Defects, descriptions and causes;
  - Principal causes of defects;
  - Concrete defects;
  - Steel defects;
  - Masonry defects; and
  - Defects in miscellaneous materials.
- Investigation and testing;
  - The testing process;
  - Summary of testing techniques;
  - General testing techniques;
  - Tests on concrete;
  - Tests on metal;
  - Tests on masonry;
  - Tests on timber; and
  - Tests on advanced composites.

C.5.2. INSPECTION REGIME

C.5.2.1. An inspection, testing and monitoring regime should minimise risks to public safety, provide sufficient data for management and make effective use of resources. The mix of techniques used in the regime, and frequencies at which they are applied, should be determined by considering appropriate criteria in an objective manner, e.g. through a formal risk assessment. The criteria should include, but not be restricted to, public safety, the characteristics of the assets, the consequence of failure, the environment the assets operate in, the services provided, typical rates of deterioration and susceptibility to damage.

C.5.2.2. The inspection, testing and monitoring techniques should be sufficient to:

- identify condition, defects and signs of deterioration that are significant to highway structure safety and management;
- identify any significant changes in condition, loading or environment that have occurred since the last observation;
- assess or provide information for the assessment of stability and serviceability;
- determine or assist the determination of the cause, extent and rate of deterioration; and
- provide information that can be used to support highway structures management, i.e. the identification of needs and associated maintenance works.

C.5.2.3. The inspection regime should enable any defects which may cause an unacceptable safety or serviceability risk or a serious maintenance requirement to be detected in good time in order to safeguard the public and the structure and implement remedial actions. The regime should consist of a combination of Acceptance, Routine Surveillance, General and Principal Inspections of the whole structure and more detailed Safety and Special Inspections (including Inspections for Assessment), as necessary, concentrating on known or suspected areas of deterioration or inadequacy. Guidance on inspections for highway structures is included in BD 63 Inspection of Highway Structures.

C.5.2.4. All inspections should result in a report, in a format commensurate with the inspection type, which gives a clear and accurate description of the structure's condition.

C.5.2.5. A procedure should be implemented whereby the inspector has a clearly defined duty to inform the Bridge Manager, at the earliest possible opportunity, of any defects that may represent an immediate risk to public safety.

Routine Surveillance

C.5.2.6. All structures should be subjected to Routine Surveillance as part of regular Highway Safety Inspections carried out by highway maintenance staff. Routine Surveillance is normally undertaken from a slow moving vehicle. Inspectors should immediately report to the Bridge Manager any obvious defects that are apparent from the vehicle which need urgent attention, such as damage to the superstructure and bridge supports of overbridges, damage to parapets, flood damage, insecure expansion joint plates, etc. The Bridge Manager should be satisfied that the frequency of Highway Safety Inspections is suitable for the Routine Surveillance of highway structures and, if unsuitable, decide how to deal with the need for additional surveillance.

C.5.2.7. All highway structure management and maintenance staff should be encouraged to be vigilant at all times when moving around the network and to report anything that might need urgent attention. The general public should also be informed of the need to report any highway structure defects they feel may pose a risk to public safety. This is normally best achieved by providing appropriate contact details (e-mail and/or telephone) on the authority's website.

C.5.2.8. The Bridge Manager should make formal contact with the highway maintenance staff and, if necessary, explain the important features to observe or defects to report on highway structures during Routine Surveillance and the information that should be recorded if a defect is observed, e.g. structure location and defect description. The Bridge Manager's contact details, or the contact details of an appropriate member of their team, should be provided to the highway maintenance staff.

General Inspection

C.5.2.9. General Inspections comprise a visual inspection of all parts of the structure (that can be inspected without the need for special access or traffic management arrangements) and, where relevant to the behaviour or stability of the structure will include an inspection of the adjacent earthworks or waterways. Riverbanks, for example, in the vicinity of a bridge should be examined for evidence of scour or flooding or for conditions, such as the deposition of debris or blockages to the waterway, which could lead to scour of bridge supports or flooding. Guidance on General Inspections for highway structures is include in CSS Bridge Condition Indicators Volume 2: Guidance Note on Bridge Inspection Reporting and Addendum to CSS Bridge Condition Indicator Volume 2.

Principal Inspection

C.5.2.10. Principal Inspections comprise a close examination, within touching distance, of all accessible parts of a structure, including, where relevant, underwater parts and adjacent earthworks and waterways, utilising suitable access and/or traffic management works as necessary. Closed circuit television, high resolution digital photography/video or drones may be used for areas of difficult or dangerous access, e.g. obscured parts of a structure, confined spaces and underwater inspections.

C.5.2.11. A Principal Inspection may include a modest programme of tests, when considered necessary, e.g. hammer tapping to detect loose concrete cover or half-cell and chloride measurements to enable risk of reinforcement corrosion to be assessed, tests for cement content and measurements of concrete cover and electrical resistivity of concrete (see Section 7.3 of BA 35).

C.5.2.12. A Principal Inspection should be of sufficient scope and quality to determine:

- the condition of all parts of the structure;
- the extent of any significant change or deterioration since the last Principal Inspection; and
- any information relevant to the stability of the structure and/or continued use in service and safety.

C.5.2.13. A Principal Inspection should establish:

- the scope and urgency of any remedial or other actions required before the next inspection;
- the need for a Special Inspection and/or additional investigations; and
- the accuracy of the main information on the structure held in the inventory.

Special Inspection

C.5.2.14. There are occasions when a more specific inspection, concentrating on the condition of particular parts of the structure, is required. This is known as a Special Inspection. The need for a Special Inspection normally arises due to specific circumstances or following certain events, for example:

- when a particular problem is detected during an earlier inspection of the structure or of similar structures;
- on particular structural forms or types, e.g. cast iron structures, post tensioned structures, structures strengthened with bonded plates;
- on structures that have loading or other forms of restrictions on use, e.g., restriction of traffic on bridges;
- when the necessary frequency or access arrangements for a particular part of the structure are beyond those available for General or Principal Inspections;
- on bridges that have to carry an abnormally heavy load - inspections may be done before, during and after the passage of the load;
- following a bridge strike;
- following a flood or high river flow to check for scour or other damage;
- to check specific concerns, possibly based on new information, e.g. concerns over the quality of previously used batches of rebar or concrete; and
- where a post tensioned bridge has a regime of Special Inspections implemented as a result of an earlier investigation or a Special Inspection is required in accordance with BA 50 Management of Post-Tension Concrete Bridges, organisation and methods for carrying out Special Inspections.

C.5.2.15. A policy should be developed clarifying when it is appropriate to carry out a Special Inspection. Further guidance on Special Inspections is provided in BD 63 Inspection of Highway Structures.

Inspection for Assessment

C.5.2.16. This is another type of inspection, which is carried out before a structural assessment. BD 21 provides guidance on undertaking an Inspection for Assessment.

Safety Inspection

C.5.2.17. A Safety Inspection may be undertaken following Routine Surveillance or after information has been received which indicates the structure is damaged and may be unsafe. The Safety Inspection should determine the extent of the damage and whether immediate safety precautions or other action should be taken. A Special Inspection may then follow to monitor the condition and effectiveness of interim measures and to determine what repair or other actions should be undertaken in the longer-term.

C.5.2.18. Extreme unplanned events such as storms, high winds and flooding have a significant impact on infrastructure. Bridges are highly susceptible to damage from extreme events. The susceptibility of the asset owner's bridge stock should be reviewed to highlight potential structures at risk. These structures should be inspected following extreme events such as flooding to check on their integrity. Inspecting certain 'at-risk' structures during extreme events should also be considered to allow early closure if the particular risk level warrants closure.

Acceptance Inspection

C.5.2.19. The need for an Acceptance Inspection should be considered when there is a changeover of responsibility for the operation, maintenance and safety of a structure from one party to another. The purpose of an Acceptance Inspection is to provide the party taking over responsibility for the structure with a formal mechanism for documenting and agreeing the current status of, and outstanding work on, a structure prior to handover. The scope of an Acceptance Inspection depends on the circumstances, e.g. handover of a new structure, transfer of an existing structure, handback of a structure after a concession period. Acceptance responsibilities and activities depend upon the form of contract, but the Acceptance Inspection is normally carried out by the party taking over responsibility but who may be accompanied by the other party to facilitate agreement. The Acceptance Inspection should include:

- the identification of any permanent access provisions and features affecting the safety and security of the structure. These should be discussed in detail and agreement reached before handover;
- the identification and handover of all the necessary records, maintenance and operating manuals which have an impact on the future management of the structure; and
- agreement of the date on which the authority takes over responsibility for the structure. The agreement should be recorded in the Structure File.

C.5.2.20. Acceptance Inspections on new, existing and concession structures should also include the following, as appropriate.

- Handover of a new structure:
    - An Acceptance Inspection should be undertaken for new structures about one month before the issue of the completion documentation or opening to traffic. A Principal Inspection should be used for this purpose. The inspection should identify and record any defects, developing problems and work outstanding under the contract and secure agreement on any works to be completed before handover. This should act as the benchmark for the inspection carried out at the end of the Defects Correction Period and for subsequent inspections.
    - A construction contract normally includes a Defects Correction Period (also referred to as the Period of Maintenance or Defects Liability Period) during which the contractor is responsible for making good defects that appear. The length of the Defects Correction Period should be specified in the contract.
    - An inspection should be undertaken prior to the end of the Defects Correction Period to identify all defects before the expiry of the contractual obligations. The timing of the inspection should be sufficient to allow agreement of the work to be undertaken by the contractor and, if necessary, enforcement of contractual obligations. The inspection may be a General or Principal Inspection depending upon the type and form of the structure and the length of time since handover or the last inspection.
    - Prior to adoption of a new structure, asset information should be obtained, in the appropriate format, and at the appropriate BIM level, for the authority taking over responsibility for a new structure.
    - The ADEPT Bridges Group has published guidance for the calculation of commuted maintenance sums for structures to be adopted or transferred.
    - Authorities may also wish to use the above, or a similar, procedure for accepting major maintenance work.
- Transfer of an existing structure:
    - An Acceptance Inspection should be undertaken prior to an authority taking over responsibility of an existing structure. A Principal Inspection should be carried out as part of the Acceptance Inspection unless the results of a recent Principal Inspection are deemed to be relevant and sufficient. Should there be areas of concern highlighted in the PI such as defects that could impact on the long term durability of the structure then a Special Inspection should be carried out to ascertain the extent and implications of the defect(s) with respect to the structures future lifecycle costs and commuted maintenance sums.
- Handback after a concession period:
    - An Acceptance Inspection should be undertaken before handback at the end of a concession period, e.g. a PFI or PPP type contract. The inspection should compare the current condition and performance of the structure against the measures specified in the contract. This should include a Principal Inspection unless the results of a recent Principal

Inspection are deemed to be relevant and sufficient. This information should be used to identify and agree items of outstanding work to be completed, in order to satisfy the contract measures, before handback. The timing of the Acceptance Inspection should be sufficient to allow agreement of the outstanding work to be undertaken by the contractor and, if necessary, enforcement of contractual obligations.

Inspection Requirements of Other Owners

C.5.2.21. Where other owners have structures within the footprint of the highway, they are responsible for ensuring the safety, integrity and adequacy of those structures for use by the public. The inspection of other owner structures normally falls into two categories:

- **Newer structures** – an appropriate inspection regime is likely to have been recorded in the licence/maintenance agreement; and
- **Older Structures** – there is unlikely to be a statement of inspection requirements in a formal agreement. The Highway Authority only has the power to act to ensure safety in default of action by the other owner when the structure becomes dangerous. A Highway Authority cannot insist retrospectively on a regime of inspection and maintenance to be undertaken by the other owner where there is no clear statement of requirements in a formal agreement.

C.5.2.22. In certain cases an authority can be reasonably confident on the basis of available information that an owner is acting responsibly and has an adequate regime of inspections in place, e.g. Network Rail, Canal & River Trust, Scottish Canals, London Underground Limited. In some cases, however, this conclusion cannot be justified and the Highway Authority should carry out General Inspections of such structures in the wider interests of public safety. This in no way negates the primary responsibility of the actual owner toward public safety and structural integrity.

Frequency of Inspections

C.5.2.23. When a structure is known or suspected to be subject to a rapid change in condition, consideration shall be given into reducing the interval between inspections (for General or Principal Inspection), alternatively the programming of additional Safety Inspections as noted above should be consider to manage the risk of change.

C.5.2.24. The reduced interval should be such that any significant change in condition or circumstances can be identified and assessed in time for appropriate action to be implemented. The revised inspection regime and reasons for more frequent inspections should be recorded in the Structure File. The more frequent inspection regime may be limited to a specific element or feature.

C.5.2.25. When a structure is deteriorating slowly towards the point where it is no longer serviceable, but before it reaches that state, a management plan should be prepared for the structure, with frequencies of inspection, and intervention levels, established by risk assessment, and this should be recorded in the Structure File.

C.5.2.26. Highway structures are long life assets and their constituent components deteriorate at different rates due to a wide range of factors, e.g. material type, construction form, usage, exposure and maintenance. The suitability of increased inspection intervals should be assessed and justified using a risk assessment, giving due consideration to the following:

- type, quality, extent and results of previous inspections, testing, monitoring, structural assessment, etc;
- accessibility of all parts of a structure, for example:
  - if the inspector can get close to all parts of a structure during a General Inspection, there may be little difference between the General and Principal Inspection. A Principal (or Special) Inspection may only be required when the need has been identified by a General Inspection; and
  - if the inspector cannot get close to all parts of the structure during a General Inspection and there is a likelihood of significant defects not being detected, there is a need for regular Principal (or Special) inspections.
- providing suitably current data for calculating the Condition Performance Indicator (Bridge Condition Indicator) and determining the extent and priority of all defects; and
- the ease of producing practical and workable inspection budgets and schedules, i.e. scheduling may become unduly complicated if different inspection intervals (especially for General Inspections) are used across the highway structures stock.

Risk Assessment

C.5.2.27. A risk assessment should be specific to a structure or group of similar structures. An assessment method should be developed that seeks to quantify:

- the likelihood of rapid deterioration or other incidents; and
- the consequence of unchecked deterioration/incidents.

C.5.2.28. Assessment of the likelihood of rapid deterioration or other incidents should include, but not be limited to, the following criteria where relevant:

- exposure severity, e.g. mild, moderate or severe, and external influences which may cause rapid deterioration or failure, e.g. significant change in use (above, adjacent or beneath), loading that exceeds existing restrictions, stray current/electrical corrosion;
- current condition and level of contamination, e.g. chlorides or carbonation, and how these conditions may influence the rate of deterioration. The age of the structure may also be considered;
- material type and the typical rate of deterioration for the observed deterioration mechanism. Many defects are known to take many years to develop to the point where they require maintenance or present a risk to structural integrity or public safety. The maintenance/repair history of the

structure should be taken into consideration and structure specific characteristics such as fatigue-prone details and susceptibility to scour damage, should be considered;

- severity and extent of damage due to incidents, such as vehicle impact, scour and vandalism, and whether this is likely to lead to further deterioration before it is repaired;
- potential mode of failure, e.g. brittle or ductile failure;
- extent of failure, e.g. local or global failure;
- structural form and age; and
- visibility / access to critical elements.

C.5.2.29. Assessment of the consequence of unchecked deterioration and other incidents should include, but not be limited to, the following criteria where relevant:

- consequence of failure of the structure or its elements, e.g.
  - the likely number of fatalities and casualties based on the size of the structure and traffic volume on the route crossed and obstacle crossed;
  - traffic delay costs incurred through diversions/congestion based on the route type and availability of diversion routes;
  - socio-economic impact based on the location of the structure and the community served, e.g. industrial, business or residential;
- increased costs due to unchecked deterioration/incidents resulting in more expensive maintenance work at a later date; and
- to determine in so far as is reasonably practicable based upon the available information and interpretation, when to intervene to close the structure or the road to ensure public safety.

C.5.2.30. The risk assessment should be recorded in the Structure File and agreed by the Bridge Manager before the frequency of inspections is changed. The validity of the risk assessment should be re-confirmed and recorded by the Bridge Manager after each Principal Inspection or when any other significant change in the condition of the structure becomes apparent.

Scheduling Inspections

C.5.2.31. Inspection scheduling should seek to make the most efficient use of the resources available and minimise disturbance to the public, e.g. plan inspections to take advantage of traffic management planned for other reasons.

Tunnels

C.5.2.32. The authority should follow the requirements for the inspection of road tunnels given in BD 53 Inspection and records for road tunnels. The inspection categories are the same as for other highway structures but special attention should be given to the requirements for the inspection of the mechanical and electrical equipment (M&E) of the tunnel. This equipment should receive a General Inspection every year and a Principal Inspection every three years.

C.5.2.33. BA 72 Maintenance of Road Tunnels and BD 78 Design of Road Tunnels also provide guidance on aspects of inspections/maintenance.

C.5.2.34. The Principal Inspection may require removal of cladding, casings and mountings to fans, etc. in order to gain access. In many cases special testing and access equipment may be required and it may be necessary to employ specialist firms. An emergency exercise involving relevant emergency services should be undertaken as part of the M&E inspection.

C.5.2.35. Acceptance Inspections (of the Principal type) are required at handover of a new or existing road tunnel. There are two classes of Acceptance Inspection: for new road tunnels (including refurbishment of existing tunnels) and for existing road tunnels. These inspections are described in BD 53.

C.5.2.36. The Tunnel Operating Authority (TOA) is required to keep and update records for all road tunnels for which it is responsible. A comprehensive list of the required records, with their distribution, is given in BD 53.

Inspection of Mechanical and Electrical Equipment

C.5.2.37. Mechanical and Electrical (M&E) equipment associated with highway structures includes, but is not limited to, lighting and ventilation in road tunnels, lighting in pedestrian underpasses and hydraulic rams on moveable bridges. The stewardship of this equipment may be the responsibility of the Bridge Manager.

C.5.2.38. An appropriate regime of inspection (and testing) of M&E equipment should be established. The inspection regime should be commensurate with the manufacturer's recommendations.

C.5.2.39. Useful guidance on the inspection and testing of M&E equipment associated with highway structures is provided in Series 7000 Mechanical and Electrical Installations in Road Tunnels, Moveable Bridges and Bridge Access Gantries MCHW.

C.5.3. MONITORING

C.5.3.1. Monitoring is the periodic, or continuous, measurement of structural behaviour by visual / electronic means, or other means to record data on deterioration and performance, e.g. deflections, strains and crack sizes. There are many instances where measurements can usefully be repeated periodically, or in rare circumstances taken continuously, so that condition and performance can be monitored over time.

Need for Monitoring

C.5.3.2. Key reasons for undertaking monitoring include:

- during construction to check behaviour;
- after construction as an aid to the future maintenance management;
- where deterioration or damage has occurred and it is necessary to check for further loss of strength, condition or performance;
- on structures that, when assessed to modern codes, have a load-carrying capacity that is below current standards but do not appear to be suffering distress; and
- to determine safety to remain in use.

Selection of Monitoring Techniques/Design of Monitoring Systems

C.5.3.3. Monitoring covers a wide range of applications, from determining the ingress of chlorides into concrete over a period of years to the transient behaviour of a structure as a heavy vehicle passes over it. Typically, monitoring systems may be put in place to determine long-term movements, crack growth, changes in strain (either long-term or short-term) or the corrosivity of the environment.

C.5.3.4. The techniques used depend on the reasons for monitoring, which should be clearly defined at the outset. The aim should be to install the simplest monitoring system that meets the objectives, providing it is sufficiently robust for the specific location. The following issues should be considered when selecting a monitoring system.

- External factors
  - When devising a monitoring system consideration should be given to monitoring the external factors that may influence the property being measured. Temperature, for example, has a major influence on both structural behaviour and the various deterioration mechanisms that occur in highway structures.
- Data collection frequency
  - Where access is difficult or more frequent measurements are required, e.g. to monitor changes due to temperature, it may be necessary to install sensors that can be connected to a data logging system. This is particularly advantageous in those cases where access causes traffic disruption. It is important to consider how the data will be collected, e.g., it could be downloaded locally by visiting the site, or remotely through telephone lines.
  - The interval between readings depends on what is being monitored and the rate at which it is likely to change, e.g., it might be appropriate to repeat certain types of measurement, such as the determination of chloride concentration, every time a Principal Inspection is carried out. Other types of measurement might need to be repeated more frequently, e.g. monitoring crack widths might require weekly or monthly measurements. Monitoring temperatures or strains might require

measurements every hour and recording transient strains might require measurements to be taken several times a second.

- Most monitoring systems can collect data at regular intervals for the period of the monitoring but in other cases data is collected only when an event triggers the monitoring system. An example is the detection of wire fractures in post-tensioned structures using acoustic monitoring. The structure is monitored continuously but data is recorded only after an acoustic event is detected that has the characteristics of a wire break. Another example is the measurement of stresses under traffic loading where the monitoring system is triggered by heavy vehicles and data is collected only during their passage over the structure.

- Monitoring systems can also be designed to process data as it is being collected from the instrumentation. With this setup, if the system is connected by telephone or other transmission system, it can be designed to act as an early warning device, automatically issuing an alarm when pre-defined limits of the parameters are reached. This type of system can be used effectively as part of a risk management strategy.

- Scour

  - BD97 outlines requirements for the assessment of scour and other hydraulic actions at highway structures crossing or adjacent to waterways. It provides processes to determine the level of risk associated with scour effects. It also includes processes to assess the robustness of structures in a flood, and references to measures for reducing risk.

  - Advice on the monitoring of highway structures for scour is given in Manual on scour at bridges and other hydraulic structures.

  - Scour monitoring and inspection is not straightforward because scour is not normally visible during a flood and scour holes often fill in during the falling stages of a flood. As a result it can be difficult to assess in flood conditions the magnitude of scour holes and determine whether the structure is safe.

- Retaining walls

  - Monitoring the performance of retaining walls can be carried out by measuring movements directly, but sometimes it is more appropriate to use inclinometers, or electro-levels. Loads and moments in walls can be measured using pressure cells and strain gauges. Associated behaviour of the nearby ground can be monitored using inclinometers, pressure cells and piezometers. Installation and monitoring of these devices is a skilled operation and recourse should be made to a specialist.

- Installation

  - Key issues that need to be addressed when considering the installation of a monitoring system include:

    - Environment of installation;

- Maintenance and power supply;
- Data logging capacity; and
- Protection against vandalism.

C.5.3.5. Details of the monitoring system should be included in the Structure File and Health and Safety File, if appropriate, so that others working on the structure are aware of its presence.

Monitoring of Sub-standard Structures

C.5.3.6. Advice on the monitoring of structures that fail a strength assessment is given in BD 79 Management of sub-standard structures. Monitoring interim measures can avoid the disruptive effect of applying load mitigation interim measures.

Evaluation of Monitoring Results

C.5.3.7. Monitoring a highway structure should not be an end in itself but part of a wider strategy for management. Monitoring shall also include the establishment of critical trigger levels to highlight when and where remedial action is required.

C.5.3.8. Monitoring may generate large volumes of data and consideration needs to be given at the outset to its storage, analysis and eventual presentation, to support a focus on what is needed and avoid becoming immersed in data.

Recording and Reporting of Monitoring Results

C.5.3.9. A detailed record should be kept of the monitoring system. The record should include objectives of the monitoring, the equipment used, the location and position of sensors and data logging system (where appropriate), procedures for maintaining the system and collection of data, where the data is stored and how it is analysed.

C.5.3.10. Where necessary, sensors should be calibrated before use and the calibration records maintained in the Structure File for future reference.

C.5.3.11. Action plans shall be developed as part of a proactive management approach to highlight the required interventions when trigger levels are breached.

C.5.4. COMPETENCE AND TRAINING

C.5.4.1. A basic premise of this Code is that highway structures management (including maintenance planning management and structural review and assessment) is carried out by suitably qualified and experienced civil or structural engineers and on-site work (including inspections, testing and maintenance) is carried out by appropriately qualified, trained and experienced personnel.

C.5.4.2. To assist progress towards the good management practice described in the Code, a programme of Continuing Professional Development (CPD) and training for Bridge Managers, engineers, inspectors and other staff should be provided to enable them to understand and implement the processes described in the Code. It is recommended that agents and contractors are required to demonstrate that their personnel are adequately trained and competent for the work they undertake in relation to highway structures.

Bridge Inspection Competence

C.5.4.3. The capture of condition information on structures is of prime importance in developing effective maintenance strategies. Studies by the ADEPT Bridges Group have identified a lack of consistency in inspection reporting, while the use of asset management plans and decision support tools have created a greater need for better quality inspection data, both in terms of consistency and accuracy. International, high-profile bridge collapses in the United States, Canada and China have increased the importance of rigorous inspection routines.

C.5.4.4. Competences that a bridge inspector should have include the following:

- structures types and elements / behaviour of structures;
- inspection process;
- defects descriptions and causes;
- investigation and testing; and
- repair techniques.

C.5.4.5. A competence framework for Bridge Inspectors, entitled Bridge Inspector Certification Scheme, has been jointly developed by the UK Bridges Board and the Irish National Roads Authority and has been overseen by ADEPT, Department for Transport, Highways England, London Bridges Engineering Group, London Transport Asset Management Board, National Roads Authority of Ireland, Transport for London, Transport Scotland and Welsh Government. The scheme is being run as one of the widely used National Highway Sector Schemes.

C.5.4.6. The benefits of the scheme are anticipated to include:

- an increase in the profile of Bridge Inspectors via the introduction of a recognised certification scheme across the UK and Ireland;
- an increase in the quality of bridge inspections resulting from improved levels of consistency both in the training provided to Bridge Inspectors and the reported results from inspections leading to a greater level of confidence;
- a reduction in risk for bridge owners due to evidence of competence and best practice;
- costs savings as a consequence of minimised rework and the ability to better prioritise limited maintenance budgets; and
- increased flexibility for organisations in moving inspection staff around and sharing them with other sectors.

C.5.4.7. To link with the Bridge Inspector Competence certification scheme, Highways England have produced Interim Advice Note 192/16 and Transport Scotland have released Interim Amendment 46/16, which provide details on the competencies required for structures inspectors and their certification, which supplements the requirements of BD63, The Inspection of Highway Structures.

C.5.5. ASSESSMENT OF STRUCTURES

C.5.5.1. The purpose of the assessment of a highway structure is to determine the ability or capacity of the structure to carry the loads which are imposed upon it, and which may reasonably be expected to be imposed upon it in the foreseeable future. The assessment provides valuable information for managing the safety and serviceability of highway structures.

C.5.5.2. A regime of structural reviews should be implemented whereby the adequacy of structures to carry the specified loads is ascertained when there are significant changes to the usage, loading, condition or the assessment standards. A structural review should identify structures which need a detailed assessment.

C.5.5.3. A prioritised programme of structural review should be put in place to establish the need to assess, or update the assessment of, all structures which have not been designed or previously assessed to current standards. Where a requirement for assessment is identified, such assessments should be carried out in accordance with national standards which are current at the time.

C.5.5.4. The results of assessments and structural reviews should be recorded, together with relevant data and assumptions, and kept up-to-date and utilised in the planning and management of future maintenance programmes on the structures.

Structural Review

C.5.5.5. A review of an individual structure or group of structures, within the structures stock, to establish or confirm the validity of its latest assessment (or its original design if there has been no subsequent assessment) is termed a ‘structural review’. A structural review should consider all available current information, taking account of the known condition of the relevant structures, their inherent strengths and weaknesses and anticipated effects of any changes, including changes to assessment standards. A structural review should not normally require detailed analysis of particular structures.

C.5.5.6. Assessment and structural review are key elements of the management process for highway structures to check their safety and serviceability. All structures should therefore be assessed or reviewed against current national standards.

Assessments

C.5.5.7. Since detailed assessments require considerable effort, an assessment should only be undertaken when a structural review has identified the need for assessment.

C.5.5.8. The assessment should take account of all available information about the structure including its service performance. In addition, an ‘Inspection for Assessment’ should be performed to establish the current condition of key structural elements as accurately as is practicable.

C.5.5.9. The scope of assessment and method of analysis used should be commensurate with the form of the structure, information available and the consequences of a potential shortfall in the assessed load bearing capacity. Assessment of simple structures not showing signs of distress, particularly if details of the hidden parts of the structure are unknown, may be based solely on inspection as permitted by current standards. This would include mass concrete or masonry retaining walls that did not show signs of bulging, cracking, deformation, tilting etc.

C.5.5.10. Assessment should generally be carried out initially using simple but conservative analytical methods. Where the adequacy of a structure cannot be confirmed, or falls short of requirements using simple methods, progressively more precise and advanced methods should be employed where it is judged that a desired increase in assessed load bearing capacity might reasonably be achieved.

C.5.6. STRUCTURAL REVIEW AND ASSESSMENT REGIME

C.5.6.1. BD101 provides a system for Structural Review and Assessment of structures, which links the assessment and inspection processes.

C.5.6.2. The future management of highway structures should include a regime of ongoing structural reviews to ascertain their adequacy to support imposed loads. Such reviews should be undertaken when significant events occur that could increase the imposed loads above those previously assessed for and/or reduce the load bearing capacity of structures. A structural review should be undertaken, for example, when one or more of the following conditions or events occur:

- the structures are known or suspected to have load bearing capacities below those deemed to be appropriate for the class of highway supported;
- there is a significant change in the regulations governing the configurations and weight limits of vehicles which may use the relevant highway. The impact of such changes would generally have been assessed by the Department for Transport or Highways England and guidelines issued to authorities on the actions to be taken;
- the hierarchy of the road carried by the structure has changed or is proposed to be changed. The change may modify the density and type of traffic carried resulting in a change to the 'loading class' defined in BD21 The Assessment of Highway Bridges and Structures;
- records of the original design or subsequent assessment do not exist or have become discredited;
- the structure has been modified or is proposed to be modified;
- the structure is on a route proposed for an abnormal load movement, either a Special Order vehicle or an un-common STGO vehicle, for which the structure has not been previously assessed;
- significant deterioration or damage has been identified by an inspection. Conditions considered would include those found in structures such as arches which may be susceptible to changing condition factors; and

- structural reviews are recommended to follow alternate Principal Inspections when these are done at the frequency included in the Inspection Manual for Highway Structures. Where Principal Inspection intervals have been changed, the interval for structural review should also be determined and noted on the Structure Files.

C.5.6.3. Many highway structures have already been assessed. A prioritised programme of structural review should be put in place to establish the validity of existing assessments, the appropriate periods of review and the need for new assessments for structures that have not been assessed to current standards. The following priorities are suggested in the absence of any other information:

- structures with suspected load bearing capacities below those deemed to be appropriate for the class of highway supported;

- structures built prior to and including 1975, unless known to have been designed to Technical Memorandum (Bridges) BE 1/73 Reinforced Concrete for Highway Structures where appropriate. 1975 broadly corresponds to the cut off for Stage 2 of the Overseeing Organisations' assessment programme in the 1990's, which picked up bridges not designed to the reinforced concrete shear design rules in BE 1/73;

- reassessment of structures that have passed the 40 tonne Assessment Live Load requirement, to determine their capacity to carry abnormal loads. BD 86/11 The Assessment of Highway Bridges and Structures for the Effects of Special Types General Order (STGO) and Special Order (SO) Vehicles is a relevant consideration when assessing bridges for abnormal loads;

- structures built between 1975 and 1985. This period saw significant increases in the HA (normal traffic) loading associated with HB (abnormal) loading and the implementation of BS 5400; Steel, concrete and composite bridges; and

- structures built after 1985, if deterioration or other factors indicate the structure may not meet the required operational load bearing capacity and structural integrity may be compromised. Current highway design loading has remained effectively unchanged since BD 37 Loads for Highway Bridges was first published in 1988. However, during the previous two to three years various interim design standards were in place such that 1985 is believed to represent a reasonable date to assume for the introduction of the current design loading criteria.

C.5.6.4. The ADEPT Guidance Document on the Implementation of Structural Eurocodes was published in December 2010. This document is a relevant consideration when undertaking structural assessments and/or strengthening.

C.5.7. ASSESSMENT PROCESS

Initial Appraisal

C.5.7.1. Most assessments require an initial appraisal to establish what level of assessment is required and whether any additional information in the form of further inspections or testing is needed. The form of this appraisal may vary, but may include a Level 1 analysis.

C.5.7.2. When sufficient information has been obtained, the appropriate scope of the assessment should be formally agreed between the overseeing manager and the assessor and be subject to a Technical Approval process. The appropriate scope of assessment may range from a judgement based simply on the Inspection for Assessment for a small retaining wall, as allowed by BD 21 The Assessment of Highway Bridges and Structures, to a detailed structural analysis of all parts of a structure based on information from records, inspections and investigations.

C.5.7.3. Structures that have not previously been assessed generally require an assessment of all load bearing elements. Assessments arising out of identified local damage and/or deterioration may only require assessment of a limited number of elements that lead towards the design of a suitable repair. Depending on the circumstances, there may be variations in traffic loads that may need to be considered.

Inspection and Testing for Assessment

C.5.7.4. The report on the Inspection for Assessment should include the observations made and comment on the condition of the structure, giving the condition factors required by BD 21 The Assessment of Highway Bridges and Structures. If the condition has deteriorated since the previous inspection, a statement should be included on its importance and, if appropriate, how the deterioration should be taken into account in the assessment calculations. For example, a condition factor might be used or the assessment might be based on a deteriorated (smaller) section of structural elements.

Technical Approval

C.5.7.5. Technical Approval is the formal arrangement by which the Technical Approval Authority (TAA) agrees the basis on which a structural design or assessment is to be carried out. It confirms the scope and level of the assessment together with the standards to be used and the forms of analysis models that are to be used. Technical Approval extends to formal acknowledgement of completion by the acceptance of appropriate certification. Guidance on the Technical Approval process is given in BD 2 Technical Approval of Highway Structures.

C.5.7.6. An appropriate system of Technical Approval should be established and an appropriate organisation or individual should be formally appointed to act as the TAA.

C.5.7.7. The authority and the TAA should jointly maintain an up-to-date list of current design and assessment standards similar to those listed in Annex B of BD 2.

Formal Assessment Analysis

C.5.7.8. The analysis of a structure to determine its load bearing capacity should employ an approach that is appropriate for the structural form and materials as recommended by national standards.

C.5.7.9. The three Levels of Assessment as defined in BD79 The Management of Sub-standard Highway Structures should be considered, and are summarised in Table 8 below.

Table 8 – Levels of Assessment

Level	Requirement
1	Use of simple analysis methods and full partial safety factors from appropriate assessment standards to produce a conservative assessment.
2	Use of a more refined analysis model such as grillage or finite element models. Also allows the determination of actual characteristic strengths based on existing test data deemed to be relevant to the particular structure.
3	Allows the use of Bridge Specific Assessment Live Loading (BSALL). Also allows the use of characteristic strengths or worst credible strengths based on testing of samples of materials from the structure.

C.5.7.10. The level of analysis should be appropriate to the circumstances. Where initial assessment does not provide the required confidence in the structure, progressively more advanced methods should be employed, taking into account the cost of more advanced analysis and the benefits that might reasonably be gained.

C.5.7.11. Level 1 may be used for initial assessments, leading to subsequent Level 2 or 3 assessments. Level 1 should only be relied upon as a definitive assessment if it clearly demonstrates the required load bearing capacity of the structure.

C.5.7.12. Levels 2 or 3 generally provide the degree of confidence required to establish the load bearing capacities of most structures. The additional testing associated with Level 3 should be dependent on whether or not such evidence might reasonably increase the assessed load bearing capacity to a level which is considered appropriate or desirable for the particular structure.

C.5.7.13. Where practicable, assessment should include an estimate of any reserve load bearing capacity of the structure. Where there is likely to be ongoing deterioration of a structure, assessment should include the determination of critical condition factors.

C.5.7.14. Where the assessment indicates that a structure is substandard in relation to the requirements of current standards, remedial options should be considered, appraised and a final action recommended. Interim measures (including those necessary to protect the structure and the public) to be taken prior to the implementation of the recommended remedial action, including restriction of use or monitoring if appropriate, should be recommended. All decisions taken need to be appropriately documented.

C.5.8. ASSESSMENTS FOR ABNORMAL LOADS

C.5.8.1. The principles of managing abnormal loads are dealt with in Section A.4 of this Code. This section contains information on specifically related to structural assessments.

C.5.8.2. Assessment for the effects of abnormal loads on bridges and other highway structures should be carried out in accordance with BD 86. This standard is based upon a series of “SV” loading models which more closely model the behaviour of real heavy vehicles than the old HB model, and defines how a Reserve Factor should be calculated for each acceptable vehicle.

C.5.8.3. BD 86 also provides guidance for converting existing HB ratings to equivalent SV ratings to aid correlation of such ratings with the effects of real vehicles. However, this is necessarily conservative and reassessment to BD 86 should be considered for critical bridges.

C.5.8.4. For Special Order movements (greater than 150 tonne) and, in some special cases, for General Order movements, detailed assessments may be required for particular structures where no alternative route is readily available.

C.5.8.5. In such cases, for bridges, consideration may be given to limiting Dynamic Amplification Factors and the effects of normal traffic, which might be on a bridge at the same time as the abnormal load. Guidance for such assessments is provided in Annex D of BD 86.

C.5.8.6. Where an initial assessment shows that the load effects induced by an abnormal load marginally exceed the capacity of a bridge on the route, it may be possible for the abnormal load to safely cross the bridge provided the speed of the vehicle is restricted and other normal traffic is kept clear of the bridge when the abnormal load crosses it. Checks for such situations can be made in accordance with the procedures given in Annex D of BD 86.

C.5.8.7. An engineer with good experience of Highway Structure Assessments shall undertake the role of Structures Advisor, to whom the Abnormal Loads Officer should refer decisions relating to vehicle movements which fall outside the agreed guidelines which otherwise determine whether or not particular vehicle movements should be accepted.

C.5.9. RECORDING OF ASSESSMENT RESULTS

Assessment Report

C.5.9.1. Structural assessment results should be fully detailed in a formal report which should consider providing the following information:

- the name, location and any formal identification number of the structure;
- for bridges, details of obstacles crossed and roads carried;
- the date and reason for the assessment;
- an overview of the method of analysis including a description and diagram of any computer model used;
- any appropriate geological assumptions and parameters;
- loading details;
- level of assessment;
- overall assessed load bearing capacity;
- identification of any critical elements of the structure;
- all condition factors used and if relevant, the pavement condition or other variable factors which formed part of the assessment;

- recommendations in respect of any elements having an assessed load bearing capacity below that required or considered desirable;

- guidance on timescale for which the assessment results are expected to be valid and the date or specific circumstances for undertaking a subsequent structural review; and

- the signed AIP and accepted certification should be included in an appendix together with the assessment calculations or reference to other documents containing the calculations.

Basic Records for the Bridge Management System

C.5.9.2. The basic results of an assessment should be recorded in a standard format common to all of the structures for which the authority is responsible. Ideally the record would take the form of an electronic database.

C.5.9.3. The level of detail transcribed from the assessment report into the database should be defined by the Bridge Management System adopted by the authority. This could include basic details of each structure including location, form of structure, details of road(s) carried, span arrangements, and designed or assessed load bearing capacity.

C.5.9.4. Where the results of the assessment are dependent on variable factors such as pavement condition, as allowed by BD 21, there should be a clear feedback to the Highway Authority to ensure that the ongoing requirements form part of the planning process for periodic maintenance. In such cases, committing to a protocol that ensures good stewardship of the surface quality can lead to the benefit of an increased load bearing capacity rating for the bridge. However, poor condition should generally be assumed if that commitment cannot be assured.

C.5.9.5. Information on reserves in load bearing capacity with respect to both normal and abnormal traffic loading, where available, and critical condition factors for elements susceptible to deterioration should be used in the planning and management of future maintenance programmes on structures.

Additional Records for Critical Structures

C.5.9.6. A structure that has a load bearing capacity below those of others on a particular section of road is termed a ‘critical structure’. This is a technical term unrelated to the HIAMG definition of ‘critical infrastructure’. If the load bearing capacity of a critical structure is below that required for unrestricted normal traffic (typically the 40 tonne Assessment Loading defined in BD 21), it will effectively restrict the whole section of the road to this weight limit. Alternatively, a structure may be critical with respect to the movement of abnormal loads. In either case, it is useful to record additional information from the assessment to aid consideration of what vehicles should or should not be allowed to use the road.

C.5.9.7. The additional information recorded for critical structures (particularly bridges) could include:

- details and load bearing capacities of all potentially critical elements with live load capacities up to 15% higher than the governing element/capacity;

- load ratings in terms of HB units and all relevant Reserve Factors against SV vehicles as defined in BD 86 The Assessment of Highway Bridges for the Effects of Special Types General Order (STGO) and Special Order (SO) Vehicles;

- if practicable, lane influence lines for critical effects together with the associated limiting load bearing capacities; and

- for arches, details of the bogie configurations considered and their associated maximum axle loads.

C.5.10. INTERIM MEASURES AND MANAGEMENT OF SUBSTANDARD STRUCTURES

C.5.10.1. A structure which does not meet the requirements of standards used in its assessment is termed a 'substandard structure'. The assessment of a substandard structure should identify the appropriate remedial action required to maintain its safety.

C.5.10.2. Prior to strengthening or replacement, all substandard structures should be considered as representing a risk to the public. Where such works have to be deferred, detailed risk assessments should be undertaken and where appropriate interim measures should be implemented as soon as possible.

C.5.10.3. If there is deemed to be an immediate risk to public safety, BD 21 and BD 79 require that formal interim measures which would effectively mitigate the risk, be put in place until the identified remedial action is implemented. These measures may include:

- weight or width restrictions plus monitoring;

- propping or temporary bridge plus monitoring;

- closure and diversion of traffic; and

- deterring vehicles over-running substandard areas of structures.

C.5.10.4. BD 79 also provides guidance on the short to medium term management of structures where the immediate application of any of the above measures may not be practicable.

C.5.10.5. In particular BD 79 provides guidance on the use of weight restrictions and/or the application of monitoring to appropriate structures, and provides a Technical Approval framework for agreeing such measures.

C.5.10.6. BD 79 indicates that structures that satisfy **all** the criteria in 1, 2 and 3 below and additionally small span bridges as described in 4, may be considered to be appropriate for monitoring subject to Technical Approval.

1. Structures with no significant signs of distress, or structures where distress is observed which does not appear to be recent or significant and detrimental to the safety of the structure.

2. Structures where failure is likely to be gradual over time, progressing from local signs of distress to more extensive failure before reaching the point

where total collapse is precipitated. It must also be possible to predict the mode(s) of failure under traffic load with reasonable certainty.

3. Structures and situations where monitoring would be meaningful and effective.

4. Bridges of spans less than 5 metres where the consequences of failure are low.

SECTION C.6. PROGRAMMING AND PRIORITIES – STRUCTURES

C.6.1. INTRODUCTION

C.6.1.1. Programming and priorities are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

C.6.1.2. The general principles to be applied to programming and priorities are outlined in Section 8 of Part A of this Code, with this section covering guidance relating to structures.

C.6.1.3. Highway structures are exposed to a wide range of naturally-occurring and man-made factors that lead to, or directly cause, deterioration. In addition, the highway network is a dynamic system with changing user demands, some of which may be reflected in changes to codes and standards. The purpose of maintenance is to repair damage caused by deterioration, vehicle impact or vandalism, slow down or prevent the deterioration process and, where appropriate, meet the changing demands of users.

C.6.1.4. The purpose of maintenance planning and management is to enable the Bridge Manager to develop and implement cost effective and sustainable maintenance plans for highway structures that support the safe operation of the network while delivering the required asset performance and levels of service. The maintenance planning and management process enables the Bridge Manager to deliver the authority's long term goals and objectives by developing maintenance plans that align with and provide detail to the work volumes and phasing identified in the Asset Management Framework.

C.6.1.5. Maintenance planning should adequately support the safe operation of highway structures. Performance levels should be identified at which a structure or component is considered to be sub-standard and which, if left unmanaged, may result in the structure becoming unsafe. Identifying minimum safety and performance levels assists the prioritisation of needs and development of maintenance plans.

C.6.1.6. Authorities should be suitably prepared for urgent safety and stability concerns and emergencies and deal with them effectively when they occur. An emergency response procedure should be developed for this purpose and documented, and an associated emergency budget determined.

C.6.2. CLASSIFICATION OF WORK TYPES

C.6.2.1. An important feature of maintenance planning is the appropriate classification of all items of maintenance work. Classification provides a beneficial tool for analysing the workbank and removing appropriate work types from the Value Management and Value Engineering phases, i.e. regular and reactive maintenance. Eleven work type definitions grouped under three headings are given below that cover the majority of operational activities. These work types and the terminology should be used to provide clarity to work volumes identified in plans, i.e. Asset Management Framework, Forward Work Plan and Annual Work Plan.

1. Regular Maintenance

   a. Inspections – covers all inspection types, i.e. Safety, General, Principal and Special. Inspections include confined space inspections, boat inspections, underwater inspections and special follow-up investigations identified from the inspections;

   b. Structural Reviews and Assessments – structural reviews should ascertain the adequacy of structures to carry the specified loads when there are significant changes to usage, loading, condition or the assessment standards. A review should identify structures which need a structural assessment. An assessment quantifies the load bearing capacity of the structure in accordance with the appropriate current standards;

   c. Routine Maintenance – minor work carried out on a regular or cyclic basis that helps to maintain the condition and functionality of the structure and reduce the need for other, normally more expensive, maintenance works. Examples of routine maintenance common to highway structures include cleaning out expansion joints and drainage systems, greasing of metal bearings, removal of vegetation, removal of blockages in watercourses including removal of silt; and

   d. Management of Substandard Structures – normally constitutes implementing interim measures to protect users of substandard structures and may include monitoring. Guidance is given in BD79 The Management of Sub-Standard Highway Structures.

2. Programmed Maintenance

   a. Preventative Maintenance – work carried out to maintain the condition of the structure by protecting it from deterioration or slowing down the rate of deterioration. Preventative maintenance is justified on economic grounds because it provides minimum whole life cost maintenance. By timely intervention preventative maintenance reduces the need for essential work and/or the likelihood of essential work arising prematurely in the future. Examples of preventative maintenance include re-pointing, repainting, minor defect repairs, silane impregnation, cathodic protection and re-waterproofing. Re-surfacing is not included because it is considered to be a road maintenance activity;

b. Component Renewal – renewal of components that have a finite service life, e.g. bearings and expansion joints;

c. Upgrading - work that brings an existing structure up to the appropriate current standard, e.g. strengthening, upgrading parapets, waterproofing. The work may have resulted from a change to standards or a change in requirements for the structure, e.g. enhanced network levels of service;

d. Widening and Headroom Improvements – increasing the width or headroom of the existing structure. These improvements are generally considered to be network issues unless arising due to structural maintenance requirements; and

e. Replacement – a structure/component is replaced when it reaches the end of its useable life, excluding cyclic Component Renewal item (2b) above. The replacement structure/component restores the full design performance of the structure/component it replaces (if the performance is enhanced it is classified as an upgrade – item (2c) above).

3. Reactive Maintenance

a. Emergency – work that must be dealt with immediately due to the high risk the situation poses to public safety, e.g. caused by accidents such as bridge strikes; and

b. Essential Maintenance – major structural repair work and especially that undertaken when part or all of a structure is considered to be, or about to become, structurally inadequate or unsafe, or unpredictable in its deterioration. Examples of essential maintenance include major concrete, masonry and steelwork repairs, and scour repairs.

C.6.3. INPUTS TO THE PLANNING PROCESS

C.6.3.1. Maintenance planning and management is an on-going activity and as such, requires up-to-date and relevant information on structural condition and performance, to ensure the correct work is being planned and to assess the effectiveness of previous work. Relevant condition and performance inputs to the maintenance planning and management process include, but are not restricted to:

- **Inspection, testing and monitoring** – inspections, primarily General and Principal Inspections, generally provide the most up-to-date and comprehensive data on the condition of highway structures, and as such are a key input for maintenance planning. Inspections are sometimes supplemented by testing and monitoring**;**

- **Assessment of structures** – structural reviews identify structures that require a structural assessment, while structural assessments identify sub-standard structures. Resources are required for the structural reviews and assessments and for dealing with sub-standard structures. These should be taken into account in the planning process; and

- **Other** – may include incidents, emergencies and reports from the police or public, e.g. bridge strikes, scour damage from a flood, loose bricks.

C.6.3.2. The above data enables a response to any urgent needs or emergencies and to plan work based on the actual current condition and performance. It also allows the maintenance planning process to provide the essential detail to the generic work volumes and phasing produced by the long term asset management planning process.

C.6.4. DETERMINE CURRENT PERFORMANCE

C.6.4.1. The asset inventory, condition and performance data should be used to determine the current performance of the highway structures in a way that supports the identification of needs and Value Management. Much of the information should be in a format that can be readily used for identifying needs, for example element condition data and assessed capacity. Some data may require manipulation in order to provide information that assists identification and Value Management, for example, structure specific Performance Indicator values.

C.6.4.2. The current performance should be determined for individual elements and/or structures using absolute measures, e.g. severity and extent of a defect or assessed capacity of a structure. The description of current performance should be commensurate with the level of detail required for short term maintenance planning. This implies a greater reliance on absolute measures that describe current condition and performance in detail rather than performance measures. Performance measures are more suited to determining performance in the long term asset management planning process.

C.6.5. IDENTIFICATION OF NEEDS

C.6.5.1. The purpose of this task is to identify and document all maintenance required on highway structures and the associated cost estimates. The documented maintenance needs and costs are referred to as the structures workbank. The structures workbank forms the basis of the subsequent Value Management and Value Engineering processes.

C.6.5.2. A formal approach to the identification of needs should be developed but the Bridge Manager should be aware that maintenance needs can arise due to a wide range of factors, some of which may not be covered by a formal approach. Common criteria that should inform the identification of needs are:

- assessment of condition and performance data by a suitably qualified and experienced engineer to identify needs;
- development of lifecycle plans to identify maintenance cycles and intervention thresholds; and
- identification of regular maintenance needs (e.g. inspections, structural reviews and assessments and routine maintenance) and planned improvement/development schemes.

C.6.5.3. The following sections describe the above criteria in more detail. Some modern structures also have Maintenance Manuals as required by Appendix A of *BD 62 As Built, Operational and Maintenance Records for Highway Structures*. These should also be used to inform the identification of needs.

C.6.6. CONDITION AND PERFORMANCE DATA

C.6.6.1. The condition and performance data should be reviewed periodically by a suitably qualified and experienced engineer to identify maintenance needs. It is recommended that General Inspection pro forma are reviewed and signed off no longer than two months after the inspection, but preferably within one month. Thereby the signing off and identification of needs are combined. Some authorities may also wish to combine data entry with these tasks.

C.6.6.2. This exercise is heavily dependent on the engineer's knowledge of the elements/structures and the appropriate methods for dealing with the needs. As a minimum, the engineer should have knowledge of a range of appropriate maintenance techniques and in which circumstances the techniques should be applied.

C.6.6.3. The Bridge Manager may wish to define some generic rules/guidelines, which define when a particular maintenance method should be used. These rules/guidelines are normally defined in the lifecycle plans (see below), but may need to be defined separately for situations that the lifecycle plans do not cover, e.g. when elements deteriorate below the intervention thresholds defined in the lifecycle plans and may require alternative maintenance techniques.

C.6.7. LIFECYCLE PLANS

C.6.7.1. Lifecycle plans should be used to identify needs on specific structures and elements. The cyclic/intervention rules established in the lifecycle plans are compared against the current condition and performance of a structure/element and the specific characteristics of the structure are assessed to determine if the lifecycle plan activity is appropriate, i.e. the lifecycle plans should be used as general guidance when identifying specific maintenance needs.

C.6.7.2. Where appropriate, lifecycle plans should be amended through the maintenance planning process because the bridge engineer is undertaking a more detailed review of needs compared to asset management planning. Such amendments should then be passed back to asset management planning to improve long term work predictions.

C.6.7.3. A lifecycle plan should be developed for each structure group/sub-group. Refinement of the groups and sub-groups may prove beneficial as it allows greater management planning control through more targeted lifecycle plans, but more knowledge of deterioration rates and mechanisms is required.

C.6.7.4. Lifecycle plans should be developed using whole life costing, if appropriate, in order to establish the most cost-effective approach. Whole life costs should not be the sole consideration and other issues such as asset performance and network safety should also be considered where relevant.

C.6.7.5. A Good Practice Guide on Lifecycle Planning for Highway Structures has been published by the London Bridges Engineering Group (LoBEG). This is a useful reference document providing a step-by-step approach on structure specific lifecycle planning and whole life costing. The Good Practice Guide is accompanied by a computerised Lifecycle Planning Model and associated User Guide.

C.6.7.6. The Structures Asset Management Planning Toolkit was developed by the Highways Asset Management Finance Information Group (HAMFIG), with ownership taken by the UK Bridges Board. It was developed to provide a tool to undertake lifecycle planning and asset valuation of structures in accordance with the CIPFA Code of Practice on Transport Infrastructure Assets (since August 2016 this has been renamed the Code of Practice on the Highways Network Asset).

C.6.7.7. In Scotland and Wales, guidance and lifecycle planning tools are available to members of the SCOTS/CSSW Roads Asset Management Project group via the RAM Knowledge Hub. Cost projection tools are available for structures and other asset types.

Routine Maintenance Regime

C.6.7.8. Highways England has a well-developed routine maintenance regime which is described in the Routine and Winter Service Code. This comprises tasks such as removing graffiti, removing vegetation, clearing debris and bird droppings from components, clearing drainage systems, repairing gap sealant, cleaning sliding and roller surfaces of bearings and re-greasing, checking and, if necessary, tightening fixings on deck movement joints and removing debris and silt from culverts.

C.6.7.9. Highways England considers that, whilst many of these tasks are fairly minor in themselves, failure to carry them out may lead to deterioration of the structure and the need for more costly repair operations in the future. Highways England considers that generally a routine maintenance regime is cost effective in whole life terms.

C.6.7.10. Authorities are recommended to follow the guidance provided in the Routine and Winter Service Code and establish an appropriate routine maintenance regime for highway structures. In doing so particular consideration should be given to the following points:

- Removal of graffiti – whilst the removal of all graffiti is commendable in improving the local environment, it can be an expensive operation if the graffiti is persistent. Some authorities have therefore decided only to remove racist or obscene graffiti (generally as soon as it is reported), unless there is little likelihood of more appearing in the medium term or there is an area-wide clean-up campaign organised by the local council or community body with the intention of keeping the area clean. Some urban authorities remove all graffiti in order to meet council objectives and tourist expectations; they accept this is a significant and essential expense; and

- Repair of gap sealant – sealant has often been specified by designers for gaps/joints where it is not essential and as a result some authorities have decided only to repair sealant where it is required. Examples include open joints that are visually unacceptable (but are not prone to vandalism) or where

replacement will help prevent ingress of water which could lead to frost damage, corrosion of metalwork or reinforcement or unacceptable staining.

Structures Workbank

C.6.7.11. The structures workbank is a database of all work that is currently outstanding on the network, including estimated costs for doing the work. It is recognised that certain work types by their very nature, e.g. re-active maintenance, cannot be planned in detail in advance but the workbank should still include a volume of work for these, albeit on unknown structures, based on past experience and engineering judgement. A workbank format should be established that is appropriate to local, and if appropriate, national needs. Figure 3 highlights three possible approaches.

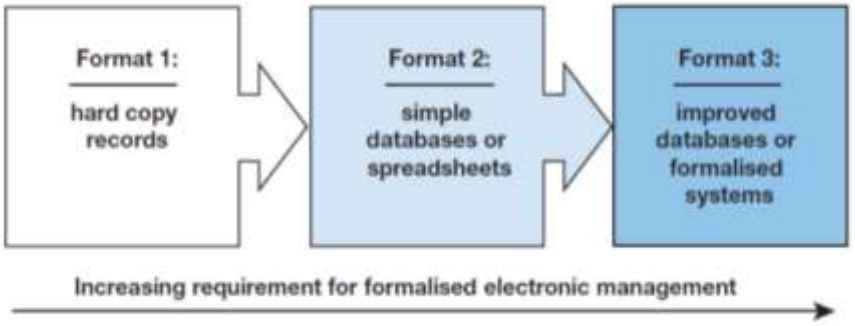

Figure 3 – Possible formats for the structures workbank

C.6.7.12. The workbank should include a full list of all maintenance required on the structures stock. The workbank should provide the following information for each item of work:

- name and number/reference of the structure;
- element where work is required;
- defect, including severity and extent (if appropriate);
- required work;
- work type;
- recommendation for when the work should be undertaken, i.e. which year; and
- estimated cost.

C.6.7.13. The full list of information is taken forward to the Value Management and Value Engineering phases. Once work has been undertaken it should be identified as completed and removed from the workbank.

C.6.8. VALUE MANAGEMENT

C.6.8.1. Value Management is used to prioritise the identified needs compiled in the structures workbank. This process is the planning (including value engineering if appropriate), scheduling and implementation of non-value managed work. The workbank identifies all work, not only value-managed work, and all the work needs to be appropriately managed.

C.6.8.2. Value Management should be used because it provides a formalised approach for assessing the benefits of undertaking maintenance and the associated risks of not undertaking maintenance. The risks and benefits should cover hard issues, e.g. condition and assessed capacity, that can be assessed objectively and soft issues such as local importance, customer feedback and synergies with other work that may need to be assessed subjectively.

C.6.8.3. The outcome of the Value Management process should be a prioritised list of actions in the structures workbank that is taken forward to the Value Engineering process. It should also identify where there will need to be an option appraisal in the Value Engineering process.

C.6.8.4. Value Management should not be a complex and overly involved process. It should cover the appropriate criteria in a manner that enables engineers readily to compare and identify a priority score.

C.6.8.5. The full Value Management process is only appropriate for major schemes. A simplified process should be used to deal with common types of moderate and minor maintenance.

Value Management Regime

C.6.8.6. A Value Management regime should be established that identifies the frequency of review and the approach to be taken. The regime should identify:

- **Value Management frequency** – some activities may be performed on a continuous basis, e.g. automated prioritisation of needs based on objective criteria. Other, more subjective criteria, e.g. local importance, are best analysed at regular intervals when one or more appropriate staff can review the latest needs. Value Management reviews or workshops held at least once every year, but preferably every six months, are likely to be appropriate for most authorities;

- **Prioritisation criteria** – the criteria considered during the Value Management process to prioritise needs. They may be objective or subjective in nature; and

- **Value Management review/workshops** – the staff to be involved in the Value Management review or workshop and the format this activity should take.

C.6.8.7. The Value Management regime should be appropriate to the size and characteristics of the highway structures stock.

Prioritisation Criteria

C.6.8.8. The Value Management process should be developed by suitably qualified and experienced staff who have a sound understanding of maintenance requirements and an awareness of longer term goals and objectives, as identified in the Asset Management Framework. The process should be transparent, encompassing the important prioritisation criteria, but it should also be flexible enough to assess a wide range of work and structure types. The sensitivity of the process to each prioritisation criterion should be fully trialled and the output assessed, possibly against predefined expectations.

C.6.8.9. The Value Management process should include a range of prioritisation criteria that are appropriate to the characteristics of the highway structures stock and network. As a minimum, prioritisation criteria should be considered that relate to the following three categories:

- **Safety and functionality** – criteria in this category should seek to use information from the asset inventory and database to rank the importance of the need. Examples of criteria that could be considered are structure type, structure location, route carried, obstacle crossed, element condition, assessed capacity, height restriction and traffic flow restrictions. The criteria considered should influence the prioritisation score in an appropriate manner, e.g. as condition deteriorates the prioritisation score increases, as route classification increases the prioritisation score increases;

- **Benefits and dis-benefits** – criteria in this category should seek to quantify in a simplified manner, the benefits and dis-benefits produced by addressing and not addressing a need. It may be more appropriate to use engineering judgement rather than an automated procedure. If the former approach is used it should be guided by a simple classification procedure, e.g. High, Medium or Low benefit/dis-benefit. Examples of benefits/dis-benefits that should be considered include lower or higher whole life costs, reduced or increased journey times, minimisation of network disruption, and integrating work items to achieve cost savings; and

- **Socio-economic and environmental** – criteria in this category should cover the softer issues that cannot be readily quantified by an automated prioritisation process, e.g. local policies, user/customer perception, impact on local communities and businesses, environmental impact and sustainability considerations. A formalised approach should be developed that allows the reviewer, or workshop attendees, to quantify criteria easily, e.g. High, Medium or Low impact.

C.6.8.10. Many of the above criteria can be assessed through a formalised risk analysis and risk assessment approach.

C.6.8.11. During the development of the Value Management process, careful consideration should be given to the weighting of each criterion. While it is recognised that safety will be a motivating factor other issues should be addressed to ensure a balanced work programme, e.g. priorities of the Asset Management Framework. Otherwise the process may focus solely on more apparent maintenance needs and fail to address preventative maintenance requirements. The system should also provide robust and justifiable prioritisation scores.

C.6.8.12. The level of refinement depends upon the complexity of the network and the number of issues that have to be accounted for. The adopted system should allow for future development and have the ability to cope with increasingly complex situations.

Value Management Review/Workshop

C.6.8.13. The prioritisation criteria should be challenged in a formal Value Management review or workshop. In the context of this Code, a review is performed by one person, preferably the Bridge Manager, and a workshop is attended by more than one appropriately qualified and experienced person.

C.6.8.14. The review/workshop should assess each need in turn and give it a final prioritised score. The starting point for the review/workshop may be:

- **Un-prioritised workbank** – in this case the review/workshop must address all the prioritisation criteria. It is advisable to use a small number of important criteria in order to avoid the review becoming overly complex; and

- **Semi-prioritised workbank** – in this case an automated prioritisation would have already been performed based on the asset inventory and database information (primarily using the safety and functionality criteria). The review or workshop should therefore concentrate on the softer prioritisation issues that may not be appropriate for automation, e.g. **socio-economic and environmental**.

C.6.8.15. The cost estimates for the prioritised needs are compared against the 1 to 3 year funding plan. Starting at the top of the prioritised list, i.e. taking the most critical need first, the cost estimates are added together until they equal the 1 to 3 year budget.

C.6.9. VALUE ENGINEERING

C.6.9.1. Value Engineering is the process of developing an optimal solution to a maintenance need and reducing waste and inefficient aspects of design, construction and maintenance [Achieving Excellence in Construction]. Value Engineering takes the prioritised needs from the Value Management exercise and creates cost effective schemes that can be planned, scheduled and implemented.

C.6.9.2. The two key components of Value Engineering are option appraisal and scheme development. Important criteria that feed into these components include maintenance options and standards, Whole Life Costing and synergies with other schemes. Option appraisal, scheme development and Whole Life Costing are described below.

C.6.9.3. The full Value Engineering process is only appropriate for major schemes but a simplified process should be used to deal with moderate and minor works, where minor works should be grouped into those of a similar type to streamline the process.

Option Appraisal

C.6.9.4. Option appraisal is necessary to identify the appropriate maintenance solution when there is more than one practical alternative for addressing the maintenance need. There may be only one practical maintenance option for many of the identified needs and it may have already been determined from the Identification of Needs and Value Management exercises. When there is only one practical maintenance solution, option appraisal is not required and the work item can be passed through to the scheme development process.

C.6.9.5. The Value Management phase should have flagged up needs that are suitable for option appraisal. These needs should now be assessed by suitable personnel in order to identify the practical maintenance options. Personnel suitable for assessing options may include:

- Bridge Manager/engineer and other suitably qualified and experienced staff within the authority; and
- external consultant and contractor staff with suitable experience and preferably a sound knowledge of the structures and network.

C.6.9.6. It is beneficial to involve the aforementioned personnel as early as possible in the exercise as this may lead to alternative proposals that benefit the network and lead to long-term savings. Early contractor involvement may enable the cost of work to be more robustly informed and effectively assessed. This process increases confidence levels and makes achievement of the planned work regime more likely.

C.6.9.7. The options should be analysed using Whole Life Costing to identify the most cost effective solution. Larger maintenance or improvement needs may merit the use of more sophisticated analysis techniques that account for a wider range of socio-economic issues, e.g. Multi Criteria Decision analysis. Expert advice should be sought regarding the suitability of applying more sophisticated techniques.

C.6.9.8. Large upgrade or improvement schemes may require a formal public consultation exercise. In such cases, authorities should identify appropriate parties to include in the consultation, e.g. local residents and businesses, and give them a suitable opportunity to comment on the options proposed.

Scheme Development

C.6.9.9. Scheme development is the effective combination of individual work items into schemes, in which each item makes best use of available funding and resources.

C.6.9.10. Procurement routes have a major effect on scheme development and out-turn costs. Senior managers, Bridge Managers and budget holders should be involved in the choice of procurement routes. In choosing a procurement route due consideration should be given to obtaining value for money, monitoring quality and rewarding or penalising good/poor quality respectively. The adoption of supply chain partners helps in the effective choice of maintenance solutions because advice can be sought at an earlier stage. Early contractor involvement is one method available.

C.6.9.11. The scheme development process should focus on the minimisation of network disruption and minimisation of whole life costs without compromising other important aspects such as appearance, access arrangements, environmental and sustainability issues, etc. It should be recognised that it may not be possible to minimise both network disruption and whole life costs and a compromise may have to be accepted. When developing schemes a number of alternative techniques are available for combining work items, each having different outcomes. Commonly used techniques include:

1. **Combine different work items on one structure** - addresses all actions on one structure thereby creating one period of longer network disruption compared to several interventions of shorter individual disruption but possibly longer total disruption. This technique may have relatively high scheme costs because the contractor has to mobilise for a range of activities and possibly more than one contractor is required;

2. **Combine similar work types** – a scheme of works that concentrate on one specific work type or similar work types. This technique should achieve cost savings by procuring the work in bulk because mobilisation fees are reduced and the contractor is provided with a steady work stream. A disadvantage is increased network disruptions at a particular location because different contractors may visit one structure in order to carry out their specific activities; and

3. **Combine schemes based on route or area** – this technique is similar to technique 1 above except that it is extended to cover a series of schemes on a route. It should achieve cost savings by procuring the work in bulk because contractor mobilisation fees are reduced and they are provided with a steady work stream. A disadvantage is that a number of contractors are likely to be required, leading to the possibility of programme extensions, site conflicts and continued network disruption over a short period.

C.6.9.12. The developed schemes are used to prepare the Forward Work Plan.

C.6.10. PREPARE FORWARD WORK PLAN

C.6.10.1. The Forward Work Plan is a detailed 1 to 3 year programme of work. This provides details of the schemes to be carried out in the 1 to 3 year period and their approximate annual phasing.

C.6.10.2. The Forward Work Plan should draw together all the work that has passed thorough the Value Management and Value Engineering phases, i.e. developed schemes, and non-value managed work, e.g. inspections, structural assessments, routine maintenance and management of substandard structures.

C.6.11. MONITORING, REVIEW AND FEEDBACK

C.6.11.1. The Annual and Forward Work Plan should be regularly monitored and reviewed to assess work delivery, i.e. planned programme and costs vs actual. Changes may be required to the planned schedule of works if it has deviated significantly from the original plan. Feedback loops should also be implemented to assess and record out-turn costs and the quality of the final solution (this data may also inform improvements).

C.6.11.2. The workbank should be continually reviewed to check that maintenance needs are being properly addressed and removed from the workbank once acted upon. It is helpful to record the dates when the scheme is included and removed from the workbank so the turnaround can be monitored.

C.6.12. IDENTIFY IMPROVEMENTS

C.6.12.1. The Bridge Manager should continually seek to improve the efficiency and effectiveness of the maintenance planning and management process. Improvements to the maintenance planning and management process may align with improvements to the long term asset management planning process, and the Bridge Manager should seek to combine the work required on these improvements where appropriate.

C.6.12.2. Feedback from inspections and maintenance work should be used to improve the accuracy and development of lifecycle plans and maintenance strategies. Out-turn costs should be used to improve workbank cost estimates, whole life costing and asset management planning.

C.6.13. STRENGTHENING PRIORITISATION BASED ON BD 79

C.6.13.1. *BD 79 The Management of Sub-Standard Highway Structures* lists the factors which should be taken into account in any prioritisation of strengthening work. These include:

- risk of structure collapsing;
- traffic delay costs caused by interim measures;
- other social, environmental and economic consequences caused by interim measures;
- the negotiability of alternative routes;
- the cost-effectiveness of the strengthening (ratio of costs and benefits); and
- other benefits from scheme.

C.6.13.2. A Good Practice Guide on Maintenance Prioritisation for Highway Structures: Phase 1 has been published by London Bridges Engineering Group (LoBEG).

WELL-MANAGED HIGHWAY INFRASTRUCTURE

PART D. LIGHTING

SECTION D.1. INTRODUCTION TO PART D – LIGHTING

D.1.1. INTRODUCTION

D.1.1.1. Part D of Well-managed Highway Infrastructure covers specific issues and themes regarding lighting, and includes the following asset types:

- lighting columns;
- lighting units attached to walls/wooden poles;
- heritage columns;
- illuminated bollards;
- illuminated traffic signs;
- columns and foundations;
- brackets;
- luminaires;
- control equipment, cables; and
- control gear, switching, internal wiring cabling (within ownership).

D.1.1.2. The overarching principles and common themes of maintaining highway infrastructure are covered within Part A. Asset specific guidance for highways and structures are covered in Part B and Part C respectively.

D.1.1.3. The Management of Electronic Traffic Equipment is covered within a separate Code of Practice.

D.1.1.4. The objectives of this Part of the Code are as follows:

- to encourage delivery of the right quality and amount of light in the right place and at the right time;
- to support a risk based approach for lighting management that is suitably recorded and documented;
- to deliver value for money through the adoption of appropriate technology;
- to encourage the development, adoption and regular review of policies for lighting operation and maintenance, consistent with the wider principles of integrated transport, crime reduction, sustainability and best value;

- to encourage harmonisation of lighting maintenance practice, where this is consistent with user expectations, whilst retaining reasonable diversity to accommodate local requirements; and
- to encourage the adoption of an efficient and robust approach in the collection, processing and recording of lighting asset inventory and condition data for the purpose of local and national needs assessment, including:
  - scenario planning and investment modelling;
  - management;
  - performance monitoring; and
  - electricity purchase.

D.1.2. FURTHER GUIDANCE

D.1.2.1. Guidance on general best practice and recommendations can be found on the following websites:

- The Institution of Engineering and Technology;
- The Institution of Lighting Professionals;
- The London Lighting Engineers Group;
- The Highway Electrical Association;
- The Scottish Futures Trust;
- TRL;
- ADEPT; and
- Transport Advice Portal.

Reduced Lighting

D.1.2.2. Increases in electrical energy charges have placed additional burdens on Local Authority budgets. As a result some Authorities have responded by reducing the period of operation of their highway lighting installations (for example instead of from dusk until dawn to perhaps dusk until midnight and then from 05:00hrs to dawn) or in some cases by switching off parts of the installation completely. The alternatives to the reduction or removal of street lighting should be considered such as the "invest to save" approach.

D.1.2.3. Work funded by the ADEPT, Transport Scotland, SCOTS and TfL has resulted in detailed case studies which have been published as free downloads from the TRL website.

D.1.2.4. The LANTERNS report considered the risks of reduced lighting. The full report is available free from the Journal of Epidemiology and Community.

SECTION D.2.
LEGAL FRAMEWORK – LIGHTING

D.2.1. INTRODUCTION

D.2.1.1. General duties and powers are dealt with in Part A of this Code. This section contains information on duties and powers specifically related to lighting.

D.2.2. LIGHTING SPECIFIC LEGAL CONSIDERATIONS

D.2.2.1. There is no statutory requirement on local authorities in the United Kingdom to provide public lighting. The following statutes empower local authorities to light roads but do not impose a duty.

D.2.2.2. In England and Wales, the Highways Act 1980 empowers a Highway Authority to provide lighting for any highway or proposed highway for which they are, or will be, the Highway Authority. District Councils and many Parish or Town Councils also have the power to provide lighting as local lighting authorities; these powers being conferred by the Public Health Act 1985, or the Parish Councils Act 1957. Where such Councils wish to provide lighting on a highway, the consent of the Highway Authority is required.

D.2.2.3. In Northern Ireland, the Roads (Northern Ireland) Order 1993, Article 44 grants the Department for Infrastructure the power to provide road lighting, where the Department considers that any road should be illuminated.

D.2.2.4. In Scotland, the Roads (Scotland) Act 1984, Section 35, empowers a local roads authority to provide lighting for roads, or proposed roads, which are, or will be, maintainable by them and which in their opinion ought to be lit.

D.2.2.5. Highway Authorities have a duty of care to the road user. Any loss to an individual as a consequence of the inappropriate use of these powers may result in action being taken to recover the loss. Such action could be taken on several grounds:

- negligent exercise of power (including failure to use that power). There is no blanket immunity;
- action for misfeasance of public office; and
- breach of the common law duty of care (if it can be established).

D.2.2.6. NOTE: This duty of care does not imply any duty on the Highway Authority to keep the public lighting lit. However, an authority responsible for the maintenance of public lighting should be able to demonstrate that they have systems in place to maintain the public lighting equipment in a safe condition, including the detection of dangerous equipment.

New Roads and Street Works

D.2.2.7. The New Roads and Street Works Act 1991 (NRSWA) is an enabling act setting out the duties of Street Authorities to coordinate and regulate works carried out in the highway. All underground cables should be recorded in accordance with the Electricity Safety, Quality and Continuity Regulations 2002 (as amended) and the Code of Practice for Recording of Underground Apparatus in Streets.

D.2.2.8. The JAG(UK) website contains a range of guidance, information and assistance.

Statutory Nuisance: Lighting

D.2.2.9. In England and Wales street lighting is not specifically exempt from the legislation, but it is unlikely to qualify as a statutory nuisance as generally speaking it is not considered to be within the definition of 'premises'.

D.2.2.10. In England and Wales the Clean Neighbourhoods and Environment Act 2005 applies and Section 102 of the legislation makes artificial light a potential statutory nuisance.

D.2.2.11. In Scotland the Public Health etc (Scotland) Act 2008 applies.

D.2.2.12. In Scotland street lighting is more exposed to complaint of statutory nuisance, as in addition to defining 'premises' as a source of potential statutory nuisance the Scottish Act also includes artificial light from 'any stationary object'. Guidance documents have been published by the Scottish Government,

Natural Habitats

D.2.2.13. Local Authorities should be aware that under the Conservation (Natural Habitats, &c) Regulations 1994 and as amended in 2007 European Protected Species of plants and animals receive protection.

D.2.2.14. One such protected species on which artificial light can have adverse effects is bats and so care needs to be taken not to disturb the animals themselves or their roosts and habitats. Guidance is available from the Bat Conservation Trust and the Institution of Lighting Professionals.

Traffic Management

D.2.2.15. Guidance for Local Authorities regarding their general duties relating to network management including enforcement of network management duties the maintenance of records and information (e.g. including records and locations of apparatus) and the duty to inspect records etc. can be found in the Traffic Management Act 2004 document.

Climate Change

D.2.2.16. The Climate Change Act 2008 empowered the government to set national targets for the year 2050 for the reduction of greenhouse gas emissions and to encourage energy users to meet the objectives of the Act, such as reducing such emissions or removing greenhouse gas from the atmosphere.

D.2.2.17. The Act also introduces legally binding carbon budgets, which set a ceiling on the levels of greenhouse gases that can be emitted into the atmosphere. The ensuing Carbon Reduction Commitment was renamed to CRC Energy Efficiency Scheme.

D.2.2.18. In summary, if the organisation is within the scope of CRC, then all unmetered electricity with the exception of lighting for domestic use, should be reported.

Crime and Disorder

D.2.2.19. Section 17 of the Crime and Disorder Act 1998 states the duty to consider crime and disorder implications. The Crime and Disorder Act does not apply to Scotland or Northern Ireland.

Traffic Signs

D.2.2.20. The Traffic Signs Regulations and General Directions 2016 prescribes the design and conditions of use of traffic signs on or near roads in England, Scotland and Wales. Further guidance is available in the form of DfT Circular 01/2016.

D.2.3. CONSERVATION AREAS

D.2.3.1. The introduction of the Civic Amenities Act 1967 gave legislative control to the protection of conservation areas which are defined as - 'an area of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.'

D.2.3.2. Conservation Areas are designated more on local criteria than on national criteria and their designation is derived by a local authority with support and advice from Historic England, the English Government's lead advisory body for the historic environment, and Cadw, the Welsh Government's historic environment service. Consideration is given to the history, building style, important views and different activities performed in the area as well as other factors of which the exterior lighting may be one.

D.2.3.3. After a Conservation Area has been designated it undergoes a dynamic process of assessment to preserve and enhance the character and appearance of the Area. A conservation area appraisal document should be developed and the maintenance and appearance of exterior lighting should be considered when an appraisal is put together.

D.2.3.4. The maintenance and/or replacement of heritage equipment can be a costly process and financial constraints may have an effect on the decision as to which equipment may or may not be used. Alternatives to exact physical replacements of existing equipment which give the same 'feel' to the conservation area may be considered by the authority and proposals for alternative equipment should be investigated.

D.2.3.5. A grant scheme may be available for preventative maintenance and repair of historic places, some examples of which can be seen below:

- Historic England;
- The Architectural Heritage Fund;
- Funds for Historic Buildings;
- Heritage Lottery Fund; and
- War Memorials Trust.

SECTION D.3. ASSET MANAGEMENT INFORMATION – LIGHTING

D.3.1. INTRODUCTION

D.3.1.1. Asset data management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

D.3.1.2. Asset management systems are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part C. This document should be referred to and the advice below considered supplementary.

D.3.2. PRINCIPLES AND CONSIDERATIONS

D.3.2.1. Lighting asset management systems should provide and support the following list of functions:

- collection, storage and retrieval of inventory data and condition data;
- works management and prioritisation;
- production and reporting of national and local performance data;
- deterioration modelling and life cycle planning;
- management and storage, in electronic format, of drawings, photographs and reports;
- identify different cleaning intervals for installations with different conditions, lamp types, environmental zones and luminaire IP ratings; and
- identify different routine maintenance intervals for installations with different conditions, including for example: lamp types, LED configuration, Driver type, environmental zones and luminaire and gear compartment IP ratings.

D.3.2.2. The asset management system should be kept up to date to ensure the currency of the data held, and responsibility for updates should be confirmed.

D.3.2.3. Accurate recording of asset data, inspection records and maintenance activities is essential. A suitable monitoring regime should be in place to ensure good quality information is in use.

D.3.2.4. Asset data will also support the calculation of Gross Replacement Cost and Depreciated Replacement Cost for lighting associated with highway infrastructure, as required for Whole of Government Accounts. Guidance on this is available from CIPFA.

D.3.2.5. Guidance has been developed on Managing Unmetered Energy Street Lighting Inventories (MUESLI), which covers the following:

- the proper establishment and maintenance of unmetered supply inventories for unmetered supply customers;
- appropriate practices for Distribution Network Operators when checking that inventories are accurate and being properly maintained; and
- procedures for remedial actions if material irregularities or discrepancies are identified.

D.3.3. CENTRAL MANAGEMENT SYSTEMS (CMS)

D.3.3.1. Central Management Systems (CMS), also known as telemanagement, is a system that provides remote dynamic street lighting control. Using a CMS, the operator can choose exactly when to switch each individual street light on or off and/or by how much to reduce the lamp power. This allows any number of switching events and/or dimming levels. CMS can use web based technology to control lighting times based on official lighting up time and traffic conditions as well as fault reporting and warning of imminent lamp failure

D.3.3.2. To ensure consistent records it is essential that there is an effective interaction between the inventory and CMS databases. CMS is best characterised as a communication system for providing ‘Monitoring’, ‘Reporting’ and ‘Control’ of street lighting.

D.3.3.3. CMS allows detail monitoring and reporting of key aspects of the asset including:

- whether the light is operating as expected or not – i.e. faults or outages;
- circuit characteristics - current, voltage, power factor;
- switch on and off times;
- adapting levels; and
- total energy consumed (see Section D.7, trading arrangements).

D.3.3.4. In addition, it is possible to include the following:

- predictive faults based on history to date and component characteristics;
- breach of base compartment / door off; and
- light output.

SECTION D.4.
ASSET CONDITION AND INVESTIGATORY LEVELS – LIGHTING

D.4.1. INTRODUCTION

D.4.1.1. To maintain the service to the public there is a need to identify lighting units and illuminated traffic signs which have failed or have mechanical defects, and then to repair them within timescales based upon a risk based approach to managing the public lighting and illuminated stock. The time period from initial failure through identification and assessment to rectification should follow that in the authority's street lighting strategy, in line with the risk management principles set out in this document.

D.4.1.2. Provision must be made to deal with emergency situations and to protect the public from danger, by dealing appropriately with events such as vandalism and vehicle impact within the authorities risk based response times.

D.4.1.3. Failures such as twisted luminaires or rotated brackets do affect light distribution and, consequently, optical performance. All non-emergency faults should be subject to the same risk based response criteria as failed units.

D.4.1.4. The efficient organisation of work schedules and routing, coupled with adequate materials and competent staff, will help keep the installation safe and maintained. The quantity and application of these resources should be set at levels which will meet the risk based response times for repairs.

D.4.2. MONITORING FOR INOPERATIVE LIGHTING

D.4.2.1. Procedures should be implemented which identify failed lighting so that faults and urgency of response can be risk assessed. Methods of identifying lighting not working include:

- periodic patrols at night at an appropriate frequency. Faults shall be recorded for subsequent transfer to the asset management system;
- central management system (CMS), which remotely monitors the equipment with an electronic device at each luminaire which is capable of recording and reporting the status and/or failure (or imminent failure) of the equipment; and
- the public can be encouraged to participate in monitoring by reporting lights out. Encouragement can include advertisements, notices on vehicles and lighting columns, and items in authority publications.

D.4.2.2. Call handling staff should receive sufficient training to enable them to identify emergencies, and to assure appropriate coordination between them and emergency teams.

D.4.2.3. CMS will report certain faults including outages and day-burners, and public reporting may also generate reports about mechanical defects including:

- wilful damage;
- overhanging trees and vegetation;
- vehicle damage;
- misaligned brackets;
- missing doors;
- unsecured or missing lantern bowls;
- missing identification numbers; and
- partial faults in LED lanterns.

D.4.2.4. A system of assessment to evaluate the appropriate actions and responses on receipt of such information must be set up and operated.

D.4.2.5. When using a Central Management consideration should be given as to how this information can be obtained proactively. The provision of a dedicated day or night scout at regular intervals may be needed to supplement these other methods.

D.4.3. RESPONSE TIMES

D.4.3.1. Examples of typical reactive maintenance activities are given below:

- non-emergency faults involving the replacement of components of apparatus;
- non-emergency faults involving the replacement of a complete unit of apparatus, including those made safe as emergency faults;
- non-emergency faults requiring the replacement of mandatory traffic signs and illuminated traffic bollards, including those made safe as emergency faults;
- non-emergency faults involving the repair or replacement of any of the DNO's / IDNO's equipment;
- non-emergency faults requiring the removal from apparatus of any offensive and/or racist graffiti;
- non-emergency faults requiring the removal of all other graffiti and/or any unauthorised attachments from apparatus;
- non-emergency faults involving rectification of non-operating Belisha beacons and flashing school warning signs;
- emergency faults, including the removal of unauthorised attachments that pose a safety hazard;
- installation of a complete unit of apparatus; and
- following completion of task, return of completed paperwork.

D.4.4. EMERGENCY SERVICE

D.4.4.1. Parts of the installation may become a danger to the public as a result of incidents such as vehicle impact, cable damage, vandalism, storm damage and deterioration of components. Such incidents can result in potential danger and require emergency response.

D.4.4.2. Arrangements should be in place to provide an emergency response at any time. Both the asset owner and service provider may be involved in processing and undertaking this work. The action to be taken will depend on a technical assessment at the time a report of damage or fault is received. Where situations arise which present a potential danger to health and safety, there is a need for an immediate attendance and a risk based practical maximum response time should be imposed.

D.4.4.3. Staff involved in providing the emergency service must be competent and exercise their risk based judgement as to the action required, and those directly involved on-site must also have appropriate tools and plant to deal with the incident. There should be provision to mobilise additional resources to assist or to attend other emergency calls.

D.4.4.4. The principal task must be to make the installation safe but in doing so there is a possibility that street lighting or illuminated traffic signs or bollards will be taken out of service. An assessment of the consequent road safety risk should be made and, if necessary, steps taken to carry out temporary repairs providing it can be done without endangering personal safety or that of the public. Traffic bollards are intended to guard obstructions in the carriageway and when damaged or removed a process to protect the road user from a potential impact with the island must be in place. In the absence of temporary repairs adequate signage and temporary warning lights should be provided.

D.4.4.5. Due to the nature of emergency work, oral instructions are the most likely way of instigating an attendance. As soon as possible a Work Instruction should be raised to ensure the incident is properly tracked and recorded. Records should be kept of all relevant information, including:

- the time and source of the call-out;
- time arrived and extent of work undertaken;
- further work required; and
- time left site.

D.4.4.6. If the incident was a result of vehicle impact then details of the vehicle(s) should be recorded to institute procedures for the recovery of costs.

SECTION D.5. INSPECTION, ASSESSMENT AND RECORDING – LIGHTING

D.5.1. INTRODUCTION

D.5.1.1. The general principles to be applied to inspections, assessment and recording are outlined in Section 5 of Part A of this Code. This section covers guidance for each category of inspection relating to lighting assets.

D.5.2. DEFECT RISK ASSESSMENT

D.5.2.1. Risk management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part C, and Section 5 of Part A of this Code.

D.5.3. ELECTRICAL INSPECTION AND TESTING

Introduction

D.5.3.1. In terms of possible dangers from electricity, the Electricity at Work Regulations 1989 require all systems to be constructed, maintained and operated, so far as is reasonably practicable to prevent danger. In any action for contravention of these duties it is a defence to prove that all-reasonable steps and due diligence to avoid an offence had been exercised. To illustrate due diligence it follows that periodic inspections should be undertaken to understand whether or not an electrical installation may present a danger and prove that on the day of inspection the installation was in a safe condition.

D.5.3.2. BS 7671 Requirements for Electrical Installations (formerly known as the IEE Wiring Regulations) do not themselves impose statutory requirements but state: “Installations which conform to the standards laid down in BS 7671:2008 are regarded by HSE as likely to achieve conformity with the relevant parts of the Electricity at Work Regulations 1989”.

D.5.3.3. The IET Guidance Note 3 Inspection and Testing supports a risk based approach for inspection of electrical installations, stating: “The person carrying out subsequent inspections may recommend that the interval between future inspections be increased or decreased as a result of the findings of their inspection.”

D.5.3.4. The co-ordination of electrical inspection and testing with other cyclic maintenance activities should be considered to help reduce disruption to the public; however this may not be the most cost effective means of carrying out this operation and separate personnel may be needed for this purpose.

Visual inspection of electrical equipment

D.5.3.5. The nature and location of public lighting installations is such that visual inspection of the electrical equipment and wiring is of paramount importance. The condition of the electrical equipment and wiring should be visually checked at each cyclic maintenance or repair visit and its condition reported back to the asset owner. So far as reasonably practicable, the visual inspection should verify that the health and safety of persons, animals and property is not endangered.

D.5.3.6. The general visual conditions of the electrical installation should be noted on the inspection report. However, if any particular item causes concern, it is recommended that the problem be detailed on an appropriate supporting schedule.

D.5.3.7. During the visual inspection, any dangers should be identified that may arise during the testing procedure. The street lighting operative should take any necessary action and implement safety precautions to avoid danger. Where a problem is considered as dangerous, the item of equipment should be repaired immediately or taken out of service by removing the fuse from the supply termination until the fault has been rectified. Problems related to the Distributors cable or cut-out (cracked, broken fuse carrier, loose connection, exposed live conductors, etc.) should be reported to the relevant Distributor. See section 7. Under no circumstances should an electrically dangerous item of equipment be left in operation.

D.5.3.8. Failure to carry out an electrical inspection must be recorded in the street lighting operative's report. A record should be made of any departure from the regulations.

D.5.3.9. For further details on electrical inspections see refer to BS7671 and associated guidance including in particular Guidance Note 3.

Electrical Testing

D.5.3.10. Testing should only be carried out by a competent person. All test equipment should be suitable for the test intended, correctly calibrated and regularly certified. For further details on electrical testing refer to BS7671 and associated guidance including in particular Guidance Note 3.

Electrical testing records

D.5.3.11. The results of periodic electrical inspection and testing must be recorded.

D.5.3.12. Records of maintenance, including electrical test results, should be kept in accordance with the agreed retention period of the organisation, enabling the condition of the equipment and the effectiveness of maintenance policies to be monitored. A computerised asset management system should allow electrical test certificates to be linked to the specific individual item of equipment, thus providing an efficient maintenance system.

D.5.3.13. It should be noted that the scope of testing for highway lighting circuits and columns extends to 5th core distributor cabling in relation to the measurement of external earth fault loop impedance.

Capacitor replacement

D.5.3.14. Capacitors should be replaced on failure. As the power factor of the circuit should be maintained at 0.85 lagging or above, it should be measured at each electrical test. It is possible that the most economical way of ensuring the power factor of the circuit is maintained, is by group replacement of the capacitors during the electrical test.

Surge Protection

D.5.3.15. The operation of electronic equipment in street lighting can be severely affected by lightning or electrical switching events. These increases in voltages (surges or transient overvoltages) could possibly cause irreparable damage to equipment.

D.5.3.16. A Surge Protective Device (SPD) is specifically designed to protect equipment from such events by redirecting the harmful voltage away from the equipment.

D.5.3.17. SPDs should be checked, where practicable, during the periodic electrical inspection and test that it is still in a serviceable condition (Many SPDs have fault indicators that will show when the device has operated or has been damaged or destroyed by a surge).

D.5.3.18. It is important prior to applying any insulation resistance tests, to establish if the installation has any SPDs installed. SPDs should be isolated during insulation resistance testing, as the SPD could operate, by treating the test voltage applied to the system as a transient overvoltage. (see BS 7671)

D.5.3.19. The type and use of SPDs varies between manufacturers and all maintenance should be carried out in accordance with the manufacturer's instructions. Further guidance can be found at the BEAMA website.

Structural inspections and testing

D.5.3.20. Structural failures of corroded lighting columns and illuminated traffic sign posts, together with under-investment in replacement, have raised awareness of the increasing age of the stock and its deteriorating condition.

D.5.3.21. A visual inspection of each lighting column and illuminated traffic sign post should be carried out at every cyclic maintenance or repair visit and a report made, stating the equipment's condition and any remedial works required. Lighting operatives should have the competence to recognise specific defects in different types, materials and constructions of lighting columns and illuminated traffic sign posts and to assess the severity of the problem.

D.5.3.22. Consideration should be given to inspecting and analysing lighting columns or illuminated traffic sign posts when removed from service, due to accident damage or replacement. The general condition of the unit, particularly the root section, will give an overall guide as to the condition of other similar units in similar locations and of similar age.

D.5.3.23. Whilst visual inspections can provide a cost-effective means of assessing the general condition of the stock, they cannot identify internal or underground corrosion. The information determined from visual inspections should be recorded and used to develop further inspection and testing programmes as part of an overall assessment procedure for determining the condition of the stock.

Risk Assessment

D.5.3.24. A strategy for the management of the structural safety of lighting columns and illuminated traffic sign posts should be developed and implemented. This strategy should include risk management procedures for prioritising the inspection and testing of lighting columns and illuminated traffic sign posts and the development of non-destructive testing programmes to determine the structural integrity of these items.

Structural Testing

D.5.3.25. An assessment of the structural condition of lighting columns and illuminated traffic sign posts can be made by a number of methods. These methods vary from “indicative tests”, such as ultrasonic testing at critical points on the unit, to “strength tests”, such as a full dynamic test, where a unit is subjected to a load equivalent of the maximum design load and its deflection at ground level recorded. Indicative tests do not give a direct measure of the structural strength of the unit tested; the data has to be analysed to provide an indication of structural strength. Strength tests should provide an actual measurement of the residual structural strength of the lighting column at the time of testing.

D.5.3.26. Most of the tests and in particular the strength tests need to be carried out by specialist contractors with the correct equipment and procedures.

D.5.3.27. Structural testing should be carried out using a risk based approach. The risk based approach to structural testing should include the following factors for the testing of lighting columns and traffic sign posts:

- locations where the poor condition of the lighting columns has been established as a result of routine visual inspections or other reports;
- environmental conditions;
- lighting columns of greater than 8 m mounting height;
- other steel lighting columns on classified roads;
- steel lighting columns on other roads including residential streets;
- results of previous inspections and tests;
- age profile;
- homogeneous asset groups;
- known asset types with problems;
- luminaire conversions;
- unusual column foundations/footings;
- types of lighting column posing a significant risk (e.g. those fitted with unauthorised attachments; steel columns with right-angled door openings; steel columns with hot swaged joints and brackets with missing bolts or sealing gaskets; and pre-stressed concrete columns with poorly fitted or missing spacing plugs);

- non-galvanized steel columns may be more prone to failure than older steel lighting columns or newer galvanized lighting columns;
- areas of high and frequent wind exposure;
- lighting columns mounted on over-bridges; and
- volume of traffic.

D.5.3.28. The above criteria should provide sufficient detail on which the testing of steel lighting columns and illuminated traffic sign posts can be prioritised. However, each authority should establish its own priorities based on the types, ages and condition of their stock. The results obtained from the testing programme should be iteratively reapplied to update and refine the process and to ensure that the most appropriate priorities are being addressed.

D.5.4. LIGHTING COLUMNS AND ILLUMINATED TRAFFIC SIGN POSTS

Inspection and assessment of protective coatings

D.5.4.1. Lighting columns and illuminated traffic sign posts can be protected from the effects of the weather, pollution and other environmental elements. Steel lighting columns and illuminated traffic sign posts in particular will quickly deteriorate if they are not provided with a protective system such as hot dipped galvanizing. Further protection may also be given by the application of an additional protective system such as paint or powder coating.

D.5.4.2. The condition of lighting columns' and illuminated traffic sign posts' protective systems, including the finish to aluminium, stainless steel or composite materials, should be inspected at each maintenance visit and a report on its condition submitted by the service provider to the asset owner. Maintenance street lighting operatives should have the competence to recognise the different types of materials used in manufacture of lighting columns and illuminated traffic sign posts and the different types of protective systems applied, together with the potential defects and severity of the defects applicable to each.

Protective coatings and their application

D.5.4.3. The frequency for the reapplication of protective systems to lighting columns and illuminated traffic sign posts should be determined on a risk based approach taking account of the following matters:

- condition and age of equipment;
- condition of existing coating;
- level of atmospheric pollution;
- location of equipment;
- type of protective system used; and
- other environmental factors.

D.5.4.4. Further guidance on the application and maintenance of protective coatings can be found in National Highway Sector Scheme 19A and the lighting column technical forum.

D.5.4.5. Lighting columns are particularly vulnerable to corrosion underground and consideration should be given to extra protection to the root section and proportion of column directly above the ground.

D.5.5. LIGHT MEASUREMENT

D.5.5.1. The process for measuring lighting performance is set out in BS EN 13201-2:2015.

D.5.5.2. Lighting measurements can also be used to verify the failure point of LED luminaires, where this is due to parametric failure (the most common failure mode), and also for non-LED lighting systems, to verify that a lamp change has taken place as part of a bulk lamp change cycle.

D.5.6. TREES

D.5.6.1. The effect of trees on the performance of the lighting installation should be considered at the design stage and care taken to minimise the need for unnecessary pruning and damage to the tree throughout the expected life of the lighting installation. Account should be taken of the inevitable growth in height and spread of the tree, and help and advice sought from an arboriculturist at the design stage.

D.5.6.2. Care should be taken to avoid unnecessary damage to roots and branches when erecting or removing lighting columns or excavating cable trenches. See NJUG Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees for further details.

D.5.6.3. More details can be found in Section B.4 of this Code regarding siting of trees, and clearance for vehicles.

D.5.7. RELIABILITY OF DATA

D.5.7.1. Asset data management is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

D.5.7.2. Opportunities to ensure quality and reliability of data occur at a number of levels including:

- survey instructions and documentation;
- selection and appointment of staff;
- training;
- specification and procurement of surveys;
- audit procedures;
- survey procedures;

- data capture software;
- processing software;
- maintenance and calibration of equipment; and
- record keeping.

D.5.7.3. Considerable care should be taken in the derivation of locally enhanced versions of surveys to ensure that data can be extracted, without bias from the survey.

D.5.8. COMPETENCE

D.5.8.1. Competence of staff is dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part C. This document should be referred to and the advice below considered supplementary.

D.5.8.2. Employers of persons working on lighting installations, including client and contractor's personnel, must have a system in place to authorise and certify the level of competency of those employed and be able to demonstrate the necessary training and supervision to achieve and maintain the certified level of competency.

D.5.8.3. Regulation 16 of the Electricity at Work Regulations states that: "No person shall be engaged in any work activity where technical knowledge or experience is necessary to prevent danger or where appropriate, injury, unless he possesses such knowledge or experience, or is under such degree of supervision as may be appropriate having regard to the nature of the work".

D.5.8.4. Regulation 16 applies to any work relating to electrical equipment whether or not a risk of injury is actually present at that time.

D.5.8.5. Some work, such as testing, may need to be carried out on live equipment and must only be carried out by an appropriately trained, skilled and experienced person competent in these activities.

D.5.8.6. Competence requires training, technical knowledge and experience sufficient to provide:

- adequate knowledge of electricity
- adequate knowledge of the system to be worked on
- adequate knowledge of the hazards which might arise and the precautions to be taken
- adequate experience of electrical work
- adequate experience of working on the appropriate system; and
- ability to recognise at all times when it is safe for work to continue.

D.5.8.7. Operatives should be trained and instructed to ensure that they understand the safety procedures which are relevant to their work and should only work in accordance with any instructions or rules.

D.5.8.8. When operating or working on the DNO / IDNO cut-out the operative should be appropriately trained and, where necessary, approved by the DNO / IDNO.

D.5.8.9. In some circumstances, operatives will need to be supervised where their technical knowledge or experience is insufficient to ensure that they can carry out the work safely. Supervisors must have their responsibilities clearly explained to them by the duty holder, as defined in the Regulations, who must decide on the degree of supervision required.

D.5.8.10. Options for demonstrating on-site competence are National Highway Sector Scheme 8 (NHSS 8) and the associated Highway Electrical Registration Scheme (HERS) that sets out a reasonably practicable approach to the identification, achievement, recording and maintenance of competence. Some DNOs / IDNOs may require evidence of training and assessment to Electricity Association Engineering Recommendation G39/2 (which includes a reference to HERS). However reliance solely on G39/2 without additional training and assessment of competence would leave the employing organisation open to failures to meet the requirements of the Health & Safety at Work etc. Act, the Management of Health and Safety at Work Regulations, the Electricity at Work Regulations and the Construction Design and Management Regulations amongst others.

D.5.8.11. By law all gas engineers in the UK must be on the Gas Safe Register. Maintenance of gas equipment in lighting units should only be carried out by gas engineers registered with Gas Safe.

D.5.9. RECORDING OF INFORMATION

D.5.9.1. Information from all inspections and surveys, together with any immediate or programmed action, including nil returns, should be accurately and promptly recorded, monitored, and utilised with other relevant information in regular reviews of maintenance strategy and practice. This is particularly relevant in the case of safety inspections.

D.5.10. DEVELOPMENTS IN SURVEY TECHNOLOGY

D.5.10.1. Regular reviews of survey strategy should take account of new technologies and methods. This could include the use of in-vehicle location and communications technology to record the position of defects and to ensure that they are instantaneously recorded with the works gang. These defects should then be reviewed and prioritised for correction.

SECTION D.6. PROGRAMMING AND PRIORITIES – LIGHTING

D.6.1. INTRODUCTION

D.6.1.1. Programming and priorities are dealt with in the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG), Part B. This document should be referred to and the advice below considered supplementary.

D.6.1.2. The general principles to be applied to programming and priorities are outlined in Section A.8 of this Code, with this section covering guidance relating to lighting assets.

D.6.2. PRINCIPLES

D.6.2.1. A well-designed risk based cyclic maintenance programme will help to prevent the performance of the installation falling below the designed level; will identify any mechanical, structural, electrical or optical work necessary to maintain or increase the life of the installation; may reduce the incidence of faults; and check that the installation is safe.

D.6.2.2. Cyclical maintenance programmes should be determined taking account of all variables including lighting system, light source, luminaire sealing, age and type of equipment and other requirements such as electrical testing. Whilst it is desirable to carry out as many of these tasks as possible on a single visit, the tasks required and the competency of the workforce may limit the range of work that can be completed at one time.

D.6.2.3. The principles of maintenance are equally applicable to high-mast lighting. However, due to the added complexities of maintaining high-mast lighting, in particular the need typically to lower head frames for access for works, consideration should be given to carrying out a complete maintenance of the equipment, including group replacement of the lamps at appropriate intervals.

D.6.2.4. Luminaire maintenance intervals may be set to correspond with group lamp replacement. The luminaire maintenance intervals should be calculated taking account of the maintenance factor and suggested luminaire maintenance factors are given in BS 5489.

D.6.3. MANAGEMENT OF MAINTENANCE

Strategy

D.6.3.1. A lighting system requires inspection and maintenance to ensure that it is safe, operates correctly, continues to provide the designed performance and in order to maximise its useful life. Maintenance can be divided into two aspects:

- Routine or cyclical, a process of preventative maintenance carried out on a cyclical basis to help reduce or eliminate failures and to ensure the system is operating at its intended design outputs.

- Reactive, where failures of equipment are recorded and the equipment repaired or replaced.

D.6.3.2. An asset management strategy covering the details of the service provision and the targets it is intended to achieve, should be implemented. The targets should be related to the defined policies of the authority. Performance management is covered in Section A.7 of this Code, and also the HIAMG document.

D.6.4. DESIGN FOR MAINTENENCE

D.6.4.1. Equipment used in lighting systems should be selected, installed, maintained and operated to give a durable and efficient performance. Each item should be assessed for its potential life, availability, cost of spares and replacements, ease of maintenance, recycling/disposal and, when used in combination, compatibility with other components.

D.6.4.2. Initial cost is important but it is whole life costs that should guide the final selection of equipment, including;

- ongoing maintenance;
- energy;
- traffic management;
- carbon;
- disposal costs;
- performance of existing equipment; and
- initial capital procurement costs.

D.6.4.3. LED lighting is increasingly being deployed and there are often energy efficiencies from its use. However LED lighting systems are complex and appropriate guidance should be consulted before considering procurement.

D.6.4.4. The Institution of Engineering and Technology (IET) have published the Code of Practice for the Application of LED Lighting Systems and Recommendations for Energy Efficient Exterior Lighting Systems.

D.6.5. RECYCLING AND WASTE DISPOSAL

D.6.5.1. Lamps and luminaires have to be recycled where possible and disposed of appropriately. Most lamps are considered hazardous waste. Lamp and Luminaire Producer Schemes, funded by a levy on new products, exist to ensure the disposal of such equipment in line with the WEEE Regulations and Environment Agency requirements. Examples of these can be found via the links below (other compliant schemes are available):

- Lumicom; and
- Recolight.

D.6.6. COMMUTED SUMS

D.6.6.1. ADEPT has published guidance on the commuted sums mechanism, through which developers may be required to contribute to future maintenance of areas adopted by local authorities.

D.6.7. TRAFFIC SIGN AND BOLLARD MAINTENANCE

D.6.7.1. Cleaning of sign faces should be carried out in accordance with the asset owners risk assessment and policy. Optical inspection and cleaning of illuminated traffic sign luminaires should be carried out in conjunction with the group replacement of lamps, or more frequently if necessary, to ensure the conspicuity of the sign.

D.6.7.2. External cleaning of traffic bollards should be carried out in accordance with the asset owners risk assessment and policy. In areas of heavy traffic, and especially in winter, additional cleaning may be required. Such additional cleaning should be built in to the cyclic maintenance schedules. Optical inspection and internal cleaning of illuminated traffic bollards should be carried out in conjunction with the group replacement of lamps.

D.6.7.3. Solar powered bollards utilising battery storage will need maintenance in accordance with manufacturers guidance to ensure effective operation throughout the night

D.6.7.4. Further information regarding the maintenance of traffic signs can be found in Part B of this Code.

D.6.8. LAMP REPLACEMENT

Introduction

D.6.8.1. There are two options for the replacement of discharge lamps and the asset owner needs undertake a risk based approach to determining which of these strategies it uses:

- group lamp replacement; under which all lamps of a similar type and burning hours in a particular area or street are replaced at the same pre-defined time; and
- burn to extinction, under which lamps are replaced on failure.

D.6.8.2. The legal requirements for the illumination of certain mandatory traffic signs may influence whether a group lamp replacement strategy may be adopted.

Burn to extinction

D.6.8.3. A burn to extinction lamp replacement strategy will run all lamps until they eventually fail. The performance of discharge lamps depreciates over time and more significantly towards the point of ultimate failure, so just before failure the lamps will be emitting significantly lower levels of light than required by design. Best value will not be obtained from the electrical energy consumed, as at end of life lamps are performing well below optimal performance.

D.6.8.4. With a burn to extinction policy each individual lamp will fail at a different time to its neighbours, this may lead to a peak of replacements being required in the winter months when lamps are burning longer and the risk of failure is higher, this places peaks and troughs in the workload. Eventually each street will contain a mixture of new and old lamps, some giving more light than others and leading to patchy lighting levels. While this may not be acutely obvious, frequent changes in light levels will fatigue the driver's eye, resulting in a road safety hazard.

D.6.8.5. If a burn to extinction policy is adopted, then consideration should be given to introducing 'find and fix' night scouting. The alternative is that the authority will incur the financial and environmental cost of attending to widely dispersed and sporadic faults, which can be significant, both in urban and rural areas.

D.6.8.6. Burn to extinction has also not been seen as good practice in the past because lamp lumen depreciation would normally be included within any designed lighting solution and this would then advise when an installation would start to drop beyond compliant design standards. Extending the lamp life until the lamp actually fails will run the risk of the lighting solution failing to deliver the illumination required for the task in hand.

D.6.8.7. However, with the take up of LED, it is likely that Lighting Authorities will potentially operate these assets until failure which may be many years, while this may be the case, an authority should continue to understand that the lighting levels maintain their compliant design expectation.

Group lamp replacement

D.6.8.8. Bulk lamp replacement is intended to replace all lamps in a series well before they reach the point of failure and before they begin to perform sub optimally in terms of energy consumed for the light generated. Advantages of a well-planned bulk replacement programme are that it will ensure isolated lamp failures are minimised and that the lighting system performance is maintained at an appropriate level throughout the life of the installation. It will also help to ensure that there is a reasonably uniform workload and expenditure profile within and across the years.

D.6.8.9. The lamp replacement frequency should be determined by;

- the type of lamp;
- the manufacturer;
- the lamp wattage; and
- its annual hours of operation.

D.6.8.10. To take advantage of improved products, bulk replacement and cleaning intervals should be continually reviewed in line with the specific lamp manufacturers' performance predictions. In order to maintain their thermal characteristics LED lantern canopies may need more frequent cleaning of their external heat sink areas.

D.6.8.11. Authorities that adopt a policy of bulk lamp change but then do not replace isolated lamp failures as they occur, should be aware that this may actually increase energy consumption and the likelihood of premature failure of the control gear, when it continuously tries to ignite a failed lamp.

D.6.8.12. Group lamp replacement is generally seen as good practice reducing the risk of lighting solutions running below design standards.

D.6.8.13. The proactive lamp change model generally provides owners with improved Value for Money and lowering cost through planned lamp change regimes. This maintenance approach enables service planning and accurate forecasting which supports good asset management.

D.6.8.14. An assessment should be undertaken to determine whether a group replacement or a burn to extinction regime is most appropriate for the authority.

D.6.9. COMPATIBILITY OF COMPONENTS

D.6.9.1. Compatibility of appropriate replacement components or assemblies may be an issue. Generic substitutes may not have the same visual appearance or give the same lighting performance as the original equipment. The main issues to be considered are:

- Lighting Performance. The original design for lighting any given road, footpath or area usually depends on optimising a number of factors, environmental, optical and functional (relating to anticipated use). From this process the optimum choice of luminaire performance and their spacing and mounting heights will be determined to achieve a specific performance in accordance with the requirements of the following:
    - BS 5489-1:2013 Code of practice for the design of road lighting – Lighting of roads and public amenity areas;
    - BS 5489-2:2016 Code of practice for the design of road lighting – Lighting of tunnels;
    - BS EN 13201-2:2015. Road lighting. Performance requirements;
    - BS EN 13201-3:2015. Road lighting. Calculation of performance;
    - BS EN 13201-4:2015. Road lighting. Methods of measuring lighting performance; and
    - BS EN 13201-5:2015. Road lighting. Energy performance indicators.
- It is important that maintenance repairs do not introduce components (e.g. luminaires) or carry out adjustments (reflector positions, lamp positions, LED modules, surge protection, drivers) that affect the designed performance. Changes in luminaire type and / or LED modules will require assessment, prior to installation, to establish that the distribution and light control are at least equivalent either to that of the original installed or to the current requirements of the asset owner as set out in their policy;
- Many high-speed roads are often subject to restrictions on the times that access can be made available for maintenance activities and therefore every

effort must be made to ensure that lights not working are repaired and put back into full operation in the shortest time on-site. Maintenance activities on restricted access roads have to be planned in advance and this should allow the purchase of the correct luminaires to replace those that need replacement. Care should be taken when ordering replacement luminaires to ensure that to the performance matches those in situ on the road. Good records and knowledge of the lighting system will provide good guidance as to the quantity of units needed for maintenance purposes;

- Mechanical performance will also be affected by changes in mounting height, bracket out-reach, spigot angle and through the incorrect alignment of bracket and luminaire relative to the lit area;

- Lighting column replacement has to be considered on an individual basis as movement to a different location may affect light distribution and potentially reduce performance;

- Replacement control gear must be capable of operating the lamp no less efficiently than the original control gear. New or revised circuit wattages must be recorded in the inventory particularly as electronic ballasts have a lower consumption than wire wound ballasts;

- Operating hours. Photocells have standardised switching levels relating to a total number of operating hours per annum. The cells also have specific characteristics relating to power consumption, reliability and stability that effect the operating hours and the charging arrangements. Changes in photocell types and/or operating hours must be recorded in the inventory particularly as electronic cells have lower consumption than thermal cells and new cells typically have lower lux levels (e.g. 35/18) than those they replace;

- Increased weight, the replacement product should be checked for suitability with the structure that it is proposed to be fitted;

- Energy consumption of CMS nodes compared to that of any photocells being replaced; and

- CE Marking applies to lighting and associated equipment. Guidance on this is available in the HEA / HEA-HEMSA Guide to the Construction Products Regulations (CPR) and CE Marking.

SECTION D.7.
SERVICE AGREEMENTS

D.7.1. INTRODUCTION

D.7.1.1. To obtain or continue to have an unmetered supply an authority must comply with:

- the criteria identified in The Electricity (Unmetered Supply) Regulations 2001;
- the NMRO have issued guidance about compliance;
- a Connection agreement with the respective Distribution Network Operator(s) (DNO). This agreement will follow the national terms of connection; and
- the obligations described in the Balancing and Settlement Code (BSC) for unmetered supplies captured in BSCP520 and its associated documents.

D.7.2. SERVICE AGREEMENT

D.7.2.1. The provision of public lighting is dependent on the supply of electricity through the network of the DNO or an Independent DNO (IDNO). An IDNO is an embedded network within a DNO area increasingly used for new domestic or commercial developments. The obligations on IDNOs and DNO are the same.

D.7.2.2. Ofgem have set out a minimum level of service for new connections. This is currently covered under the Guaranteed Standards of Performance (GSoPs) set out by Ofgem. Departures from the GSoPs should mean that rebates for non-performance are made by the DNO / IDNO and if necessary, after exhausting the DNO / IDNO complaints procedure, recourse to Ofgem in terms of non-performance.

D.7.2.3. It should be borne in mind that following a decision in the High Court (PN Daly Ltd and United Utilities Electricity PLC v Wigan MBC, 2003), it has been established that the works involved in the connection and disconnection of street lighting and other items of street furniture to the electricity distribution system are not “street works”, but are “works for road purposes”.

D.7.2.4. Competitive arrangements are also now in place for connections, disconnections and transfers through the use of authorised Independent Connection Providers (ICP). DNOs / IDNOs are obliged to facilitate competition and also not to discriminate between their own business activities and that of competitors. Reference should be made in particular to the Competition in Connections Code of Practice.

D.7.3. PROCEDURES FOR NEW INSTALLATIONS

D.7.3.1. New installations include the following:

- new capital lighting schemes;
- road improvement schemes;

- provision of connections and/or disconnections;
- transfers; and
- new services.

D.7.3.2. The agreement or contact should detail the procedures to be followed by both parties when:

- placing orders;
- notifying that equipment is installed and ready for connection; and
- notifying that equipment has been connected.

D.7.3.3. In order for the ICP or DNO / IDNO to comply with the required response time for a new installation the authority will need to supply relevant information:

- an accurate location of the equipment involved including:
  - postcode;
  - asset number;
  - location, road name and, for example, side of, rear of, outside house number, etc;
  - a map of the area (minimum size 1:1250 with the apparatus highlighted); and
  - Ordnance Survey co-ordinates or GIS co-ordinates.
- a description of the work involved and the number of points involved.

D.7.3.4. The estimate from the ICP / DNO / IDNO should include the following information:

- a plan showing the extent of the works together with any civil engineering works (for instance ducts) required from the authority;
- a schedule detailing the estimated costs based on the standard schedule of rates where applicable; and
- a breakdown of contestable and non-contestable works

D.7.3.5. The authority may also request one or more ICPs to provide an estimate for the contestable elements. The authority, on accepting the estimate, shall provide an order for the works together with a programme of works.

D.7.3.6. On installation of the new equipment, or when existing equipment is ready to be disconnected/transferred, the authority shall advise the ICP / DNO / IDNO advising that the site is now ready for their works.

D.7.3.7. The authority should amend the Asset Management System accordingly as soon as practicable with all connections, disconnection and alterations. The relevant DNO / IDNO should also be recorded.

D.7.4. PROCEDURES FOR REPAIRS

D.7.4.1. The agreement or contract should detail the procedures to be followed by both parties when placing orders.

D.7.4.2. When the authority has identified a fault on a DNO / IDNO electricity service it shall notify the DNO / IDNO as soon as possible.

D.7.4.3. The DNO / IDNO shall respond to faults within or better than the timescales set out in the Electricity (Connection Standards of Performance) Regulations 2015 and the Quality of Service Guaranteed Standards.

D.7.4.4. The authority is responsible for providing a safe enclosure for the DNO service termination equipment and reporting any concerns or faults with the cut-out or service termination equipment.

D.7.4.5. The authority should monitor the DNO / IDNO performance in order to validate or, if required, claim rebates. It should be noted that the DNO / IDNO is required to pay rebates for non-performance, there is no requirement for these to be claimed by the customer. Authorities should appreciate the necessity to ensure that DNO / IDNOs are provided with accurate and reliable information in a timely manner when they are requested to carry out work. Failure to do so may lead to a failure to enforce any remedial action or rebates.

D.7.5. CUT-OUTS

D.7.5.1. Most authorities have the ability to operate the cut-out for the purpose of connecting internal wiring, withdrawing fuse carriers during maintenance of equipment and replacing failed fuse cartridges. This is included within ENA EREC G39/2 and the Competition in Connections Code of Practice.

D.7.6. ELECTRICITY SETTLEMENT INVENTORY

D.7.6.1. The Connection Agreement and the Balancing and Settlement Code (BSC) obligations require the authority to maintain an accurate inventory of all unmetered equipment. This inventory should be submitted to each of the DNOs who have connections on a frequency agreed with the DNO. If there are frequent changes to the inventory then this may be monthly but where few changes this may extend to annually.

D.7.6.2. The content and file structure of the inventory submission is defined in the BSC Operational Information Document. The parties may agree an alternative format.

D.7.6.3. The key data items are the Charge Code which is a 13 digit code defining the type of unmetered equipment and the Switch Regime defines the type of operation of the equipment (i.e. continuous, electronic photocell 35/18lux, or part night).

D.7.6.4. Generic LED Charge Codes and variable power switch regimes have been produced by Elexon.

D.7.6.5. The BSC website includes lists of approved Charge Codes and Switch Regimes and their associated information, such as chargeable watts. Equipment manufacturers apply for Charge Codes when they first place equipment on the market.

D.7.6.6. The asset management system should identify the relevant DNO / IDNO to which the equipment is connected and whether the connection is metered or unmetered.

D.7.6.7. Unmetered supplies are based on an assumption that the authority maintains an accurate and up to date inventory. Under the Connection agreement the DNO can audit the identified street furniture and the inventory records to identify material discrepancies. The Managing Unmetered Energy Street Lighting Inventories (MUESLI) covers the audit methodology.

D.7.7. TRADING ARRANGEMENTS

D.7.7.1. Unmetered supplies can be traded on a Half Hourly (HH) or Non-Half Hourly (NHH) basis. Most large unmetered supplies are traded on a HH basis.

D.7.7.2. NHH trading uses the inventory to determine an Estimated Annual Consumption (EAC) using predefined annual hours which differ across 14 areas of GB.

D.7.7.3. HH trading can utilise a PECU Array and/or CMS equipment switching information to give more reflective consumption data. The authority should contract with a BSC approved Meter Administrator to use the inventory and switching data to calculate HH data.

D.7.7.4. Authorities should procure energy through their corporate procurement arrangements who normally employ a specialist utilities procurement organisation.

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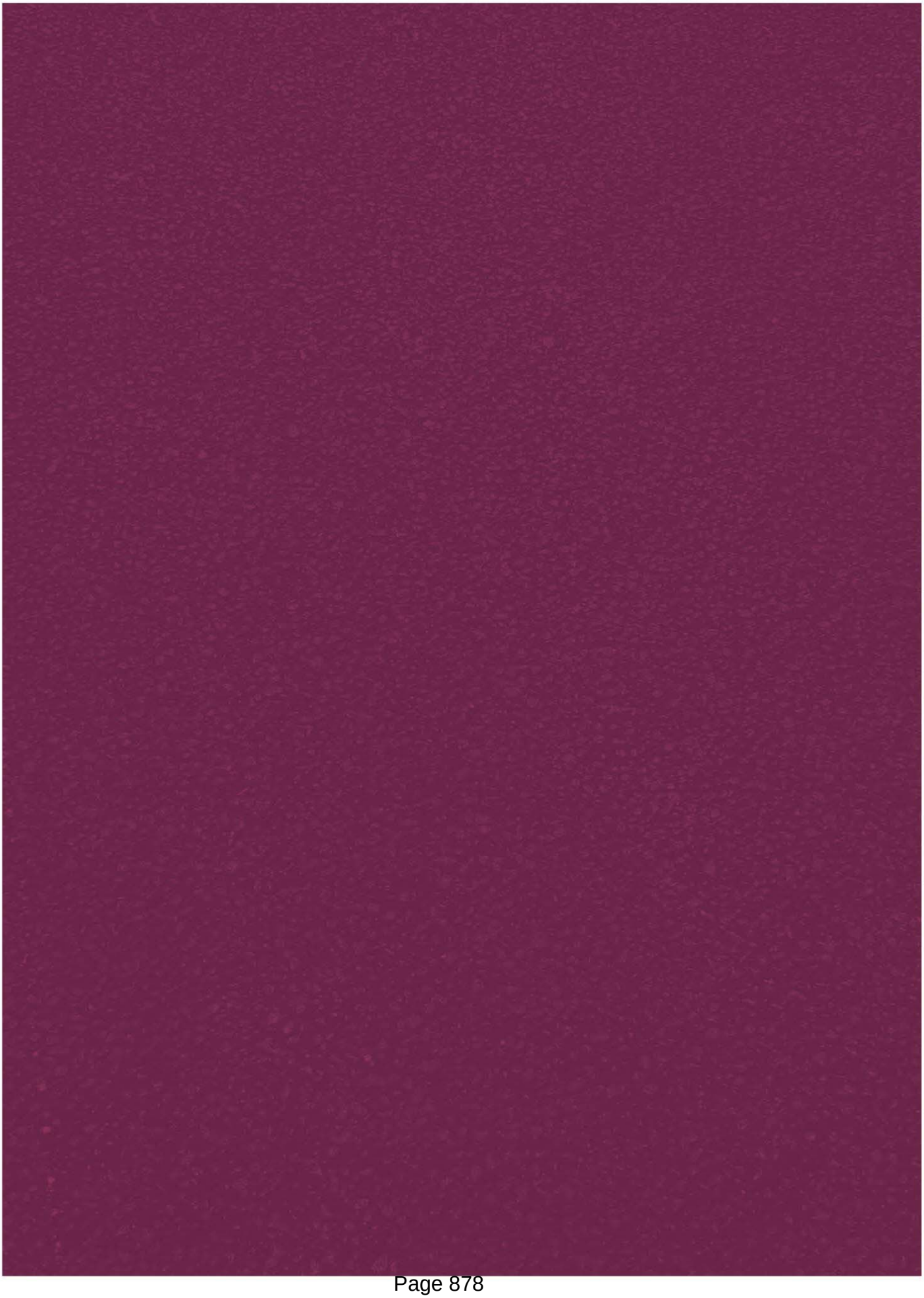
Disclaimer

Whilst every care has been taken in the preparation of this Code, the authors stress that it is intended for guidance purposes only. No legal liability is accepted for its contents and the code is not intended as a substitute for legal advice. The views expressed do not necessarily reflect those of the sponsoring organisations.



Roads Liaison Group

This is the latest version of Well-maintained Highways and it supersedes all previous versions.

A list of all changes introduced from the original Code together with the date of introduction is included at the front of the Code.

If you wish to look at a version of the Code highlighting all the changes from the previous version, please click here.

Older versions of the Code are archived on the UKRLG website here.

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Contents

Log of updates

Reference	Action	Date	Topic
2.1.7	New paragraph added Website amended	14 May 2009 27 April 2012	Maintaining a Vital Asset
2.2.4	Paragraph amended Website amended	7 May 2010 27 May 2011 27 April 2012	LTP guidance
Figure 2	Figure amended	7 May 2010	Hierarchy of UKRLG guidance
2.2.11	New paragraph added Paragraph amended Website amended	13 August 2010 27 May 2011 24 May 2013	CIPFA Code of Practice on Transport Infrastructure Assets
2.2.12	New paragraph added Website amended	13 August 2012 24 May 2013	HAMFIG
2.2.13	New paragraph added	13 August 2013	HMEP / UKRLG Highway Infrastructure Asset Management Guidance
2.3.18	Website amended	24 May 2013	Efficiency savings
2.4.1	Website amended	24 May 2013	Sustainable highway maintenance
3.7.3	Paragraph amended	29 November 2011	Institutional framework in Scotland
4.2.1	Websites amended Paragraph amended	27 April 2012 13 August 2013	Further advice and guidance
5.2.12	Paragraph amended Websites amended	29 November 2011 27 April 2012	National and Local Transport Policies in Scotland
5.4.6	New paragraph added Website amended	13 August 2010 27 May 2011	Asset management good practice
5.4.7	New paragraph added	27 May 2011	Asset management case studies
5.5.6	New paragraph added Website amended	14 May 2009 27 April 2012	Review of progress with TAMPs

Reference	Action	Date	Topic
5.5.7	New paragraph added Website amended	14 May 2009 24 May 2013	CIPFA review of accounting management
5.5.8	New paragraph added Website amended Websites amended	15 December 2009 15 December 2010 27 April 2012	Asset Management Quick Start Guidance Notes
5.5.9	New paragraph added	10 August 2011	Audit Commission report "Going the Distance"
5.5.10	New paragraph added Website amended	29 November 2011 27 April 2012	New Code of Practice
5.5.11	New paragraph added Websites amended	29 November 2011 27 April 2012	Design and Maintenance Guidance
5.5.12	New paragraph added	13 August 2012	HMEP Pothole Review
5.8.4	New paragraph added Paragraph amended Website amended	14 May 2009 15 December 2010 27 April 2012	Manual for Streets 2
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7.10.1	New paragraph added	13 August 2012	Signing the Way
8.3.6	Website amended	27 April 2012	Streetworks coordination
8.3.10	New paragraph added	7 May 2010	Report on Levels of Service

Reference	Action	Date	Topic
8.4.2	Website amended	24 May 2013	English Heritage
8.4.10	New paragraph added Paragraph amended Paragraph amended Website amended	7 May 2010 15 December 2010 27 May 2011 27 April 2012	Commuted sums
9.5.12	New paragraph added	14 May 2009	Cost of claims on footways
9.8.1	Website amended	27 April 2012	Skidding resistance
9.8.3	Paragraph amended Paragraph amended Website amended	14 May 2009 27 May 2011 27 April 2012	Horses slipping on negatively textured surfaces
9.10.3	New paragraph added	14 May 2009	Footways and Cycletrack Management Group
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Section 10 comments	New paragraph added	14 May 2009	National Indicators replace BVPIs
10.3.4	Paragraph amended	14 May 2009	National Indicators
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10.4.2	Paragraph amended	14 May 2009	Reporting footway condition
10.4.10	New paragraph added	15 December 2009	Footway Network Survey
10.7.11	New paragraph added	24 May 2013	HMEP Drainage Guidance

Reference	Action	Date	Topic
10.10.1	Website amended	27 April 2012	Safety barriers and fences adjacent to railway lines
10.17.1	New paragraph added	13 August 2010	The role of UKPMS
11.1.1	Website amended	27 April 2012	Performance management
11.8.8	Website amended	27 April 2012	Benchmarking groups
Section 13	Section amended	29 November 2011	Winter Service
13.4.2	Website amended	27 April 2012	Lessons from the Severe Weather February 2009
13.4.4	Website amended	27 April 2012	Secretary of State for Transport response
14.1.6	Website amended	27 April 2012	UKCIP Costing Guidelines
14.1.10	New paragraph added	13 August 2010	Climate Change Adaptation Plan
14.1.11	New paragraph added	13 August 2010	Climate Change Act
14.4.5	New paragraph added Website amended	14 May 2009 27 April 2012	The Pitt Review
14.4.6	New paragraph added Website amended	13 August 2010 27 April 2012	The Flood and Water Management Act
15.3.8	New paragraph added Website amended	14 May 2009 27 April 2012	Best Practice Guidelines for Surfacing
15.5.4	Website amended	27 April 2012	Highway Authorities Product Approval Scheme
15.8.4	Website amended	27 April 2012	Aggregates levy
15.9.1	Website amended	27 April 2012	Landfill tax
15.11.3	Website amended	27 April 2012	Biodiversity action plans
15.11.4	Website amended	27 April 2012	Highway verges
15.11.5	Website amended	27 April 2012	Highway verges
15.15.1	New paragraph added	14 May 2009	Climate change
15.15.2	New paragraph added	14 May 2009	Scottish Climate

Reference	Action	Date	Topic
			Change Study
15.15.3	New paragraph added	14 May 2009	Scottish Road Network Landslides Study
15.16.1	New paragraph added	14 May 2009	Sustainable highways
16.4.5	New paragraph added Paragraph amended	14 May 2009 7 May 2010	Highways Efficiency Liaison Group
16.6.6	New paragraph added	24 May 2013	HMEP Collaborative Alliances Toolkit
16.6.7	New paragraph added	13 August 2013	HMEP Standard Contract Documents
16.6.8	New paragraph added	13 August 2013	HMEP Standard Specifications
Appendix C comments	Addition to Appendix Website amended Comment added Website amended	15 December 2009 27 April 2012 27 May 2011 27 April 2012	Revised “Highway Risk and Liability Claims”
C3.4	Website amended	27 April 2012	Human Rights Act
D1.3	Website amended	27 April 2012	UKPMS systems
Appendix H	Appendix amended	18 September 2013	Winter Service Practical Guidance
Appendix H	Section amended	29 November 2011	Winter Service Issues
H4.3	Website amended	27 April 2012	Drivers’ hours guidance
H6.5	Paragraph amended	13 August 2012	Graded rock salt
H7.6	Paragraph amended	16 January 2012	Moisture Content for Salt
H7.20	Paragraph amended	16 January 2012	Storage Options
H8.13	Paragraph amended	16 January 2012	Determining Spreading Capability
H8.14	Paragraph amended	16 January 2012	Determining Spreading Capability
Figure H1	Figure amended	16 January 2012	Spreading Capability Flowchart
H9.3	Bullet points renumbered	16 January 2012	Target spread rates of salt for precautionary treatment

Reference	Action	Date	Topic
H10.9	Paragraph amended	16 January 2012	Depths of snow (light, moderate to heavy snow)
Appendix L	Website amended Paragraph amended	27 April 2012 13 August 2013	References

Foreword

The first Code of Practice for Highway Maintenance endorsed by the local government associations was published in 1983 and has subsequently been revised at intervals to take account of new and emerging developments in technology, policy and good practice.

Many of the key themes of the original Code, including the need for a robust regime of safety inspection and a planned investment programme based on whole life costs, are fundamental to highway maintenance. These have been retained throughout the different editions and continue in this 2005 edition of this Code.

In recent years the growth in traffic and its attendant problems throughout the UK has brought increasingly widespread recognition of the importance of highway maintenance, and the high value placed on it both by users and the wider community. There is also an increasing understanding of the serious consequences of failure to invest adequately and effectively in maintaining the local highway network, in particular the progressive deterioration of safety, reliability, and quality, eventually requiring even greater levels of investment in the future.

There are however even wider consequences. The highway network is a key and highly visible community asset, supporting the national and local economy and contributing to the character, and environment of the areas that it serves. The adoption of a Highway Asset Management Plan will enable authorities to manage these broader transport objectives, as well as the more detailed financial and technical aspects of highway maintenance planning. This edition of the Code gives much greater prominence to asset management and risk management than earlier editions. It also provides advice on the implications of the new Traffic Management Act 2004.

The potential contribution of the local road network extends far wider even than transport. It is fundamental to the economic, social and environmental well being of the community, and its management and maintenance should seek to maximise this wider contribution. Effective management of the local road network has the potential to aid regeneration, social inclusion, community safety, health and the environment, but this will need a planned long-term programme of investment, efficiently managed and supported by effective technical and management systems. This edition of the Code gives greater prominence to these wider objectives including new advice on such matters as providing for disabled people, addressing the particular needs of motorcyclists, integrated public space and townscape management, and planning for severe weather events. New check lists for maintainability and sustainability have also been developed.

Road users prefer reasonable consistency of standards irrespective of administrative boundaries, and this edition of the Code continues to encourage harmonisation so far as practicable, both between strategic and local roads and between adjoining authorities. The Code applies throughout the UK, whilst recognising the need for reasonable local discretion and diversity, and essential regional differences.

This edition of the Code also reflects the evolution of Best Value into a more broadly based performance improvement agenda based on Comprehensive Performance Assessment in England and similar emerging arrangements elsewhere. The performance management section has been completely rewritten.

The highway network is a most highly valued physical asset, both in financial and community

terms, for which public authorities are responsible. Effective stewardship and asset management is crucially important, both to users and the community. Authorities are recommended to adopt the principles of this Code, to adapt them as necessary based on consideration of local circumstances, and apply them consistently.

Section 1
Executive Summary

1.1 STRUCTURE OF CODE OF PRACTICE

1.1.1 This Code is set out in five Parts, each of which is divided into sections:

Part A Executive summary, introduction to the Code, its scope and purpose, with links to complementary advice;

Part B Policy and legal framework for highway maintenance within the context of best value and performance improvement;

Part C Principles for developing strategy and network hierarchy. Standards for inspections and condition surveys, investigatory levels, benchmarking and assigning priorities. Guidance on planning for Winter Service and emergencies;

Part D Guidance on procurement, financial management, sustainability and monitoring all service aspects;

Part E Appendices with more detailed information, including Glossary of Terms and References.

1.1.2 Recommendations are numbered within sections and are located for convenience at the end of each section. All recommendations are brought together in a brief non-technical summary published as a companion to the main Code.

1.2 OBJECTIVES OF THE CODE

- To encourage the adoption of asset management planning as a means of demonstrating value for money in the delivery of highway maintenance;
- To encourage the development, adoption and regular review of policies for highway maintenance, consistent with the wider principles of integrated transport, sustainability and best value;
- To encourage a focus on the needs of users and the community, and their active involvement in the development and review of policies, priorities and programmes;
- To encourage harmonisation of highway maintenance practice and standards where this is consistent with users' expectations, whilst retaining reasonable diversity consistent with local choice;
- To encourage the adoption of an efficient and consistent approach in the collection, processing and recording of highway inventory, highway condition and status information for the purpose of both local and national needs assessment, management and performance monitoring;

- To encourage the adoption and regular review of a risk management regime in the determination of local technical and operational standards, rectification of defects arising from safety and serviceability inspections and investment priorities;

- To encourage continuing innovation in the procurement of highway maintenance contracts, whilst complying with high standards of corporate governance.

1.3 STATUS OF THE CODE

1.3.1 The suggested recommendations of this Code are explicitly not mandatory on authorities. The key best value principle of requiring authorities to involve users in the design and delivery of service implies that authorities should have reasonable discretion to respond to such involvement.

1.3.2 Authorities also have certain legal obligations with which they need to comply, and which will, on occasion, be the subject of claims or legal action by those seeking to establish non-compliance by authorities. It has been recognised that in such cases, the contents of this Code may be considered to be a relevant consideration. In these circumstances, where authorities elect, in the light of local circumstances to adopt policies, procedures or standards differing from those suggested by the Code, it is essential for these to be identified, together with the reasoning for such differences.

1.3.3 The Code is based on the assumption that available funding for highway maintenance will provide some flexibility for authorities to pursue a regime of assessment and rational planning of programmes and priorities. Where this is not the case, statutory obligations for network safety will need to take precedence.

Section 2
Introduction

2.1 THE NEW EDITION

2.1.1 This 2005 edition of the Code of Practice for Highway Maintenance updates the 2001 edition to take account of significant changes in legislation, policy and practice.

2.1.2 The 2001 edition was originally developed by officers of UK national, devolved, and local governments in partnership with the Audit Commission. It was intended to encourage co-ordination and consistency in the delivery of local highway maintenance services and to facilitate sharing of developing best practice through a framework of guidance and standards.

2.1.3 The Code recognised the particular relevance of best value to highway maintenance, a highly valued and visible service with the potential to contribute significantly to the wider corporate objectives of local authorities. It was developed to follow closely the principle that services should be designed to meet the needs of users and the community, rather than the convenience of service providers and was designed to facilitate the conduct of fundamental service reviews to support continuous improvement. These principles still apply in the new edition.

2.1.4 The production of this edition has been overseen by the Roads Board and Roads Liaison Group (Figure 1), concurrently with the production of a new edition of the Code of Practice for Road Lighting, and a new Code of Practice for the Management of Highway Structures overseen by the Lighting and Bridges Boards respectively. These three Codes, together with the new Framework for Highway Asset Management published by the County Surveyors Society (CSS) in 2004 in conjunction with other Roads Board partners, provide an integrated family of best practice guidance for highway infrastructure management.

2.1.5 The Code is intended to apply throughout the United Kingdom and reflects where appropriate any key differences that exist in the Devolved Administrations. It also seeks to reconcile and harmonise maintenance practice on local and strategic road networks where this is practicable and consistent with the expectations of users, whilst retaining scope for local discretion and diversity.

2.1.6 This edition of the Code includes cross references to web sites with their associated links throughout. In the published version of this Code the web addresses are referenced by their short title for simplicity. Users will be required to use the website search engine to locate the reference. In the web version of this Code full web addresses are embedded beneath the short title, allowing users to go directly to the referenced site.

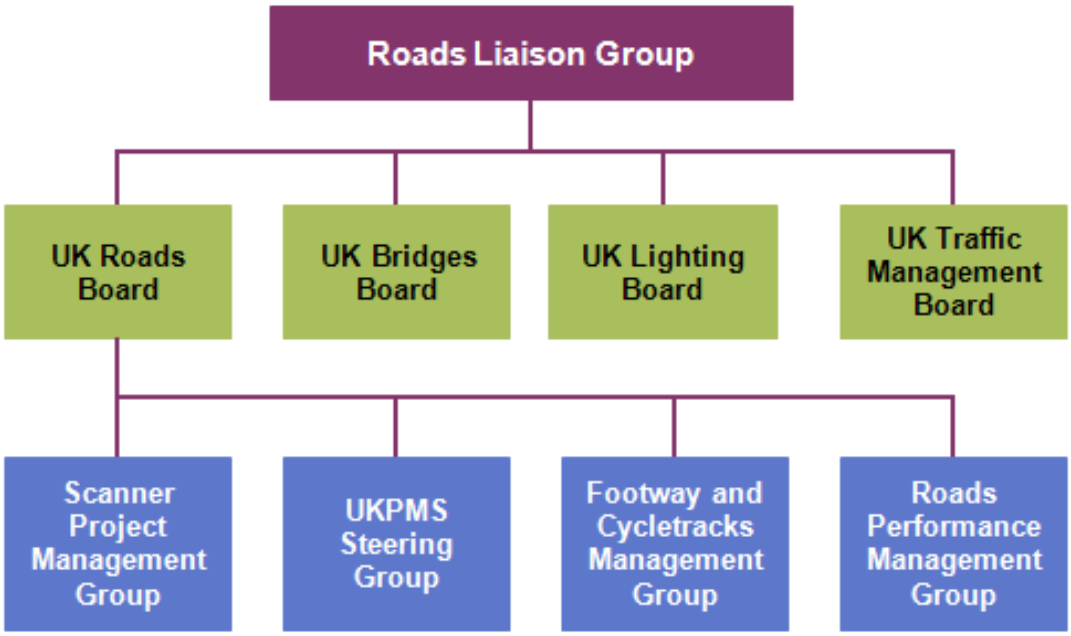


Figure 1 - UK Roads Groups

New Paragraph
Added 14 May 2009

2.1.7 Following the publication of these three Codes, the DfT published Maintaining a Vital Asset, a booklet aimed at highlighting the importance of maintaining the highway asset to Local Authority senior managers. The booklet, which was, at the time, endorsed by the DfT, the Welsh Assembly Government, the Mayor of London, the Scottish Executive and the Northern Ireland Office, commends the Codes to highway authorities. Maintaining a Vital Asset can be downloaded from the following website.

Website Amended
27 April 2012

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=88CFA222-7499-4AC3-9278D66380F2B30A

2.2 ASSET AND NETWORK MANAGEMENT

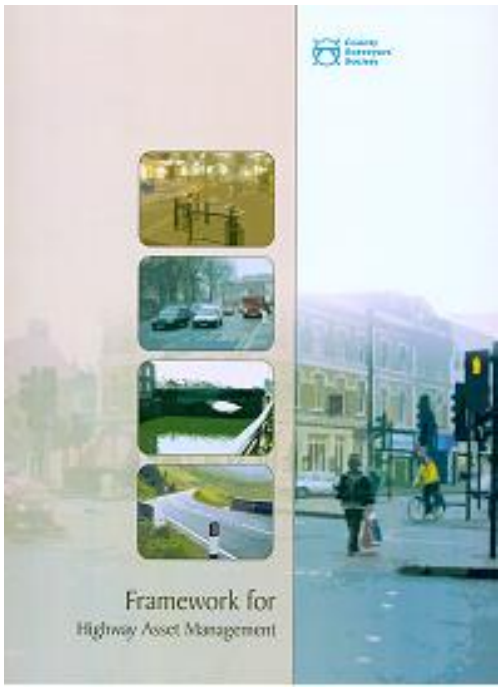
2.2.1 The importance of highway maintenance and its relevance to asset and network management has never been more widely recognised. The significant under-investment of earlier years is now being addressed, but signs of neglect are still widespread and visible on local roads, and continue to be the subject of considerable public concern. Acceptable standards of safety and serviceability have been difficult to maintain, and perhaps more importantly, the ability of the network effectively to fulfil its wider community contribution to quality of life has been severely compromised.

2.2.2 The response of most authorities to funding constraints has been to focus on limited short term repairs to the surface of carriageways and footways in order to address their legal responsibilities for safety and mitigate the financial consequences of claims. Necessary works of resurfacing and reconstruction have

been deferred as long as possible, well beyond the optimum point for treatment, with the result that progressive deterioration has continued and eventual costs of repairs increased.

2.2.3 The need for a new approach, recognising the considerable importance of the highway asset, linked to planned investment commensurate with its value, is addressed in the *CSS Framework for Highway Asset Management*, This publication provides:

- An introduction to the concept of asset management as it applies to UK highway networks;
- A framework for authorities who wish to introduce asset management to their business processes;
- Guidance on the preparation of asset management plans.



Paragraph Amended 7 May 2010

Paragraph Amended 27 May 2011

2.2.4 The theme of asset management was strengthened by Government guidance (www.dft.gov.uk) encouraging authorities in England to draw up Transport Asset Management Plans (TAMPs), as part of their preparation for the second round on Local Transport Plans (LTP). These asset management plans should be consistent with the advice contained in the CSS (now ADEPT) Framework document. In July 2009 the guidance for the third round of LTP was published, encouraging authorities to integrate TAMPs with LTP and stating that the TAMP should cover service levels, investment, risk assessment and monitoring process. The guidance may be downloaded from the following website:

Website Amended
27 April 2012

http://webarchive.nationalarchives.gov.uk/+/http:/www.dft.gov.uk/pgr/regional/ltp/guidance/fltp/fullguidanceonlocaltransport3657

Figure 2 shows the hierarchy of guidance relating to local transport planning, asset management and this Code.

Figure Amended
7 May 2010

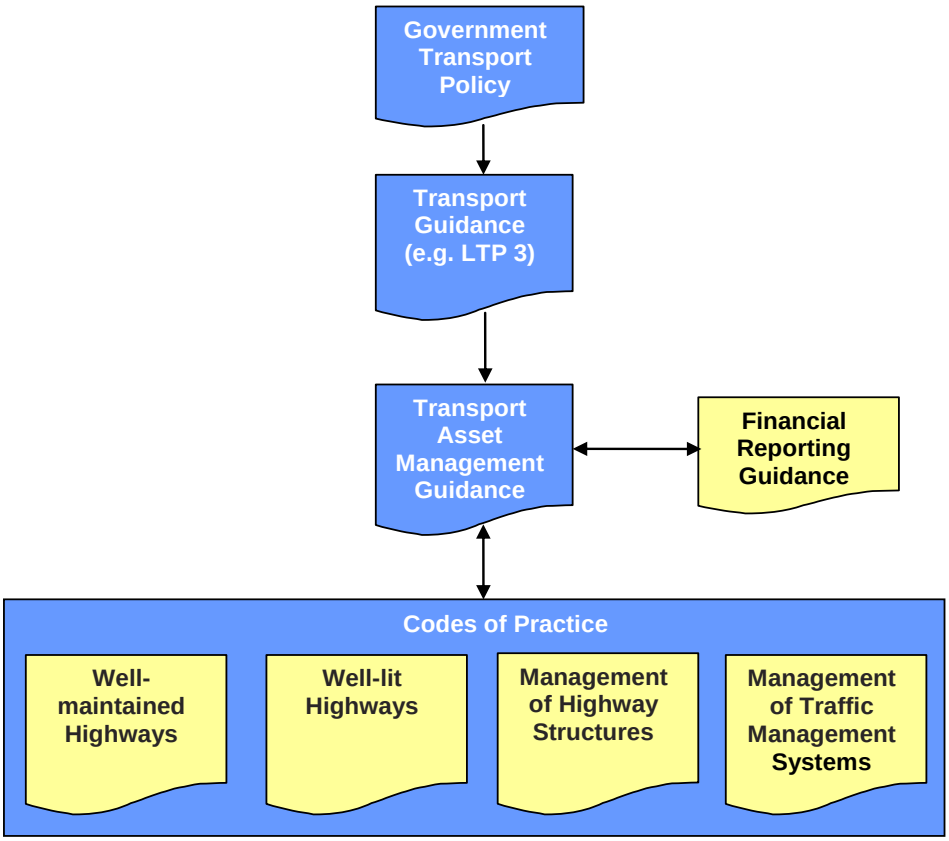


Figure 2 – Hierarchy of Guidance

2.2.5 The term TAMP has been used in the guidance to take account of wider assets related to the transport system (such as depots and bus facilities) owned by transport authorities, in addition to the highway network. For the purpose of this Code, since it exclusively concerns the highway asset, the term Highway Asset Management Plan (HAMP) will be used throughout. A HAMP will of course also include highway lighting, bridges and structures, which will have their own individual asset management plans, but will combine with highways to form the overall authority HAMP. A key aspect of the HAMP is asset valuation and CSS has commissioned the *Guidance Document for Highway Infrastructure Asset Valuation* which has been published concurrently with this Code.

2.2.6 The need for more effective funding and management of highway maintenance work was first addressed on the strategic highway network, where heavy traffic flows and the need for more consistent serviceability levels were more obviously apparent. In England, the Highways Agency (HA), secured higher and longer term

funding and applied this to a new and innovative regime of management and procurement, which is still developing. The outcome of these initiatives has been first to stabilise and then to reverse the decline in network condition for strategic highways, at least in England. Similar approaches are being pursued on the strategic network in other parts of the UK.

2.2.7 The Ten Year Plan targets to first arrest and then reverse the decline in the condition of local roads in England brought a similar urgency, and increased funding in recent years to those provided for the strategic highway network. These specific targets have now evolved into a more broadly based commitment to asset management which will hopefully provide the basis for continuing long term investment. Guidance for the second round of LTPs (www.dft.gov.uk) indicates that the DfT expects, as a minimum requirement, authorities to aim to ensure no overall deterioration in local road conditions from 2004/05 levels. They expect most authorities to be more ambitious than this, and to achieve significant improvements in overall condition over the second LTP period.

2.2.8 In other parts of the UK there has also been increased understanding, since the 2001 edition of this Code, of the extent of highway deterioration and its implications for local economies. Investment has increased along with expectations for improvements in road condition.

2.2.9 Highway maintenance and improvements also have the potential to increase traffic disruption, leading to increased congestion and consequent user dissatisfaction in the short term. Effective co-ordination and harmonisation, combined with careful and considerate design and programming of works, can avoid or significantly mitigate this, and this is recognised by the Traffic Management Act 2004, and similar legislation in the Devolved Administrations, which introduced a statutory duty for network management, including the appointment of a Traffic Manager. The implications of this are also reflected in the Code.

2.2.10 The new agenda for asset management and network management together provide the potential for a new and important approach in the funding and management of highway infrastructure. They provide the link between the value of the asset established by the HAMP and the value of access to or use of the asset (implied through fees and charges imposed by the Traffic Management Act).

New Paragraph
Added 13 August 2010

Paragraph Amended
27 May 2011

2.2.11 In 2010 CIPFA published a '*Code of Practice on Transport Infrastructure Assets: Guidance to Support Asset Management, Financial Management and Reporting*'. This new Code of Practice provides guidance on the development and use of financial information to support asset management, financial management and reporting of local transport infrastructure assets. It has been prepared at the request of the Government and implements a key recommendation from the CIPFA review of local authority transport assets which reported in 2008. The CIPFA code replaces the CSS (now ADEPT)/TAG Guidance Document for Highway Infrastructure Asset Valuation (2005). The Code should be used to report assets on a current value basis in Whole of Government Accounts. HM

Treasury has set a timetable for a gradual transition to reporting on this basis, starting with limited, unaudited data submissions for 2009/10, building up to a full audited dry run in 2011/12 and the withdrawal of historic cost-based reporting from 2012/13. The Code is available in book and CD-ROM format, both of which may be obtained from the following website:

Website Amended 24 May 2013

http://www.cipfa.org/Policy-and-Guidance/Local-Authority-Transport-Infrastructure-Assets

New Paragraph Added 13 August 2012

2.2.12 To support the implementation of the Code of Practice on Transport Infrastructure Assets, supporting material has been published in the CIPFA website. This supporting material has been developed by the Highways Asset Management Finance Information Group (HAMFIG) and can be downloaded from the following website:

Website Amended 24 May 2013

http://www.cipfa.org/Policy-and-Guidance/Local-Authority-Transport-Infrastructure-Assets/Local-Authority-Transport-Infrastructure-Assets-supporting-documents

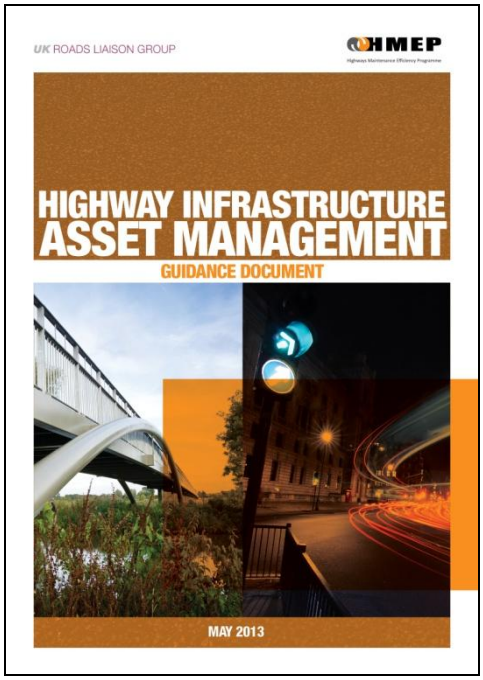
New Paragraph Added 13 August 2013

2.2.13 The Highways Maintenance Efficiency Programme has developed revised Highway Infrastructure Asset Management Guidance, which has been endorsed by the UK Roads Liaison Group, and supersedes the CSS Framework for Highway Asset Management published in 2004. This Guidance is aimed at local highway authorities and provides advice on how asset management principles may be used to support a more efficient approach to maintaining highway infrastructure assets. It includes 14 recommendations which should be considered in their entirety as the minimum requirements to achieve an appropriate level of benefit from asset management.

As a basis for providing a consistent approach to implementing this Guidance and its recommendations, a Framework for Highway Infrastructure Asset Management has been introduced. This sets out the activities that support asset management as:

- context of asset management;
- asset management planning process; and
- enablers to support implementation of asset management.

The Guidance document may be downloaded from the following website:
http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=5C49F48E-1CE0-477F-933ACBFA169AF8CB



2.3 THE CHANGING AGENDA

2.3.1 In addition to the emerging agenda of asset and network management there have been a number of other developments since the production of the 2001 edition of the Code. These are summarised below and dealt with in detail in subsequent sections. They include:

- Changes and potential changes in the institutional framework;
- Changes in performance improvement regimes and increasing user focus;
- Changes in funding regimes;
- Increased importance of risk and liability management;
- Changes in condition assessment procedure and technology;
- Increased importance of Public Rights of Way;
- Developments in procurement;
- Developments in urban space and integrated streetscene management;
- Increasing frequency of severe weather events;
- Increasing emphasis on sustainability and sustainable communities.

Changes and Potential Changes in the Institutional Framework

2.3.2 Devolved Government is the focus for transport policy in Scotland and Wales, managing directly the strategic network and in Scotland allocating local authority funding for a range of functions, including highway maintenance. In Northern Ireland, the Roads Service continues to manage both the strategic and local road network from within the new Department for Regional Development. In Wales local roads are managed by Unitary authorities. In England the HA provides strategic road management, with local roads being managed by a range of County, Metropolitan District, and Unitary authorities. In London the strategic network is managed by Transport for London Street Management, responsible to the Mayor, with local road management being undertaken by the London Boroughs.

2.3.3 There are major changes taking place in the delivery of highway maintenance in Scotland. Trunk road maintenance will be transferred to a new National Transport Agency in 2007. The parallel development by statute of Regional Transport Partnerships within the same timescale provides opportunities for a wholescale review of the split in responsibility between central and local government and a review of how highway maintenance, as part of the wider transport agenda, will be delivered in future.

Changes in Performance Improvement Regimes

2.3.4 The best value regime has evolved to provide greater flexibility for authorities in selecting services for review and inspection, whilst retaining the strong focus on users and the framework of performance indicators. It has been supplemented in England by Comprehensive Performance Assessment (CPA) which has a broader approach, and considers the overall corporate performance of authorities together with selected services. It also takes account of established indicators of performance, for example the LTP score. Similar developments are taking place in Scotland, where Best Value is strongly linked with sustainable development and corporate performance, and in Wales through the Programme for Improvement initiative.

2.3.5 Authorities performing poorly in CPA can be provided with assistance through the Improvement and Development Agency. Excellently performing authorities can achieve additional freedoms and flexibilities in the management of their services. There are also a range of initiatives where authorities are encouraged to seek recognition for excellence, including the Beacon Council (www.odpm.gov.uk) and the Charter Mark (www.chartermark.gov.uk) schemes. This combination of clear incentives and sanctions has established a robust performance management and improvement regime.

2.3.6 In England Local Public Service Agreements provide the opportunity for authorities to earn additional funding in return for undertakings to achieve stretched targets for Best Value Performance Indicators (BVPIs). These are now evolving into Area Public Service Agreements with a broader remit. Again similar broadly based schemes are emerging in other parts of the UK.

2.3.7 Through all the schemes there is a strong common thread of services being managed in an integrated way, each contributing to shared corporate objectives and priorities. Guidance for the second round of LTPs also identifies four shared priorities for transport. Highway maintenance policy and practice should be sufficiently flexible to respond and add value to a wide range of local

circumstances, whilst retaining the level of consistency expected by users, particularly for those parts of the network serving more than a local function. Conversely there will be some circumstances where highway maintenance policies should legitimately influence policies and priorities of other services.

Changes in Funding Regimes

2.3.8 These new performance improvement regimes are matched by changes to arrangements for funding and financial management. Key aspects of this are Single Capital Pot funding to be fully operational in 2006 and Prudential Borrowing. These are all closely linked, and HAMPs will be essential to support claims for funding from the Single Capital Pot and also to support borrowing under the Prudential Code.

2.3.9 HAMPs are now a requirement of LTPs and they will therefore be essential in securing the continuation of funding for many aspects of highway maintenance.

Increased Importance of Risk and Liability Management

2.3.10 The importance of risk management as a component of asset management is now more widely recognised, both at the strategic level to inform decisions on investment and priority, and at the operational level to improve regimes of defect inspection and repair. This is dealt with in more detail in subsequent sections of this Code.

2.3.11 In recent years there has been a general increase in the tendency for users to pursue claims against authorities, where injury or damage has occurred, and they consider there has been a failure on the part of the authority to maintain the highway to required standards. In the light of this trend the need is stressed, throughout this Code, for authorities to establish and publish clear strategy and policies, and maintain consistent detailed regimes of inspection, repair, recording and monitoring.

2.3.12 This Code has also been informed by the report from the Roads and Highways Liability Claims Task Group which is due to be published in Autumn 2005. The report, which is backed by extensive web-based content and references is summarised in Appendix C.

2.3.13 The Government has indicated its intention to bring forward new legislation to make it easier to prosecute charges for corporate manslaughter. There have been recent examples of the use of corporate manslaughter charges in cases involving highway maintenance and this is causing understandable concern. It is too early to assess the affect of any new legislation, but compliance with this Code, so far as possible, and obtaining clear approval from Members to policies and programmes, particularly any deviations from the Code, must be the best approach.

Changes in Condition Assessment Procedure and Technology

2.3.14 Condition assessment methodology has been evolving consistently since the 2001 edition of the Code, one effect of which has been to complicate the BVPIs and make ongoing comparison difficult. The National Road Maintenance Condition Survey (NRMCS), which has provided statistical information on overall strategic and local road condition for over 20 years, in England and Wales, has been

revised. The Scottish Road Maintenance Condition Survey (SRMCS) has recommenced based entirely on traffic speed (formerly TRACS type now referred to as SCANNER) surveys. These machine surveys are now required for principal roads and ongoing research is considering the extent to which they could be required for other classified roads. The intention of the machine surveys is to provide greater consistency and comparability of results, leading to more efficient use of resources.

Increased Importance of Public Rights of Way

2.3.15 Public Rights of Way, although part of the public highway network, have traditionally been regarded as primarily for leisure and recreation and have been managed and funded separately from the remainder of the network. Over the course of the second LTP period, Rights of Way Improvement Planning is to be progressively incorporated into local transport planning to ensure that the most effective use is being made of the rights of way network, in both urban and rural areas, in delivering better networks for walkers and cyclists. The Rights of Way Improvement Plans required by the Countryside and Rights of Way Act 2000 will be progressively integrated with LTPs. Guidance on the preparation of Rights of Way Improvement Plans is available from the Countryside Agency (www.countryside.gov.uk).

2.3.16 In Scotland the Land Reform (Scotland) Act 2003 requires authorities to designate Core Paths which play a particularly important role in the wider integrated transport network (www.scotland.gov.uk).

Changes in Procurement

2.3.17 A key area of performance improvement is that of procurement, with the expectation that Best Value Reviews should specifically consider the potential for competition in service delivery. The procurement regime has continued to evolve since the 2001 edition of the Code, with the introduction of the Capability Assessment Toolkit by the HA, developments in public private partnerships including PFI and a wide variety of partnering arrangements based on the principles of the Egan report, which are continuing to develop and evolve.

2.3.18 The *Gershon* efficiency review identified the potential for obtaining better value for money through collective purchasing, and the HA in England has subsequently been working with authorities to identify opportunities for this. The emerging output from this work and general developments in procurement are reflected in

this Code, so far as possible, and will be included in subsequent updates. In England authorities will be required to report progress towards achieving 2.5% efficiencies with at least 1.25% of this as cash savings.

Website Amended 24 May 2013

http://webarchive.nationalarchives.gov.uk/+/http:/www.hm-treasury.gov.uk/spending_sr04_efficiency.htm

Developments in Urban Space and Integrated Streetscene Management

2.3.19 The contribution of public space to Quality of Life was alluded to in the 2001 edition of the Code and there has been further development in this area, including the imminent publication of Regional Guides *Streets for All* by English Heritage in conjunction with DfT. Increasing importance of public space management has lead some authorities to introduce new arrangements providing an integrated streetscene approach. This combines maintenance with street cleansing and in some cases with new responsibilities under crime and disorder legislation.

Increasing Frequency of Severe Weather Events

2.3.20 Increasing frequency of severe weather events associated with climate change has brought new challenges for the highway maintenance service including, in some cases, considerable damage to the highway asset. This situation will need to be taken into account in authorities' risk management strategies, together with research on new materials and practice to mitigate its effects. Further advice on planning for severe weather events is given in Section 14.

2.4 TOWARDS SUSTAINABLE HIGHWAY MAINTENANCE

2.4.1 The impact of new taxes on landfill and mineral extraction are already affecting the economics of highway maintenance and influencing changes in practice particularly in the use of materials. Continuing increases in levels of the taxes accompanied by innovation could eventually make recycling and re-use, increased energy efficiency and reduced emissions the norm and drive further innovation.

Website Amended
24 May 2013

http://www.defra.gov.uk/environment/waste/legislation/

2.4.2 Perhaps the most important area of continuing challenge for highway maintenance is to maximise its contribution to sustainability. In order to deliver this challenge the community must understand the wider economic, social, and environmental implications of both the service and its individual schemes and how these relate to the best quality of life outcomes. This is a complex, difficult and presently not well understood process, but one that potentially could deliver the most long-lasting benefits not only to the community, but to the development, stimulation and motivation of all involved in service delivery.

Section 3
Purpose and Scope

3.1 OBJECTIVES OF CODE OF PRACTICE

3.1.1 The purpose of this Code of Practice is to encourage best practice in highway maintenance, within the new context of asset management and the new statutory duty of network management. Earlier editions of the Code were intended to encourage the use of sound management systems and defined minimum standards for maintenance practice within, what was then, a fairly stable procurement regime. This is now evolving, through asset management, into a more holistic stewardship of the highway, embracing both its operational role and its wider contribution to the community.

3.1.2 The Code recognises the need for local flexibility implied by the need to focus on the needs of users and the community. It encourages authorities to respond enthusiastically and creatively to the challenges posed by sustainability and the need for continuous improvement. From time to time, it includes examples of individual authority approaches, as a demonstration of good practice.

3.1.3 The objectives of the Code are:

- to encourage the adoption of asset management planning as a means of demonstrating value for money in the delivery of highway maintenance;
- to encourage the development, adoption and regular review of policies for highway maintenance, consistent with the wider principles of integrated transport, sustainability and best value;
- to encourage a focus on the needs of users and the community, and their active involvement in the development and review of policies, priorities and programmes;

- to encourage harmonisation of highway maintenance practice and standards, where this is consistent with users' expectations, whilst retaining reasonable diversity consistent with local choice;

- to encourage the adoption of an efficient and consistent approach in the collection, processing and recording of highway inventory, highway condition and status information for the purpose of both local and national needs assessment, management and performance monitoring;

- to encourage the adoption and regular review of a risk management regime in the determination of local technical and operational standards, rectification of defects arising from safety and serviceability inspections, and investment priorities;

- to encourage continuing innovation in the procurement of highway maintenance contracts, whilst complying with high standards of corporate governance.

3.1.4 This Code should be used by authorities as a benchmark against which to develop and review local highway maintenance policy and, where necessary, to identify the nature and extent of local variations.

3.2 CONTEXT FOR THIS CODE OF PRACTICE

3.2.1 The suggested recommendations of this Code are explicitly not mandatory on authorities. The key principle of best value, requiring authorities to involve users in the design and delivery of services, implies that authorities should have reasonable discretion to respond to such involvement.

3.2.2 Authorities however have certain legal obligations with which they need to comply, and which will, on occasion, be the subject of claims or legal action by those seeking to establish non-compliance by authorities. It has been recognised that in such cases, the contents of this Code may be considered to be a relevant consideration. In these circumstances, where authorities elect in the light of local circumstances to adopt policies, procedures or standards different from those suggested by the Code, it is essential for these to be identified, together with the reasoning for such differences. This is particularly important in the light of recent instances of the use of corporate manslaughter charges in highway maintenance cases and Government proposals to strengthen legislation in this area.

3.2.3 Authorities also now have a statutory duty for network management requiring them to achieve, so far as may be reasonably practicable, having regard to their other obligations, policies and objectives, the expeditious movement of traffic on their road network. This includes enhanced powers of co-ordination, regulation and direction for all road and street works including those by the authority. Highway maintenance will need to facilitate and support the authority in its network management role.

3.2.4 This Code is based on the principle that highway maintenance should be managed in accordance with the principles of best value and continuous improvement, as an important component of a more broadly based Highways Asset Management Plan (HAMP). The focus of maintenance management should be primarily on the condition of the infrastructure itself and the focus of the HAMP primarily on the level of service provided by the infrastructure. The core objectives

of highway maintenance are to deliver a safe, serviceable and sustainable network. These three objectives set the context of sound financial and risk management and define the framework both for the service and for this Code, including arrangements for inspection, standard setting and performance. They could also form the basis on which to develop outcome-based contracts.

3.2.5 Bearing in mind the established legal obligations referred to above, authorities should already have adopted reasonably consistent and well-defined approaches in addressing the safety objective. Practice in addressing the issues of serviceability and sustainability, where statutory obligations are less well defined, is more variable and the Code reflects this, but suggests that practice is reviewed and refined locally in the light of individual circumstances, including user involvement.

3.2.6 There are some legal obligations relating to serviceability, associated with the duty for network management and some others relating to sustainability from environmental legislation. In such cases, this Code reflects the statutory position and provides guidance on application.

3.2.7 This Code is designed to provide guidance for UK-wide application, and attempts to address the most significant differences between the Devolved Administrations of particular relevance to highway maintenance, but there will inevitably be some omissions of detail.

3.2.8 Detail has also been omitted in other areas, where operational policies, practice, and standards are well documented elsewhere and need not be replicated. In such cases, cross-referencing and indexing is provided together with weblinks, where appropriate.

3.2.9 The increased interest and emphasis on highway maintenance has brought a corresponding acceleration of research and technical developments. Best Value Reviews are also increasingly identifying new initiatives and developing good practice, especially in procurement. This Code therefore represents practice at the time of publication and will need to be updated from time to time.

3.2.10 Last but not least, this Code is based on the assumption that available funding for highway maintenance will continue to provide some flexibility for authorities to pursue a regime of assessment and rational planning of programmes and priorities.

3.3 TERMINOLOGY

3.3.1 The terminology established by the 2001 edition of the Code to improve consistency has been retained in this edition:

- adoption of the term ‘investigatory levels’ rather than ‘warning levels’, which reflects more accurately their status;

- adoption of the term ‘system intervention levels’ rather than ‘intervention levels’ to clarify that these are only applied automatically within the UKPMS system;

- adoption of the term ‘service inspection’ rather than ‘detailed inspection’ to maintain consistency with the defined maintenance objectives and to avoid confusion with Detailed Visual Inspections (DVI).

3.3.2 This edition of the Code also continues to retain industry rather than user definitions for parts of the highway. There is an argument for moving to user focussed definitions but, with much of the supporting documentation continuing to use industry definitions, such a change would need to be coordinated to avoid confusion. The main relevant definitions are:

- the term ‘carriageway’ is used for facilities used by motor vehicles;

- the term ‘footway’ is used for segregated surfaced facilities used by pedestrians. Where these are not immediately adjoining a carriageway the term ‘remote footway’ is used. The term ‘footpath’ is retained for other forms of Public Rights of Way (PROW). The term ‘housing footway’ is used for those footways serving predominantly housing areas, and may be unadopted as highways, but maintained by the authority as part of its housing function;

- the term ‘cycle route’ is used as the collective term for all segregated facilities used by cyclists. For more detailed definitions see Section 8;

- the term ‘running surface’ is used as the collective term for all hardened surfaces within the highway, including carriageways, footways and cycle routes;

- the term ‘pavement’ is used as the collective term for the construction of all running surfaces, particularly carriageways.

3.3.3 The Code is intended to apply to all parts of the UK and, where necessary, refers in detail to differences in legislation, policy and practice. There are however a number of differences in terminology which it would be inappropriate to repeat at length and in such cases the English term is used. The main items include:

- the term ‘highway’ is used to include ‘road’ or ‘street’;

- the term ‘Local Transport Plan’ (or policy) is used to include all similar arrangements;

- the term ‘authority’ is used to include all forms of national and local authority having responsibility for highway maintenance;

- the term ‘Winter Service’ is used to include all ice prevention, snow clearance and all forms of winter maintenance activity.

3.3.4 For further details of terms used in the Code, reference should be made to the Glossary of Terms in Appendix A.

3.3.5 Where the Code makes reference to supporting or complementary advice, for example UKPMS Rules and Parameters, all such references are to the most current version, unless otherwise indicated. A list of all documents referred to is provided as Appendix L.

3.4 PURPOSE OF HIGHWAY MAINTENANCE

3.4.1 The main purpose of highway maintenance is to maintain the highway network for the safe and convenient movement of people and goods. The core objectives of highway maintenance are to deliver a safe, serviceable and sustainable network, taking into account the need to contribute to the wider objectives of asset management, integrated transport, corporate policy and continuous improvement.

3.4.2 These objectives were established in the 2001 edition of the Code and have been modified only slightly in the light of experience:

Network Safety	• Complying with statutory obligations; • Meeting users’ needs for safety.
Network Serviceability	• Ensuring availability; • Achieving integrity; • Maintaining reliability; • Enhancing condition.
Network Sustainability	• Minimising cost over time; • Maximising value to the community; • Maximising environmental contribution.

3.4.3 Although most of these core objectives include or imply a focus on the needs of users, further developments in performance management since the 2001 edition of this Code suggested that a more explicit objective of ‘Customer Service’ should be adopted. This objective will apply to the highway service overall, as users may not be able easily to distinguish between maintenance and improvement works. This is dealt with in more detail in Sections 8 and 11.

3.4.4 The fourth sub-objective of network serviceability is now defined as enhancing ‘condition’ rather than ‘quality’, to be consistent with the approach of the Asset Management Framework and enable more objective measurement. The broader

'quality' aspects will be considered within the 'maximising value to the community' sub-objective of network sustainability.

3.4.5 Each of the core objectives is now equally relevant to the more broadly-based asset management function and the statutory network management duty. This close linking is an essential requirement for delivering an integrated user-focussed service and is emphasised throughout this Code.

3.5 SCOPE OF HIGHWAY MAINTENANCE

3.5.1 Highway maintenance is a wide ranging function, including the following general types of activity. These are explained in more detail as follows:

- reactive maintenance responding to inspections, complaints or emergencies;
- routine maintenance providing works or services to a regular consistent schedule, generally for patching, cleaning and landscape maintenance;
- programmed maintenance providing larger schemes primarily of resurfacing, reconditioning or reconstruction to a planned schedule;
- regulatory maintenance inspecting and regulating the activities of others. In England much of this will be undertaken by the Traffic Manager under the new statutory duty for network management;
- winter Service providing salting and clearance of snow and ice;
- weather and other emergencies providing a planned emergency response.

3.6 RELATED ACTIVITIES

3.6.1 There are a number of related functions, which are not dealt with in detail by this Code, but which could affect and be affected by highway maintenance activity. They also have the potential for value to be added through cooperation and co-ordination. Such functions include:

- asset management, including production of the HAMP;
- network management, including implementation of the new statutory duty;
- highway development control, including securing commuted sums from developers;
- street cleansing, including integrated street management;
- town centre management, including use of public space;
- maintenance of sustainable drainage systems.

3.7 APPLICATION TO DEVOLVED ADMINISTRATIONS

3.7.1 This Code is intended to apply throughout the UK and has been drafted so far as possible to take into account the most important differences in statutory duties, policy and practice existing within England and the Devolved Administrations of Scotland, Wales, Northern Ireland and London.

3.7.2 The main strategic differences include:

- institutional framework;
- strategic and local transport policy;
- financial regime;
- key legal and statutory basis;
- statutory basis of best value and performance improvement;
- definition of performance indicators and targets.

3.7.3 The key aspects of most of these differences are dealt with in the relevant sections of the Code, but the main differences in the institutional framework are as follows:

England

- the DfT sets strategic policy;
- the Highways Agency (HA) is network operator for the motorway and trunk road network, which is maintained through an evolving procurement regime of Managing Agents and Managing Agent Contractors. Following the *Gershon*

efficiency review the HA are working with authorities in seeking efficiency gains from collaborative roads procurement;

- County and Unitary local highway authorities are responsible for local road maintenance through evolving and locally determined procurement regimes;
- the Audit Commission administers the statutory local authority performance improvement regime, involving Comprehensive Performance Assessment (CPA) and Best Value Performance Indicators (BVPIs).

London

- The Mayor and the Greater London Authority set strategic policy;
- Transport for London Street Management is responsible for maintenance of the strategic road network;
- the London Boroughs are responsible for local road maintenance through evolving and locally determined procurement regimes;
- the Audit Commission administers the statutory local authority performance improvement regime, involving CPA and BVPIs.

Wales

- The Welsh Assembly Government sets strategic policy;
- a framework of 'lead authorities' is responsible for maintenance of the motorway and trunk road network;
- local highway authorities are responsible for local road maintenance through evolving and locally determined procurement regimes;
- performance improvement is driven by Policy Agreements between local councils and Welsh Assembly Government and the Wales Programme for Improvement;
- a range of national and local performance indicators are collected annually and reported on by Wales Audit Office.

Paragraph Amended 29 November 2011

Scotland

- The Scottish Government sets strategic policy;
- Transport Scotland, an agency of the Scottish Government, is responsible for managing the operation and maintenance of the trunk road network through arrangements with private operating companies;
- local road authorities are responsible for local road maintenance through locally-determined procurement regimes;

- performance improvement on local roads is driven by a statutory duty of best value and a range of performance indicators reported annually by Audit Scotland; for trunk roads by annual Performance Audit Group reports and targets reported annually by Transport Scotland.

Northern Ireland

- The Department for Regional Development (DRD) sets strategic policy;
- the Roads Service, an Executive Agency within DRD, is responsible for maintenance of all roads;
- performance improvement driven by performance indicators published annually through an annual report.

3.7.4 There are also, however, a number of operational and practical differences, including:

- road and traffic characteristics;
- hierarchy differences, for example unclassified town centre streets with high traffic levels;
- climate;
- topography and ground conditions;
- users' expectations.

3.7.5 Road and traffic characteristics vary widely throughout the UK. For example, Northern Ireland has approximately 2.5 times the road length per head than other parts of the UK. Certain remote parts of Scotland depend upon the maintenance of extremely long cul-de-sacs, and self-sufficiency will be a crucial requirement for many island and peninsular communities. Some trunk roads in Scotland, indeed, have passing places.

3.7.6 There are obviously very different climatic conditions throughout the UK that will affect the extent of expenditure on weather sensitive services, particularly salting and snow clearing, but also, increasingly, assistance with flood protection.

3.7.7 Topography is also clearly different, especially in Wales and Scotland, and the existence of peat and other difficult ground conditions will have implications for the rate of deterioration and maintenance requirements.

3.7.8 Users' expectations will also vary widely, usually tempered by the reality of their situation. For example, a risk assessment of the need to retain emergency access to remote parts of Scotland or Northern Ireland may suggest compromises in management, which would be difficult to justify elsewhere. The dependency of the local economy on the highway network will also be a consideration. Many parts of the country will experience very considerable traffic resulting from tourism, with summer flows increasing in some cases by as much as a factor of ten over winter levels. This will inevitably affect the programming and procurement of works. It may also have implications for varying inspection frequencies and standards.

3.8 LOCAL HIGHWAY MAINTENANCE AUTHORITIES

3.8.1 Different arrangements for local highway maintenance apply throughout the UK. In England local roads are maintained either by County, Unitary, Metropolitan District or London Borough Councils. Some Shire District Councils provide highway maintenance services under the terms of agency agreements with County Councils, although the number has been reducing in recent years.

3.8.2 In Scotland and Wales, local highway maintenance is currently provided by the Unitary Councils, although in Scotland the Regional Transport Partnerships could provide this in the future. In Northern Ireland local and national road maintenance is provided by the Roads Service of the Department for Regional Development.

3.8.3 This Code is intended to be adopted by all authorities within the UK, which will have widely varying characteristics. Some authorities will manage predominantly densely populated urban areas, whilst others will be responsible for rural areas with widely dispersed settlements. Each will need to interpret the guidance provided in the Code to suit their own local circumstances, whilst retaining the broad consistency of approach sought by users.

3.9 ARRANGEMENTS FOR UPDATING AND REVIEW

3.9.1 It is intended to provide on-line availability and updating of the Code, and further details are provided in Section 18.

Section 4
Complementary Guidance

4.1 LIMITATIONS TO THE CODE OF PRACTICE

4.1.1 This Code provides guidance on the strategic planning and management of highway maintenance within the context of best value and performance improvement. It is not intended as a detailed technical reference for all aspects of highway maintenance or to repeat technical guidance available elsewhere. Areas referred to but not dealt with in detail include:

- network management;
- highway improvement and new construction;
- maintenance of bridges and structures;
- installation and maintenance of highway lighting;
- network management including management of utilities;
- details of maintenance of Public Rights of Way;
- management of street cleansing;
- highway improvements;
- integrated urban drainage management.

4.2 FURTHER ADVICE AND GUIDANCE

4.2.1 In recognition of the wider related areas that are not covered in detail, the Code makes reference where appropriate to complementary publications and guidance. A complete list of these is provided as Appendix L, but the most relevant items are:

Websites Amended
27 April 2012

Paragraph Amended
13 August 2012

- HMEP / UKRLG Highway Infrastructure Asset Management Guidance (http://www.ukroadsliaisongroup.org/en/UKRLG-and-boards/uk-roads-liaison-group/transport-asset-management-guidance.cfm);
- CIPFA's Code of Practice on Transport Infrastructure Assets (http://www.cipfa.org/policy-and-guidance/local-authority-transport-infrastructure-assets);

- Guidance on Local Transport Plans. Second Edition (http://webarchive.nationalarchives.gov.uk/+/http:/www.dft.gov.uk/pgr/regional/ltp/guidance/fltp/fullguidanceonlocaltransport3657);

- Well-lit Highways - Code of Practice for Road Lighting Management (http://www.ukroadsliaisongroup.org/en/UKRLG-and-boards/uk-lighting-board/welllit-highways.cfm);

- Management of Highway Structures - A Code of Practice (Autumn 2005)(http://www.ukroadsliaisongroup.org/en/UKRLG-and-boards/uk-bridges-board/management-of-highway-structures.cfm);

- Management of Electronic Traffic Equipment – A Code of Practice (http://www.ukroadsliaisongroup.org/en/UKRLG-and-boards/uk-roads-board/management-of-electronic-traffic-equipment.cfm);

- Code of Practice on Litter and Refuse issued under Section 89 of Environmental Protection Act 1990 (http://archive.defra.gov.uk/environment/quality/local/litter/code/index.htm);

- UKPMS Visual Survey Manual and other guidance (http://www.pcis.org.uk/index.php?p=25/42/0);

- ICE Design and Practice Guide Highway Winter Maintenance;

- Highways Agency Routine and Winter Maintenance Code;

- Codes of Practice for Network Management including the Statutory Duty and Co-ordination (www.dft.gov.uk).

Section 5
Policy Framework

5.1 STRATEGIC POLICY INTEGRATION

5.1.1 The planning and delivery of local services by authorities and others has historically tended to be undertaken within individual specialist departments, often in isolation from other services. At best, such arrangements did not provide opportunities for adding value between services, and at worst lead to unresolved conflicts between the policies, programmes and priorities of different services, consequently providing poor value for money and overall quality of service.

5.1.2 This was particularly the case with highway maintenance, which was often poorly integrated even with other highway works, to say nothing of wider policy areas. This tendency was exacerbated by financial restrictions, which until recent years had resulted in reductions in planned work and corresponding opportunities for policy co-ordination.

5.1.3 The requirement for policy integration is an important principle of Best Value, which has been further strengthened by the new Comprehensive Performance Assessment (CPA) regime. It requires authorities to define, in consultation with their community, overall strategic objectives, which may be unrelated to traditional service areas, thus creating a stimulus for policy integration. Typical strategic objectives would be:

- building safer communities;
- continually improving educational achievement;
- developing and supporting the local economy;
- developing social welfare and promoting health;
- protecting and improving the environment;
- reducing inequality and poverty;
- improving accessibility of services;
- improving social inclusion.

5.1.4 Significantly, none of these objectives relate specifically to transport, let alone highway maintenance, though clearly these have the potential to contribute in some cases very significantly to their achievement. They also, of course, have the potential to detract from the achievement of the objectives. The key requirements are therefore, to:

- identify key areas of interaction between highway maintenance and each of the corporate objectives;

- maximise so far as is practicable the contribution towards them;
- ensure that potential areas of conflict are resolved.

5.1.5 The Local Government Act 2000 required local authorities to produce Community Strategies although most are prepared by Local Strategic Partnerships. These strategies will also address transport and highways investment and need to align with highway maintenance policy. Community Strategies should, through engagement with local communities:

- set out a long term vision for an area focusing on improving the quality of life;
- contain economic, social and environmental objectives to ensure that the vision contributes to sustainable development objectives;
- produce action plans explaining how the long term vision will be delivered;
- develop a shared commitment to implementing action plans;
- set out arrangements for monitoring and reviewing strategies and reporting progress to communities.

5.1.6 Guidance on preparation of Community Strategies has been published by Government, together with proposals for rationalisation of the overall planning process (www.odpm.gov.uk). It is important that those involved in highway maintenance have a clear understanding of Community Strategies and are influential in shaping the wider policy framework. This is challenging but provides real opportunity to develop and present the service in a way which is likely to demonstrate more effectively its value to the community.

5.2 TRANSPORT POLICY INTEGRATION

5.2.1 The Government published its overall transport strategy 'The Future of Transport' in July 2004 taking forward the strategy originally set out in 2000 (The Ten Year Plan for Transport). This recognises the vital role that improving mobility plays in meeting the wider objectives for the economy and an inclusive society. The Government wants to ensure the benefits of greater mobility and access, while minimising the impact on other people and the environment, now and in the future. The strategy is built around three central themes:

- sustained investment over the long term whilst ensuring value for money;
- improvements in transport management, to achieve better value for money from both existing and new infrastructure;
- planning ahead of transport policies and programmes, sharing decision-making with regional and local stakeholders, ensuring that planning at regional and local levels is based on a shared view of priorities, deliverability and affordability.

5.2.2 The Government and the Local Government Association have agreed a shared priority for transport which captures the continuing aims of '*Improving access to jobs and services, particularly for those most in need, in ways which are sustainable: improved public transport; reduced problems of congestion, pollution and safety*'.

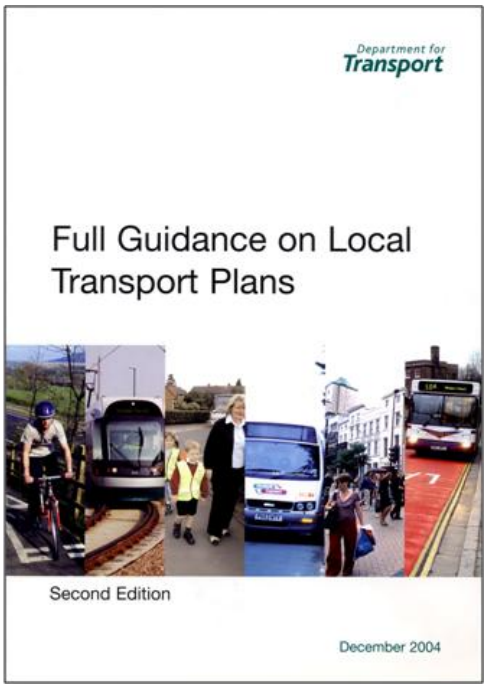
5.2.3 Guidance for the second round of Local Transport Plans (LTP) emphasises the need for setting transport in its wider context. Local transport planning, perhaps more than any other area of local policy needs to be joined up, with the wider planning and policy framework at the corporate level. LTPs will need to provide stronger evidence of an effective corporate approach and highway maintenance will play an important part in delivery of this overall strategy.

5.2.4 LTPs will also need to address the longer term strategy and its relationship to the five year LTP. All local transport authorities should maintain, review and update a local transport strategy separate from the LTP in which highway maintenance should be of prominent importance.

5.2.5 Policies for transport have also been developing within the Devolved Administrations and the most recent policy documents, at the time of publication of this Code, are summarised later in this section.

Identifying Value for Money Solutions

5.2.6 The LTP guidance states that authorities should follow two key principles of value for money asset management when preparing and delivering their LTP. Firstly, to achieve the best possible value for money, maintenance work must be carried out in good time. It is essential that authorities do not allow the total costs of maintenance to escalate, by allowing assets to deteriorate to the extent that routine maintenance is no longer possible. Similarly, authorities should aim to ensure that maintenance works are not carried out more frequently than necessary.



5.2.7 Secondly, authorities should consider carefully the future maintenance requirements of proposed new infrastructure. It may be that the whole life cost of a capital scheme will be such that the transport need that it is designed to address could be more efficiently met through less capital-intensive or even revenue-funded interventions. This 'Designing for Maintenance' issue is discussed further in Section 8 of this Code.

Highway Maintenance in the Wider Context

5.2.8 The guidance for LTP encourages highway maintenance to be promoted in the wider context. In developing their LTPs, authorities should consider the added value of maintenance in delivering the wider objectives. There are direct and indirect benefits arising from maintenance in the wider context of delivering a transport strategy. Authorities need to determine ways of identifying spending in value for money terms.

5.2.9 Safety benefits from maintenance should be considered as part of the overall investment choice and as such should assist authorities to demonstrate value for money as part of their transport programmes.

5.2.10 Economic benefits created through effective road maintenance should be considered, through the promotion of maintenance on the existing network to improve accessibility. This could also improve the street environment, improving access from deprived communities to jobs and key services, improving the availability of transport, improving road safety and supporting economic growth. Measures such as improved access to jobs, and reduced congestion can impact positively on economic vitality.

5.2.11 Transport-related noise is an important quality of life issue for many communities. As part of highway maintenance schemes authorities could reduce existing sources of problem noise and minimise any adverse noise impacts of new proposals. This may, for example, include the maintenance of highway surfaces, and the design of traffic management.

5.2.12 Although the policy theme of transport integration is common throughout the UK, there are differences of expression and emphasis within the Devolved Administrations. The basis of national and local transport policy in the various parts of the UK are as follows:

Websites Amended 27 April 2012

England

- The Future for Transport - A Network for 2030. White Paper July 2004 (http://webarchive.nationalarchives.gov.uk/+/http:/www.dft.gov.uk/about/strategy/whitepapers/previous/fot/);
- Regional Transport Strategies (http://www.dft.gov.uk/webtag/overview/regional.php);
- Local Transport Plans Second Round From 2005/6 (www.dft.gov.uk).

London

- Mayor's Transport Strategy (http://www.tfl.gov.uk/corporate/11610.aspx);
- Borough Local Implementation Plans, to be submitted by July 2005 (www.tfl.gov.uk).

Wales

- The Transport Framework for Wales November 2001 (http://webarchive.nationalarchives.gov.uk/20031220221857/http:/www.wales.gov.uk/subitransport/content/policy/framework/framework-full-e.pdf);
- Wales Transport Strategy- required by the Transport (Wales) Bill 2004 (http://www.parliament.uk/documents/commons/lib/research/rp2005/rp05-004.pdf);
- Local Transport Plans (http://wales.gov.uk/topics/planning/policy/developplans/?lang=en);
- Proposals for Joint Transport Authorities (www.walesoffice.gov.uk).

Paragraph Amended 29 November 2011

Scotland

- Transport (Scotland) Act 2005 (www.scotland.gov.uk)
- Scotland's National Transport Strategy, April 2006 (www.scotland.gov.uk)
- Local Transport Strategies (www.scotland.gov.uk)
- Regional Transport Strategies (www.transportscotland.gov.uk)

- Maintaining Scotland's Roads, Audit Scotland, November 2004 (www.scotland.gov.uk)

- Maintaining Scotland's Roads - a follow-up report, Audit Scotland, February 2011 (www.scotland.gov.uk)

- Strategic Transport Projects Review, Transport Scotland, October 2009 (www.transportscotland.gov.uk)

Northern Ireland

- Regional Development Strategy, September 2001 (www.drdni.gov.uk);

- Regional Transportation Strategy, July 2002 (www.drdni.gov.uk);

- No specific local policy framework: the Department for Regional Development (DRD) is the sole roads authority (www.drdni.gov.uk).

5.2.13 All policy documents acknowledge the importance and priority to be given to highway maintenance. The previous 'Ten Year Plan for Transport' in England went further than this and identified targets to arrest the deterioration in the condition of local roads by 2004 and to eliminate the backlog by 2010.

5.2.14 Current national policy, 'The Future for Transport', makes little explicit reference to highway maintenance and new LTP guidance does not now expect authorities to set local targets to abolish maintenance backlogs by a particular date, where the authority would consider such a target to be unrealistic. DfT will however expect, as a minimum requirement, local authorities to aim to ensure no overall deterioration in local road condition from 2004/05 levels. DfT will expect most authorities to be more ambitious than this, and to achieve significant improvements in overall condition over the second LTP period.

5.2.15 In England the 2004 National Road Maintenance Condition Survey (NRMCS) shows that the target in the Ten Year Plan of arresting deterioration on the local authority network has been met. However, there remains concern regarding footway deterioration.

5.3 INTEGRATED NETWORK MANAGEMENT

5.3.1 Highway maintenance policy needs to be developed integrally with the overall management of the network. Transport users, whatever their mode, do not distinguish between categories of road, or types of work, whether maintenance or improvement. It is irrelevant to them who is undertaking the work, whether local authority, contractor or utility. They expect the network to be managed and maintained holistically to provide consistent and appropriate levels of service and the ability to change modes as easily as possible.

5.3.2 The Traffic Management Act 2004 now provides a legal basis for this expectation. The Act imposes a duty on local authorities in England to secure the expeditious movement of traffic on the authority's road network and to facilitate the same on other authorities' networks. The Transport (Scotland) Bill provides for a Roadworks Commissioner who will have overall monitoring role and take charge of the roadworks register currently run by the Roadworks and Utilities Committee. The Scottish Bill omits many of the detailed requirements of the English legislation.

5.3.3 The Act requires that all works on the highway network, including maintenance, improvement, and new construction, are planned and managed integrally and also have regard to other influences on the network. It requires all those undertaking works on the highway to co-operate with the authority and each other. The framework of permits and sanctions is strengthened and authorities are expected to deal even-handedly with their own works.

5.3.4 Users expect reasonable consistency of policy, standards and levels of service on similar categories of highway, irrespective of the responsibility for maintenance, which implies that all authorities, both local and national should seek to deliver these expectations wherever possible. Authorities should consider the needs of all road users, particularly vulnerable road users, for example cyclists and motorcyclists, in planning and managing the network. This has special implications for the maintenance function, as when schemes are planned and programmed there may be an opportunity to incorporate added value to the safety, priority, integrity or quality of:

- footways and crossing facilities (particularly for older and disabled people);
- cycle routes and crossing facilities;
- riders of motorcycles;
- horse riders and crossing facilities;
- facilities for public transport and users (and also to influence reliability);
- facilities for freight movement.

5.3.5 Planning for highway maintenance should also take into account and add value to other elements of local transport strategy, wherever possible including:

- Quality Bus Partnerships;
- Quality Freight Partnerships;
- Accident Reduction and Prevention Programme;
- Safer Routes to School and Travel Planning;
- Routes to Stations and Other Interchange Facilities;
- Urban and Rural Regeneration Programmes.

5.3.6 Planning and budgeting for highway maintenance should also recognise that integrated transport, especially in urban areas, is likely to result in a more complex and diverse streetscene. A wider range of more expensive signs, road markings, coloured surfacing and other materials may be necessary for regulation and management. The overall maintenance cost of keeping this more complex arrangement in good order is still likely to increase.

5.3.7 Increasing emphasis on quality of public space and streetscene brings increased importance to the avoidance of 'clutter'. Signing which is inappropriate or no longer necessary is, at best, intrusive and, at worst, a distraction and risk to users. The removal of such signing clutter should be an essential feature of maintenance and improvement schemes. This is dealt with further in Section 15.

5.3.8 The deregulation of public transport (except in London and Northern Ireland), also means that the routes of services may be less predictable and vary more frequently, and close liaison with operators will be necessary if works are to be co-ordinated so as to minimise disruption to public transport users. New forms of public transport, including light rail and guided bus schemes, are also bringing new challenges for maintenance, especially Winter Service.

5.4 HIGHWAY ASSET MANAGEMENT

5.4.1 Arrangements for the management of highway maintenance need to be set within the context of an overall asset management regime. The development of a Highway Asset Management Plan (HAMP) is fundamental to demonstrating the value of highway maintenance in delivering the wider objectives of corporate strategy, transport policy and value for money.

5.4.2 Well maintained local transport assets, including roads, footpaths, bridleways and cycle paths, are essential to the delivery of better transport outcomes. They encourage walking and cycling, and contribute to road safety outcomes. They promote the quality and comfort of bus services, improve journey ambience, minimise wear and tear to vehicles and promote better environmental outcomes including emissions and noise. Well maintained roads, footways, footpaths, streetlights, street furniture and public rights of way, make an important contribution to the quality and liveability of public spaces.

5.4.3 The theme of asset management is strengthened by Government guidance encouraging local authorities in England to draw up Transport Asset Management Plans (TAMPs) as part of the second round of LTP preparation consistent with the advice contained in the CSS Framework document. A report on progress will be required as part of the provisional submissions.

5.4.4 These plans must be set in the context, where necessary, as well as being consistent with the arrangements established by the authority for the management of its wider asset base. This will include land, property and other key owned or leased assets used for the service delivery and its wider local democratic role.

5.4.5 The need for asset management plans is not yet a specific policy requirement in other parts of the UK but is likely to increase in importance. In Scotland the report 'Maintaining Scotland's Roads', published by Audit Scotland in November 2004, effectively introduced a requirement for authorities to produce asset management plans.

New Paragraph
Added 13 August 2010

5.4.6 In 2008 the DfT announced a support package for authorities to assist them in the implementation of transport asset management. As part of this package, authorities who could demonstrate innovative use of data in making investment and maintenance decisions on the highway were invited to apply for additional funding. A condition of access to this funding was that the authority act as a regional champion, working with the region, to disseminate improvements in highway maintenance achieved through better use of data. The successful applications have been published in the website of the Highways Efficiency Liaison Group and can be downloaded from the following address:

Website Amended
27 May 2011

http://helg.org/category/knowledge-bank/asset-management-case-studies/

New Paragraph
Added 27 May 2011

5.4.7 The Highways Efficiency Liaison Group (HELG) has published a series of case studies to help the public and private sector improve the efficiency of highway maintenance through better highways asset management. Fourteen case studies covering asset management activity in over 50 highway authorities have been made available on the following address:

http://helg.org/category/knowledge-bank/asset-management-case-studies/

5.5 ASSET MANAGEMENT PLANS

5.5.1 The guidance for preparation of LTPs encourages local authorities to prepare TAMPs, informed by LTPs and other services and corporate plans. It advises that the compilation of an asset management strategy will provide an authority with a tool to:

- support the corporate provision of detailed information on the assets held by the whole authority, enabling better definition of longer term corporate need and continual challenge to asset holding and use;
- establish and communicate a clear relationship between the programme set out by the TAMP and the authority's LTP targets and objectives, and ensure that existing assets are in a condition compatible with the delivery of the LTP;
- obtain and organise information to support the forthcoming (2006/7) requirement for Whole Government Accounting (WGA);
- enable the value for money of local road maintenance to be considered more effectively against other local transport spending, and eventually assist local transport strategy and plan development.

5.5.2 Effective asset management planning will provide the means for authorities to understand the value and liability of their existing asset base and make the right strategic decisions, to ensure this base is exploited to its full potential and its value safeguarded for future generations.

5.5.3 LTPs should include a TAMP report setting out the state of each local authority's progress in developing effective asset management planning, what has already been achieved, and any remaining challenges. As well as detailing progress towards a whole life maintenance approach for existing assets, the TAMP report should cover briefly such issues as the ambition and realism of LTP asset management targets, the whole-life maintenance resource implications of the major and other integrated transport schemes proposed in their local transport plans, and the implications of any LTP proposals to delay or bring forward maintenance work.

5.5.4 The HAMP will be the key component of the TAMP and typically will include:

- a set of objectives and policies linked to business objectives;
- an asset register (or inventory);
- levels of service;
- maintenance strategies for the long term based on sustainable use of physical resources and whole life costing;
- identification of future funding requirements to maintain required level of service;
- managing risk of failure or loss of use;

- development of co-ordinated forward programmes for highway maintenance, operation and improvement;

- measurement of performance and continuous improvement.

5.5.5 These principles underpin this Code and are dealt with in more detail in the relevant sections. It is important however to stress the importance of risk management.

New Paragraph
Added 14 May 2009

5.5.6 A review of progress with TAMPs was commissioned by the DfT and was completed in January 2008. The report concluded that, although some progress has been made with the development of TAMPs, there is still scope for improvement. The report can be downloaded from the following website:

Website Amended
27 April 2012

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=A2D213C9-93A1-4028-AABA67F90BFE3E82

New Paragraph
Added 14 May 2009
Website Amended
24 May 2013

5.5.7 A report was commissioned by the Government to review the accounting, management and financing mechanisms for local authority transport infrastructure assets. The report, published in June 2008, concluded that comprehensive transport asset management has the potential to deliver significant value for money benefits and improvements in the services delivered to users. The timetable for implementing transport infrastructure asset valuation was also included in the report. The report can be downloaded from:

www.cipfa.org/Policy-and-Guidance/Local-Authority-Transport-Infrastructure-Assets

New Paragraph
Added 15 December 2009

5.5.8 The UK Roads Board has produced four Quick Start Guidance Notes on asset management, namely G*etting Started, Levels of Service, Risk Management* and *Life Cycle Planning.* The notes form part of a suite of documents and give an overview of asset management, aiming to help local authorities to progress the implementation of an asset management approach. The guidance notes can be downloaded from:

Website Amended
15 December 2010
Websites Amended
27 April 2012

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=B1A03B50-4D13-456F-B45408A73F631831

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=371E63ED-62FF-4CD4-B37E57DB4787DCF1

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=F5B62661-EDE7-4727-9B38646FC5AAC56F

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=39C30344-3594-4BAF-A60C6D4C59CF3EBF

New Paragraph
Added 10 August 2011

5.5.9 The Audit Commission published a report on highway maintenance titled *Going the Distance: Achieving better value for money in road maintenance*. The report highlights how councils can get more for their money, including cost-saving collaborations with neighbours, asset management to show when road maintenance will be most effective, new ways of keeping residents informed, and weighing short-term repairs against long-term resilience. The report may be downloaded from:

http://www.audit-commission.gov.uk/nationalstudies/localgov/Pages/20110526goingthedistance.aspx

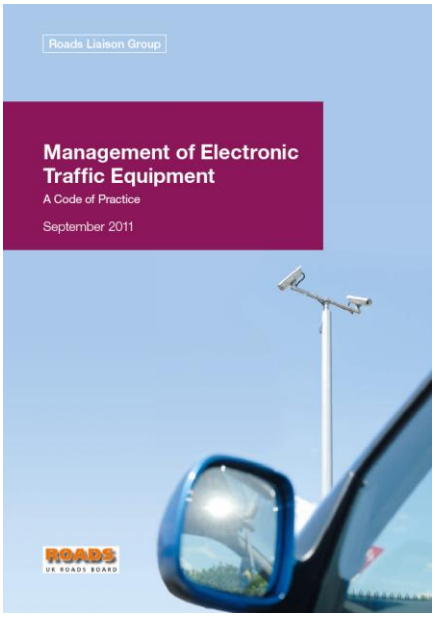
New Paragraph
Added 29 November 2011

5.5.10 A new UK Roads Liaison Group (UKRLG) Code of Practice, entitled Management of Electronic Traffic Equipment was published by TSO on 22 September 2011. This Code is the fourth Code within the current suite of Codes, and sits alongside Well-lit Highways, Well-maintained Highways and the Management of Highway Structures. Most authorities in England have started to implement asset management for their highway assets, with many benefits, and similar principles may be applied to the management of electronic traffic equipment. There is widespread recognition of the value of the systematic approaches to management of highway network assets promoted by these codes. This fourth Code has been developed using a similar approach with the aim of incorporating the stewardship of such systems into the wider highway asset management agenda. The Code is available as free electronic download from the UKRLG's website and hard copies are available from the TSO online bookshop at the following websites:

Website Amended
27 April 2012

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=B089A94C-6174-4584-A3E12AC2C7CB3706

http://www.tsoshop.co.uk/bookstore.asp?FO=40152&ProductID=9780115531699&Action=Book



New Paragraph
Added 29 November 2011

5.5.11 The UKRLG has carried out a study into the provision of design and maintenance guidance for local highway authorities. Through consultation with local authority practitioners, the study identified examples of relevant good practice documents that have been produced around the UK. 48 examples of good practice documents collated from local authorities from across the UK can be uploaded from the following website:

http://www.tap.iht.org/

The same study identified gaps in guidance and produced three new guidance documents to address these gaps. The first guidance document is entitled *Provision of Road Restraint Systems on Local Highway Authority Roads* and provides a process to help local highway authorities decide when a road restraint system is justified. This document can be adapted by local highway authorities to create a pragmatic system for decision making to help them make best use of the finite resources available.

The second guidance document is entitled *Departures from Standards: Procedures for Local Highway Authorities* and offers pragmatic methods for preparing departures from standards including the introduction of a new simple proforma. It recognises that published design standards offer benefits but also potential constraints and progressive local highway authorities may seek to work beyond the limits of standards in delivering “more for less”.

The third guidance document is entitled *Whole Life Costing for Option Appraisal of Maintenance Schemes for Local Authorities* and provides local highway authorities with a consistent process for undertaking whole life costing for maintenance option appraisal. The outcomes from this process enable informed investment decisions to be made to support the delivery of value-for-money objectives.

The three guidance documents may be downloaded from the following website:

Websites Amended
27 April 2012

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=5803F825-EFC0-4858-B2A75D0DCE3382A9

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=80C69D67-CABC-4428-815B8143D0833943

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=D0FD6F76-E612-4435-A65E97F7E5E1FE92

New Paragraph Added
13 August 2012

5.5.12 In April 2012 the Highway Maintenance Efficiency Programme (HMEP) published a review into the problem of potholes. The review makes 17 recommendations that will, if implemented, provide an improvement in highway maintenance and reduce the number of potholes occurring. There are three key messages in this review. Firstly, Prevention is better than cure; secondly, Right first time for better repairs; thirdly, clarity for the public. The review, which is titled "Potholes Review, Prevention and a Better Cure" can be downloaded for the following website:

5.5.13 http://www.dft.gov.uk/publications/pothole-review/

5.6 RISK MANAGEMENT

5.6.1 The management of highway maintenance, including the establishment of regimes for inspection, setting levels of service, determining priorities and programmes and procuring the service should all be undertaken against a clear and comprehensive understanding and assessment of the risks and consequences involved.

5.6.2 The most commonly understood risks affecting the service relate to the safety of the network and liability for accident, injury or health risks to users and employees. There are however a wide range of other risks relating to other key objectives the evaluation of which is a crucial part of the asset management process. These risks include:

- asset loss or damage;
- service failure or reduction;
- operational;
- environmental;
- financial;
- contractual;
- reputation.

5.6.3 These risks are not dealt with by this Code in so much detail as those relating to health and safety, but the main issues are addressed in subsequent sections. The establishment of a risk register is an important priority, and where partnerships are involved this will need to identify the assignment of risks between the respective parties.

5.6.4 The understanding and management of risk is fundamental to effective asset management and should figure strongly in the training and development programmes for service managers. The publication *Chance or Choice* jointly by the Society of Local Authority Chief Executives and Zurich Municipal provides a useful starting point. Risk assessment need not be a highly technical process, and is fundamentally the structured and systematic expression and recording of collective good judgement based on the best available data.

5.7 SUSTAINABLE HIGHWAY MAINTENANCE

5.7.1 The core objective of sustainability is applied in this Code in the accepted sense of securing a balance of social, economic and environmental wellbeing that does not compromise the ability of future generations to meet their own needs. It is also applied in terms of financial and operational sustainability, ensuring that investment and operational resources procured are provided to avoid progressive deterioration of the asset. These are not incompatible, but together provide a significant challenge for the highway maintenance industry. The issue of sustainability is dealt with in detail in Section 15.

5.8 PUBLICATION, ADOPTION AND INCORPORATION OF POLICY AND STRATEGY

5.8.1 Authorities should ensure that policies, priorities, and programmes for highway maintenance are formally approved and adopted by the authority and published. They should also be incorporated into the HAMP. They should also influence and be influenced by the Best Value Performance Plan.

5.8.2 There have been significant changes in the constitution of local authorities since the 2001 edition of this Code. Responsibility for highway maintenance may no longer rest with a Committee, but with an Executive or Cabinet including a lead member or portfolio holder for the service. The role of formal Council meetings may have changed. Bearing in mind the liabilities and risks involved in highway maintenance, authorities should establish an approval and adoption process that includes the Executive and is explicit, transparent and inclusive.

5.8.3 In adopting policies, priorities and programmes for highway maintenance, authorities will need to have regard to the resources available and ensure that the standards set are deliverable.

New Paragraph
Added 14 May 2009
Amended 15 December 2010

5.8.4 The DfT and the Department for Communities and Local Government (DCLG), with support from the Commission for Architecture and the Built Environment (CABE), developed a Manual for Streets to give guidance to a range of practitioners on effective street design. The Manual for Streets, launched in March 2007, provides guidance for practitioners involved in the planning, design,

provision and approval of new residential streets, and modifications to existing ones. It aims to increase the quality of life through good design which creates more people-orientated streets. The manual can be downloaded from:

Websites Amended 27 April 2012

http://www.dft.gov.uk/publications/manual-for-streets

In September 2010 the Chartered Institution of Highways and Transportation published Manual for Streets 2 (MfS2). MfS2 does not supersede Manual for Streets; rather it explains how its principles can be applied more widely. Further information on MfS2 may be downloaded from:

http://www.ciht.org.uk/en/publications/index.cfm/manual-for-streets-2--wider-application-of-the-principles-2010

RECOMMENDATIONS FOR SECTION 5

R5.1 Use of Code by Authorities

This Code of Practice should be used by authorities as a benchmark against which to develop and review local highway maintenance policy, and where necessary, to identify the nature and extent of local variations.

R5.2 Context of Corporate Policy

Policies, priorities and programmes for highway maintenance should be developed within the context of the wider corporately defined strategic objectives of the authority and cross-cutting issues, such as regeneration or social inclusion, in order to maximise opportunities for added value and to identify and resolve any potential conflicts. Conversely, maintenance policy and priorities should also where necessary help to influence and shape the wider policy agenda.

R5.3 Context of Transport Integration

Policies, priorities and programmes for highway maintenance should be developed within the context of the wider objectives for transport integration and network management, including strategies for public transport, walking and cycling, to ensure programme coherence, and to realise opportunities for added value.

R5.4 Principle of Sustainability

Policies, priorities and programmes for highway maintenance should have particular regard to the principles of sustainability and the application of the 'precautionary principle'.

R5.5 Highway Asset Management Plans

Policies, priorities and programmes setting out the longer term strategy for maintenance of the network and its contribution to the wider objectives of transport strategy should be set out in a Highway Asset Management Plan. The

underpinning principle of this plan is to substantiate investment in highway maintenance by demonstrating value for money over the life of the asset.

R5.6 Risk Management

Authorities should adopt a risk management regime for all aspects of highway maintenance policy, investment and operations including: safety, service and condition inspections, setting levels of service, determining priorities and programmes, and procurement.

R5.7 Publication and Adoption of Policy

Policies, priorities and programmes for highway maintenance should be formally approved and adopted by authorities after consultation, published and incorporated into the Highway Asset Management Plan. The approval and adoption process should involve the authority's Executive and be explicit, transparent and inclusive.

Section 6
Context of Best Value and Continuous Improvement

6.1 RELEVANCE TO HIGHWAY MAINTENANCE

6.1.1 From 1st April 2000 the Government placed a new duty of best value on local authorities in England and Wales, establishing challenging new arrangements, under which they will fund, procure and deliver all of their services. It required defined local authorities:

- to ensure that services are responsive to the needs of citizens, not the convenience of service providers;
- to secure continuous improvement in the exercise of all functions undertaken by the authority, whether statutory or not, having regard to a combination of economy, efficiency and effectiveness.

6.1.2 Other principles of best value include:

- ensuring that public services are efficient and of high quality;
- ensuring that policy making is more joined up and strategic, forward looking and not reactive to short term pressures;
- using information technology to tailor services to the needs of users;
- valuing public services and tackling the under representation of minority groups.

6.1.3 These principles have a particular relevance to highway maintenance, for the following reasons:

- highways are a major public asset highly valued by the community;
- their maintenance attracts a high level of public interest and concern;
- performance indicators have historically been difficult to quantify;
- there has tended to be no robust framework for local comparison;
- there has been an inefficient approach to whole life costing;
- there is a wide and developing range of service delivery options.

6.1.4 The best value approach has continued to develop and evolve through the process of Comprehensive Performance Assessment (CPA), which focuses on the corporate and service performance of the authority, promising greater flexibility in

return for performance improvement. An authority's approach to transport, informed by Local Transport Plan (LTP) assessment, features significantly in the corporate part of the CPA.

6.1.5 Similar arrangements to encourage best value and performance improvement apply throughout the UK, but there are detailed differences within each of the Devolved Administrations. These are summarised in Section 7. Although the statutory duty mainly applies to local government services, the broader principles of performance improvement apply equally to government agencies including the Highways Agency (HA) and equivalent strategic roads authorities within the Devolved Administrations.

6.2 USER AND COMMUNITY FOCUS

6.2.1 The increased focus on the needs of users and the community are explicit in national transport policy and similar aims are contained in transport policies for Scotland, Wales, and Northern Ireland. Guidance for the second round of LTPs suggests:

- the need for 'a transformation of the way services are delivered to the public - putting the emphasis on the experience of customers and users';
- the DfT will look for evidence that consultation has offered a genuine opportunity for local communities and interested parties to influence and improve the development of LTP policies, programmes and schemes;
- the need to 'set transport within a wider context'.

6.2.2 The engagement of users and communities is also a requirement in preparation of community strategies, which are dealt with in Section 5.

6.2.3 This commitment to consult and involve users and the community, although highly desirable and relevant, does bring some complications:

- many aspects of the maintenance process are highly technical and may be difficult to explain, but it is important that legal duties and obligations are understood;
- users' concerns may tend to focus on the short term more visible deficiencies in the network rather than the underlying less apparent problems;

- consultation can be expensive both in time and resources.

6.2.4 Despite these difficulties, the involvement of users and the community in informed consultation on the highway maintenance service is likely to be beneficial in the longer term in building understanding and support. More detailed guidance on this is contained in Appendix J.

6.3 CONSISTENT STANDARDS OR LOCAL DISCRETION

6.3.1 An important issue for the involvement of users and the community in highway maintenance is the management of inevitable tension between the need to provide reasonable consistency of highway standards, both nationally and locally, and the need to enable some local diversity. Indeed, it is possible for users to hold both views simultaneously, for example in the case of speed limits.

6.3.2 The emphasis on the needs of users and consultation implies that authorities should be open to and encourage local diversity where appropriate, but this will require careful management.

6.3.3 The most useful vehicle for the management of these tensions is the local road hierarchy. This will be the framework around which local standards and priorities are based and can provide the focus for consultations and community involvement on the scope for local or neighbourhood discretion, which will inevitably be greater for the less strategic parts of the network.

6.3.4 It will also be important for authorities to demonstrate reasonable consistency within their area between parts of the network that may be managed separately. For example, 'housing footways' serving some residential areas may be managed and maintained by the housing authority rather than the highway authority, but users may be unaware of this and will rightly expect consistency of standards.

6.4 BEST VALUE REVIEWS

6.4.1 Regular performance review with independent inspection is an essential part of the best value and comprehensive assessment process, although authorities now have more discretion in undertaking these. When undertaking reviews they will still need to demonstrate that their process is:

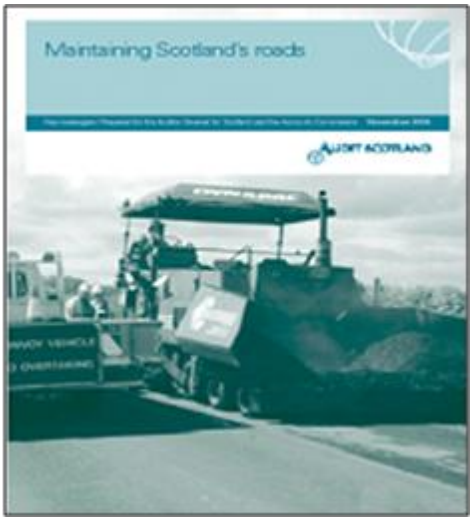
- challenging why and how the service is being provided;
- comparing their performance with others;
- embracing fair competition as a means of securing efficient and effective services;
- consulting with local taxpayers, customers and the wider business community.

6.4.2 The Audit Commission (in England and Wales), inspect the outcome of reviews but again with increased discretion about whether and at what scale to inspect. The purpose of inspection is so that:

- the public can see whether best value is being delivered;
- the authority can check how well it is doing;

- the Government can see how well policies are working;
- action can be taken where services are failing;
- best practice can be identified and shared.

6.4.3 In Scotland, the equivalent body is Audit Scotland, and in Northern Ireland the Northern Ireland Audit Office, but at present there are no arrangements for formal Best Value Reviews or audit arrangements. Audit Scotland does require Performance Management and Planning Audits for local authorities and in November 2004 published a detailed review of road condition, 'Maintaining Scotland's Roads' (www.audit-scotland.gov.uk). In Wales best value has evolved into the Programme for Improvement but District Audit are still involved in assessing progress with statutory indicators (www.audit-commission.gov.uk).



6.4.4 A number of Best Value Reviews of highway maintenance services have already taken place, either separately or as part of wider reviews incorporating all network management functions. There is a strong argument for the wider approach as this provides a more coherent user focus. Reports of all completed reviews are available on the Audit Commission website (www.auditcommission.gov.uk).

6.4.5 In addition to Best Value Reviews of highway maintenance or network management, it is important that opportunities are taken to provide highway maintenance input to relevant reviews of other services or corporate themes.

6.4.6 This Code should provide a template for authorities to use during Best Value Reviews and as an indicator of good practice against which to benchmark their own performance.

6.5 CHALLENGING PRESENT PRACTICE

6.5.1 A key aspect of Best Value Reviews is to challenge present practice, including whether all current activities are necessary, relevant, or could be done better by others. They are also to challenge present levels of economy, efficiency, effectiveness and methods of service delivery.

6.5.2 In a number of authorities the presence of longstanding arrangements based on in-house provision and possible complex agency agreements with other

authorities may prove fairly resistant to challenge. Providing effective challenges to long established practices will be assisted by taking steps to encourage confidence, ownership of the process and creativity amongst those involved and also to ensure active involvement from others outside the service.

6.5.3 Useful vehicles for encouraging creativity and active participation in challenging established practice are to use workshops for:

- facilitating an informal sustainability audit of the service;
- facilitating an informal policy audit of the service against the corporate objectives of the authority.

6.5.4 Ideally the outcome of a Best Value Review and subsequent improvement plan should be to incorporate continuous challenge into the future systems of procurement and review for the service. The Audit Commission, or other auditing authority, will want to know that the outcome can be delivered.

6.6 COMPARING OUTCOMES AND PERFORMANCE

6.6.1 Comparisons of performance are a key element of Best Value Review. Section 11 of this Code is intended to provide guidance on how this might be achieved, together with some suggestions for possible performance indicators.

6.6.2 Accurate indicators of performance have traditionally been difficult to develop for highway maintenance, primarily because of the range of potential variables, including climate, topography, materials availability, network and traffic characteristics. There have also been difficulties in reconciling differing methods of central and service overhead allocation.

6.6.3 These difficulties still exist, but continuing work by regional and national benchmarking networks is increasing understanding and providing a more reliable framework for comparison. New forms of procurement involving public-private sector partnerships, based on outcome specifications, and supported by performance indicators are also contributing new approaches. There are also a number of authorities demonstrating best practice through the award of Charter Marks, recognition as centres of excellence for procurement, asset management or as Beacon Councils for Street and Highway Works. Details of these are available on the respective websites (www.chartermark.gov.uk, www.odpm.gov.uk).

6.6.4 The most reliable performance indicators are of course those which enable authorities to monitor their own performance and continuous improvement year on year and these will be of equal importance to external comparisons.

6.7 CONSULTING SERVICE USERS, PROVIDERS AND THE COMMUNITY

6.7.1 Consultation with service users, providers and the community is a fundamental part of Best Value Reviews. There is extensive advice for local authorities provided elsewhere on consultation methods and the interpretation of results and information can also be obtained from completed reviews. Polling organisations such as MORI have conducted surveys for a wide range of authorities and have built up a comprehensive picture of public perceptions of both the importance and

quality of service delivery for a range of highway maintenance activities (www.mori.com).

6.7.2 There are four main levels of user and community involvement. These can sometimes be confused and it is important to be clear about what is intended:

- informing - providing clear information to which a response is not sought or necessarily required but which will be replied to if sent;
- consulting - seeking structured responses to a defined series of questions with or without supplementary briefing;
- participating - involving in generalised discussions about services including the provision of unstructured views and perceptions to assist with the development of issues and scenarios for further consultation;
- empowering - providing encouragement and support for the devolvement of certain decisions or aspects of service delivery.

6.7.3 User and community involvement should be a high priority and ongoing aspect of highway maintenance. The nature and scale of involvement will depend on the scale and effect of the works, and in most cases for maintenance works the key issue will be the provision of information, which is dealt with in detail below. It will be important however to undertake post completion surveys for at least a sample of maintenance schemes, both for good public relations and to assist performance improvement. Further advice on user and community consultation is provided in Appendix J.

6.7.4 Ongoing consultation will also be necessary with adjoining authorities and service providers as part of the new network management duty in order to ensure consistency and integrated programming of works. Consultation will also be required with utilities, public transport operators and other key stakeholders. Guidance on the duty suggests that when developing strategies and processes for improving the operation of the road network, authorities should consult with the public, frontagers, representatives of road users and neighbouring authorities with an interest. The regular public consultation process carried out by the authority should be reviewed and if possible, amendments made to it so that consultation on network operation is included as part of this regular process.

6.7.5 It is important that consultation arrangements are inclusive and reflect the diversity of users and communities, and particular efforts made to include those harder to reach, such as people with disabilities or from ethnic minority communities. The implications of the Disability Discrimination Act 1995 for highway maintenance are dealt with in Section 7 of this Code.

Paragraph Amended
14 May 2009

Website Amended
27 April 2012

6.7.6 Vulnerable users, including children and older people, should also be considered together with users of cycles and motorcycles, who can be particularly affected by differing maintenance standards. Guidance on providing for motorcyclists has

recently been published by the Institute of Highway Incorporated Engineers (www.theihe.org). In Australia, recognising the need to assist road design and maintenance practitioners understand the needs of motorcyclists and hence provide safe road conditions for all road users, the Victorian Motorcycle Advisory Council has produced a leaflet titled *A road builder's guide to motorcycle safety*. The document may be downloaded from the following website.

http://www.vicroads.vic.gov.au/NR/rdonlyres/E9A40513-5DB7-4BCA-BC60-7EBE5A1988B0/0/tr2000067.pdf

6.7.7 For Public Rights of Way, Local Access Forums will provide a convenient means of user and community consultation, particularly for preparation of the Rights of Way Improvement Plan.

6.8 MARKET TESTING

6.8.1 Authorities are required to embrace the principles of competition in procuring the delivery of services, and will need to consider how best this requirement might be satisfied. It will need a market testing process including analysis of present procurement arrangements and close comparison of costs and practices with others, including consultation with a range of private sector providers. It will also need to take into account the outcomes from work being undertaken by the HA on collaborative roads procurement following the Gershon Efficiency Review.

Website Amended
27 April 2012

6.8.2 Authorities will then need to consider carefully in the light of this information the nature and extent of more formal participation by the private sector and how this might be facilitated. A number of options are outlined for consideration in Section 16 of this Code and experience is developing in this field. The Institution of Highways and Transportation has also published *A Guide to Procuring Local Authority Services* (www.ciht.org.uk).

6.8.3 Authorities within two-tier areas that have established agency arrangements with other authorities will need to reappraise these arrangements as part of reviews to ensure that they provide value for money. Such reappraisals should, of course, be undertaken in close consultation with the authorities concerned.

6.9 ADDING VALUE - RESOLVING DIFFERENCES

6.9.1 A key element of CPA is to ensure that all services are managed to support the key corporate objectives and priorities of the authority. Authorities should therefore:

- identify all areas of interaction of highway maintenance with each of the key corporate objectives of the authority;
- where these interactions provide opportunities for added value these should be investigated and pursued wherever practicable;
- where these interactions suggest possible conflicts, then these should be investigated and arrangements put in place to resolve the differences.

Whether the difference is resolved in favour of corporate or service policy is less relevant than the fact that it is resolved.

6.9.2 This process can be particularly challenging, but rewarding, as it should result in a much wider understanding of highway maintenance and a broader base of support for the service.

6.10 INFORMATION AND PUBLICITY

6.10.1 This Code deals elsewhere with the need to publish and make widely available information on policies and standards. This will help to ensure that expectations are realistic and consistent with the resources available. This section deals with more site-specific requirements for information and publicity. It should be read in conjunction with guidance for the new network management duty in England introduced by the Traffic Management Act 2004. This is dealt with in Section 7 of this Code.

6.10.2 The provision of clear, accurate and timely information to users and communities affected by highway maintenance works, is one of the most important responsibilities of authorities, but one which sometimes receives insufficient attention. Authorities should set out clear policies and procedures defining user and community information requirements for maintenance work according to their potential for inconvenience and disruption.

6.10.3 Information provided sufficiently early will enable users to change their travel plans, and local residents or industry to adjust their arrangements to accommodate the works, with minimum inconvenience and disruption. It is also likely to influence their perceptions of the authority. The information medium used will depend on the scale of works and potential disruption and could involve letters, posters, media advertisements and information boards on site both prior to and during the works.

6.10.4 Information is of particular value to users and providers of public transport. Maintaining service frequency and reliability are crucial to the encouragement of increased public transport use, and can easily be compromised, albeit unintentionally, through insensitively planned and publicised works.

6.10.5 Where temporary closures and diversions are planned, which affect public transport, authorities should co-operate with the Traffic Manager in carefully planning and co-ordinating works to keep closures and diversions to a minimum

period. It has sometimes been the practice to seek orders for closures and diversions for periods well in excess of that expected. Although this is understandable and provides flexibility for the works, it can be confusing and frustrating for public transport users. The objective should be to plan realistically and keep to the timing agreed.

6.10.6 It is important in the case of major works to establish effective working arrangements with local press and broadcast media to enable the presentation of timely and accurate current information and advice on network condition and use. Local radio, in particular, considers this to be a most important aspect of their service to the community, and it therefore provides the opportunity to build good working relationships over wider issues. Many authorities have specialist press and public relations personnel and it will be important to clarify and agree respective service and specialist responsibilities.

6.10.7 It is also important to provide information directly to key stakeholders, including all emergency services, public transport operators, motoring organisations and key local organisations. This provides an important opportunity to demonstrate an understanding of users' needs, and a strong service commitment. The internet and authority web pages will be an increasingly important source of such information and it will be important that these are regularly updated. The National Strategy for Local e-Government published in November 2002 requires the achievement of 100% capability in electronic delivery of priority services by 2005, in ways that customers will use. Information on traffic delays due to highway maintenance works is a crucially important user requirement and there are several examples of good practice from Beacon Councils and others (www.idea-knowledge.gov.uk, www.localegov.gov.uk, www.odpm.gov.uk).

6.10.8 In the case of Winter Service, and weather and other emergencies even closer and more immediate communication will be required and this is dealt with in Sections 13 and 14 of this Code.

6.11 MANAGING COMPLIMENTS, COMPLAINTS AND CLAIMS

6.11.1 Managing compliments, complaints and claims efficiently and effectively can make a significant difference to the public perception of service delivery, not merely for the service in question but for the authority as a whole. This is recognised as a key criterion for Charter Mark recognition and other excellence awards. In Scotland the new agenda of 'Customer First' places an obligation on authorities to have a single point of contact (www.scotland.gov.uk).

6.11.2 Highway maintenance is a high profile and highly valued public service, and authorities will need to accommodate and process considerable volumes of correspondence, telephone calls and other forms of communication from users and the community. The efficiency and courtesy of response will determine, to a large extent, the local opinion of the service and the authority.

6.11.3 This Code is not intended to deal in detail with principles and practices of customer care or integrated customer relations management, but Appendix J provides advice on certain key aspects of particular relevance to highway maintenance.

6.11.4 The first key issue is the need to differentiate between service requests and complaints. Most of the communications received will initially be service requests

and the main objective is to prevent them becoming complaints. Where complaints arise, the next objective is to avoid them becoming claims and they will need to be managed to this effect through a detailed complaints management system, which authorities are already required to have in place.

6.11.5 All communications received, however, whether compliments, service requests, complaints, or claims, from whatever source should be recorded, together with any action taken, including nil returns. This will be crucial to the management and defence of any claim against the authority for failure to maintain. Although recording compliments may seem unnecessary, they could also assist in defending other claims in some circumstances, and will also be useful in supporting morale.

6.11.6 Authorities are increasingly adopting Contact Centres for the management of telephone service requests and complaints, either for the authority as a whole or for highway services. The Clarence freephone service is used by a number of authorities. In these circumstances it is important to ensure that all personnel involved receive training and also are provided with a checklist for interviewing callers and recording information and action. Where call centre personnel are not experienced and trained in highway maintenance they will need to have access to advice and support, in order that urgent action can be taken to assess and rectify potential Category 1 defects, in accordance with authority policies.

6.11.7 It is important that authorities put in place effective procedures for claims management. These should ensure the efficient processing of claims whilst protecting the authority from unjustified and fraudulent claims. Appendix C, which comprises a summary of the Roads and Highways Liability Claims Task Group Report, provides detailed advice on procedures.

6.12 DELIVERING CONTINUOUS IMPROVEMENT

6.12.1 The pursuit of continuous improvement will only be effective in an organisation that is able to embrace change, encourage risk and innovation, and is able to learn both from its successes and failures. This principle applies irrespective of the procurement and service delivery arrangement, and all parties involved, whether public, private or voluntary sector, will need to establish a common culture, values and methods of working.

6.12.2 It will be important to have effective systems of appraisal, training and development and reward that encourage commitment and excellence, and build pride in the service.

RECOMMENDATIONS FOR SECTION 6

R6.1 Principles of Service Delivery

Policies, programmes and service delivery arrangements for highway maintenance should provide for efficient, effective and economic maintenance of the highway asset, giving priority to the needs of the user, and support to the wider corporate objectives of the authority. Network safety and statutory duties should be prime considerations, even if not specifically identified by users.

R6.2 Best Value Reviews

Best Value Reviews should seek to identify opportunities for highway maintenance to add value to other services provided by the authority and others, and also to reconcile service conflicts where these exist. This Code should be used in Best Value Reviews as an aid to benchmarking the policies and practices of the authority.

R6.3 User and Community Consultation

The views of users, the wider community and their representatives should be sought in the development and review of highway maintenance policies, programmes and priorities and subsequently reflected back to them.

R6.4 Reflecting User and Community Diversity

Policies and procedures for consultation and information should take into account the diverse needs of all users and communities, particularly older or disabled people, ethnic minorities and vulnerable road users.

R6.5 Consultation with other Authorities

Consultation should take place with adjoining authorities and agencies in the development and review of highway maintenance policies, programmes and priorities. The consultation should particularly address issues of consistency and the scope for joint or cross boundary working, and should be undertaken in conjunction with the Traffic Manager.

R6.6 Information and Publicity

Clear policies and procedures for providing timely information to users about maintenance work should be established in conjunction with the Traffic Manager, to enable those affected to make alternative arrangements where necessary to mitigate the affects of delay. The information and distribution should be appropriate to the scale and potential disruption of the works and use all available means, including the authority's website. Where practicable, information should be updated if works are delayed or extended.

R6.7 Public Transport Reliability

Particular attention should be paid to the quality and timeliness of information to providers and users of public transport, in view of the importance of maintaining confidence in the timetables of advertised services. Closures and diversions should be for the minimum period required for efficient completion of the works and authorities should ensure compliance with the planned date for their removal.

R6.8 Post-Completion Surveys

Post-completion surveys of users and communities should be undertaken for a sample of maintenance schemes and regularly reviewed as a contribution to performance improvement.

R6.9 Management of User and Community Contacts

Arrangements should be established to receive and deal with requests, compliments, complaints and other information from users and the community, including standards for response, arrangements for immediate or planned action, and recording of all transactions.

R6.10 Competence in User and Community Contact

Personnel responsible for dealing with user and community requests, compliments, complaints and information should be competent to determine the relative urgency of response and to enable immediate action where necessary. This is of particular importance in the case of Contact Centres potentially dealing with a wide range of services, and clear checklists and procedures should be provided, together with relevant training and support.

R6.11 Out of Hours Arrangements

The arrangements should enable the authority to receive and respond to user and community requests for emergency action at all times.

R6.12 Management of Claims

Authorities should establish procedures and information systems in accordance with Appendix C of this Code to ensure efficient management of claims, whilst protecting the authority from unjustified or fraudulent claims.

R6.13 Monitoring of User and Community Contact

The arrangements should provide for: the regular monitoring of requests, compliments, complaints, information and the nature and standard of responses and the subsequent review of practice in the light of this.

R6.14 Involvement of Employees, Contractors and Agents

Arrangements should be established to facilitate the involvement of all authority elected members, employees, contractors and agents in building commitment and pride in the highway maintenance service and maximising individual contributions to the process of continuous improvement.

Section 7
Legal Framework

7.1 DUTY OF CARE FOR HIGHWAY MAINTENANCE

7.1.1 Much of highway maintenance activity is based upon statutory powers and duties contained in legislation and precedents developed over time, as a result of claims and legal proceedings. The most important aspects of these statutory powers and duties are summarised in this section and developed in more detail, where appropriate, in subsequent sections. The work of the Roads and Highways Liability Claims Task Group has also been summarised in Appendix C of this Code. The complete report of the Group is being published in Autumn 2005.

7.1.2 The issue of risk management has grown in importance since the 2001 edition of the Code, both in assessing the implications of investment decisions for asset management purposes and also in determining appropriate responses to highway deficiencies. The principles of risk management are introduced in this section and are again referred to, as appropriate, in subsequent sections.

7.1.3 It is crucially important that all those involved in highway maintenance, including Members of authorities, have a clear understanding of their powers and duties, their implications, and the procedures used to manage and mitigate risk.

7.1.4 Even in the absence of specific duties and powers, authorities have a general duty of care to users and the community to maintain the highway in a condition fit for its purpose. This principle should be applied to all decisions affecting policy, priority, programming and implementation of highway maintenance works.

7.1.5 The uncertainties about the statutory basis for Winter Service in England and Wales in the 2001 edition of the Code have been addressed through a modification to Section 41 (1) of the Highways Act on the 31st October 2003, by Section 111 of the Railways and Transport Act 2003. The first part of Section 41(1) now reads:

7.1.6 a) ‘The authority who are for the time being the highway authority for a highway maintainable at the public expense are under a duty, subject to subsections (2) and (3) below, to maintain the highway.

7.1.7 b) (1) In particular, a highway authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice’.

7.1.8 Although this has clarified the position with respect to the duty for Winter Service, the issues raised by the 'Goodes' case concerning the limitation of the maintenance duty to the 'highway fabric' and which have potentially wider implications than for Winter Service, still remain and will evolve over time.

7.1.9 Section 150 of the Highways Act 1980 also imposes a duty upon authorities to remove any obstruction of the highway resulting from '*accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause*'.

7.1.10 The statutory basis for Winter Service in Scotland and Northern Ireland is more explicit and is unchanged from the 2001 edition of this Code. It is set out in Section 13.

7.2 RISK MANAGEMENT

7.2.1 The management of highway maintenance, including the establishment of regimes for inspection, setting standards for condition, determining priorities and programmes for effective asset management, and procuring the service should all be undertaken against a clear and comprehensive understanding and assessment of the risks and consequences involved.

7.2.2 The most commonly understood risks affecting the service relate to the safety of the network and accident, injury or health risks to users and employees. The principles and practice involved in managing these crucially important risks are dealt with in detail by this Code. There are also a wider range of other risks summarised in Section 5 of this Code, which are not dealt with so specifically by this Code.

7.2.3 The risk management process should include risk assessment of all key policies, procedures and operations based upon a risk register. Section 9 deals in more detail with risk assessment of the inspection process, which could be used as a model for other maintenance processes.

7.3 HEALTH AND SAFETY

7.3.1 The importance of health and safety has been heightened since the 2001 edition of the Code, increased by the Government indicating its intention to bring forward new legislation to make it easier to prosecute charges for corporate manslaughter.

There have been a number of examples of the use of corporate manslaughter charges in cases involving highway maintenance and this is causing understandable concern. This is dealt with in more detail in the report of the Roads and Highways Liability Claims Task Group, which is summarised in Appendix C of this Code.

7.3.2 The Health and Safety at Work Act 1974, together with the Construction (Design and Management) Regulations 1994 provide for a requirement for highway, traffic and street authorities to carry out work in a safe manner and establish arrangements for the management of construction works. In Northern Ireland the equivalent legislation is the Health and Safety at Work Order (NI) 1978 and the Construction (Design and Management) Regulations (NI) 1995.

7.3.3 All those involved in the planning, management and delivery of highway maintenance services should receive training and regular updating, as necessary, in health and safety requirements of the service. Such training is of special importance for those involved in Winter Service, and more detailed guidance on this is provided in Section 13 of this Code.

7.3.4 The document Revitalising Health and Safety - Strategy 2000 published by the Health and Safety Commission and the then DETR, indicated, together with 44 action points that, 'One of the key barriers to further progress on standards in construction is thought to be that health and safety considerations are not properly taken into account at the design'.

7.4 MANAGEMENT SYSTEMS AND RECORDS

7.4.1 The efficiency, accuracy and quality of information and records maintained by authorities will be crucial both to the effective management of the service and to the defence of claims against the authority for alleged failure to maintain. The system will need to support compliance with standards of evidence provision consistent with the 'Woolf' protocols which, in most cases, require production of all documentation within 12 weeks. Record systems should include all user contact information, referred to in Section 6, records of inspection and condition and records of all maintenance activity. They should be co-ordinated with other relevant record systems, for example road accidents database, as part of the asset management regime.

7.4.2 Managing the safety and wide range of other risks associated with the delivery of highway maintenance will require effective and co-ordinated information systems. The best value regime also requires that opportunities be taken to make the best use of Information and Communications Technology (ICT). Although not dealing with ICT in detail, this Code sets out in respective sections the requirements for information systems and records in order to ensure that the service is able to respond flexibly to changing circumstances.

7.4.3 Where public private sector partnerships or agency arrangements are involved in service delivery, it will be important to establish common systems, so far as practicable, to facilitate consistency and information exchange.

7.5 POWERS AND DUTIES FOR HIGHWAY MAINTENANCE

7.5.1 In addition to a general Duty of Care, there are a number of specific pieces of legislation which provide the basis for powers and duties relating to highway

maintenance. The main legislation in England and Wales is given below, followed by the key territorial differences.

7.5.2 The Highways Act 1980 sets out the main duties of highway authorities in England and Wales. In particular, Section 41 imposes a duty to maintain highways maintainable at public expense, and almost all claims against authorities relating to highway functions arise from the alleged breach of this section. Section 58 provides for a defence against action relating to alleged failure to maintain on grounds that the authority has taken such care as in all the circumstances was reasonably required to secure that the part of the highway in question was not dangerous for traffic.

7.5.3 In Scotland, the key road maintenance legislation is contained in the Roads (Scotland) Act 1984, Section 1, which provides a duty for local roads authorities to keep a list of 'public roads' and to maintain and manage them. There is no direct equivalent of the Highways Act 1980 Section 58 providing defence against alleged failure to maintain, although case law will have established some basis for this.

7.5.4 This Act also provides in Section 34 for a duty to 'take such steps as they consider reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads'.

7.5.5 In Northern Ireland, the duty to maintain is contained in The Department for Regional Development - the Roads (NI) Order 1993 SI 1993/3160 (NI 15) Article 8, which includes provision for defence against alleged failure to maintain, similar to the English legislation. The Order also includes at Section 9 a power to treat roads affected by snow and ice and at Section 10, a duty to remove snow, soil etc which has fallen on a road. However, paragraph 7 of Article 10 provides protection from liability and states that '*Nothing in this Article operates to confer on any person a right of action in tort against the Department for failing to carry out any duty imposed on it under the Article*'.

7.5.6 The Traffic Management Act 2004 introduces in England a number of provisions including:

- Highways Agency Traffic Officers;
- local authority duty for network management;
- permits for work on the highway;
- increased control of utility works;
- increased civil enforcement of traffic offences.

7.5.7 The most important feature of the Act is Section 16(1) which establishes a new duty for local traffic authorities 'to manage their road network with a view to achieving, so far as may be reasonably practicable having regard to their other obligations, policies and the following objectives:

- securing the expeditious movement of traffic on the authority's road network;
- facilitating the expeditious movement of traffic on road networks for which another authority is the traffic authority'.

7.5.8 Section 31 of the Act specifically states that the term 'traffic' includes pedestrians, so the duty requires the authority to consider all road users.

7.5.9 The duty is not limited to the actions of the department responsible for traffic within an authority. Local authorities will need to consider the duty when exercising their powers under any legislation where this impacts on the operation of the road network. Authorities should therefore ensure that the whole organisation is aware of the duty and the implications for them. Authorities are required to appoint a Traffic Manager to administer the network management duty.

7.5.10 The Act also strengthens the regulatory regime with regard to the works of utilities and others within the highway including permit schemes, new conditions, and fixed penalty notices.

7.5.11 A range of guidance notes and Codes of Practice are being issued to assist authorities with the implementation of the Act and those currently available are listed in Appendix L. The Act changes significantly the provisions of the New Roads and Street Works Act 1991, but much of the guidance may still be valid.

7.5.12 A most important issue for highway maintenance planning and programming is that authorities are expected to operate the Act even-handedly, leading by example and applying conditions and enforcement activity equally to their own and utilities works. The Traffic Manager may require the programme for authorities' own works to be compromised on occasion to facilitate utilities works, where these are considered to be of greater priority.

7.5.13 The provisions of the Traffic Management Act do not apply in other parts of the UK, where the problems of congestion are generally less acute. In Scotland the Transport (Scotland) Bill presently being considered by the Scottish Parliament Transport Committee includes a similar provision. It proposes a Roadworks Commissioner who will have overall monitoring role and take charge of the roadworks register currently run by the Roadworks and Utilities Committee (RAUC). There is still some discussion about the respective roles of RAUC and the Commission, and the creation of a level playing field for authorities. The Scottish Bill omits the permits, overrun charges and the Traffic Manager duties of the Traffic Management Act.

7.5.14 In Northern Ireland also the powers relating to Street Works are contained in the Street Works (NI) Order 1995. The powers of Traffic Authority are provided by The Department for Regional Development - the Road Traffic Regulation (NI) Order 1997.

7.6 MAINTENANCE AND MANAGEMENT OF PUBLIC RIGHTS OF WAY

7.6.1 Responsibilities for Public Rights of Way (PROW) vary considerably throughout the UK. In England and Wales authorities have duties under the Wildlife and Countryside Act 1981 and the Highways Act 1980 to maintain and keep the definitive map and statement of PROW and to ensure that ways are adequately signposted, maintained and free from obstruction.

7.6.2 The definitive map and accompanying statement form the legal record of the position and status of PROW in England and Wales. They have been described as being to rights of way what property deeds are to land. The concept of the definitive map and statement was introduced by the National Parks and Access to

the Countryside Act 1949. The legislation governing the compilation of these records and their review and amendment has been altered since the coming into effect of that Act, principally by the Countryside Act 1968 and the Wildlife and Countryside Act 1981.

7.6.3 The Countryside and Rights of Way Act 2000 (Section 60) introduced a new duty for authorities to prepare Rights of Way Improvement Plans (ROWIPs). These are to be completed by November 2007 and are intended to provide:

- an assessment of the need to which rights of way meet the present and future needs of the public;
- an assessment of the opportunities provided by local rights of way for exercise and recreation;
- an assessment of the accessibility of local rights of way to all members of the community, including those with visual impairment or mobility problems.

7.6.4 ROWIPs should also include a statement of the action authorities propose to take for the management of local rights of way and for securing an improved network. Local rights of way are the footpaths, cycle routes, bridleways and restricted byways, and the ways shown in definitive maps and statements as restricted byways and byways open to all traffic within each authority's area. Cycle routes, other than those in or by the side of a highway consisting of or comprising a made-up carriageway, come within the scope of ROWIPs.

7.6.5 The Government intends that ROWIPs and LTPs should be progressively integrated in recognition of the role that PROW play in achieving shared transport priorities and quality of life objectives. Full integration is expected from 2010 onwards. Detailed advice on the preparation of ROWIPs is available (www.prowgpg.org.uk).

7.6.6 In urban areas PROW can present wider problems relating to corporate issues, particularly relating to crime. The Crime Prevention (Designated Areas) Orders

have been taken through Parliament in tranches, as enabling legislation to the Countryside and Rights of Way Act to facilitate closure of rights of way. In early 2005 most, but not all, of the orders have gone through Parliament. The Government has subsequently enacted the Clean Neighbourhoods Act, to close alleyways designated as Rights of Way in a much more streamlined way.

7.6.7 In Scotland the role of authorities in relation to PROW is established by the Countryside (Scotland) Act 1967, which permits its operation over any land or water over which there is an agreement with the authority and including PROW. The Land Reform (Scotland) Act 2003, establishing new statutory rights of public access, extends the remit of the service to all land and water over which the right of access applies.

7.6.8 The Land Reform Act provides a duty for an authority to assert, protect and keep open and free from obstruction or encroachment on any route, waterway or other means by which access rights may reasonably be exercised. It also includes a duty for the authority (not later than 3 years after the Act) to draw up a plan for a system of 'Core Paths' sufficient for the purpose of giving the public reasonable access throughout their area.

7.6.9 The Land Reform Act also establishes powers for the delineation, creation and maintenance of existing or new paths, either by:

- path 'agreements', which may specify respective responsibilities;
- path 'orders', which impose a duty on the council for subsequent maintenance.

7.7 OTHER RELATED POWERS AND DUTIES

7.7.1 Powers contained in the Highways Act 1980 and equivalent legislation within the Devolved Administrations, relating specifically to highway maintenance, sit within a much broader legislative framework specifying a wider range of powers, duties and standards relating to highway management. These include:

- Road Traffic Regulation Act 1984, and the Traffic Signs and General Directions 2002;
- Road Traffic Act 1988 which provides a duty for highway authorities to promote road safety, including a requirement to undertake accident studies and take such measures as appear appropriate to prevent such accidents occurring. It also requires authorities, in constructing new roads, to take such measures as appear appropriate to reduce the possibilities of such accidents when the roads come into use;
- Road Traffic Reduction Act 1997;
- The Local Authorities (Transport Charges) Regulations 1998 as applicable to RTRA 1984 and other legislation provide a power for the traffic authority to impose a charge for a number of its functions;
- the Transport Act 2000, under which an authority may designate any road as a quiet lane or a home zone. The Act also provides for the Secretary of State to review the operation of rural roads and consider whether (and if so how) the law should be amended to facilitate the introduction of rural road hierarchies.

The Secretary of State must consult Scottish Ministers and the National Assembly for Wales when carrying out the review.

7.7.2 The functions of the highway, street and traffic authority are required to comply with an increasing range of legislation regulating the environmental affects of their operations, including:

- Wildlife and Countryside Act 1981, which provides a framework of legislation relating to environmental and Countryside issues with which highway maintenance operations must comply;

- The Environmental Protection Act 1990 provides the statutory basis for other environmental issues, in particular waste management, with which highway maintenance operations must comply. It also deals with the requirement to keep the highway clear of litter and refuse which for local roads is not a duty for the highway authority;

- European Directive 2001/42/EC, also known as the SEA Directive, which was implemented in England through The Environmental Assessment of Plans and Programmes Regulations 2004. This requires Strategic Environmental Assessment of specified plans and programmes including LTPs. Further information can be obtained from (www.webtag.org.uk, www.odpm.gov.uk);

Website Amended
27 April 2012

- European Water Framework Directive which came into force in December 2000 requires all inland and coastal water bodies to reach defined water quality standards by establishing a river basin district structure. The Government's new strategy for flood and coastal erosion risk management, 'Making Space for Water' has implications for the role of the highway in flood management (http://archive.defra.gov.uk/environment/flooding/documents/policy/strategy/strategy-response1.pdf);

- The Noxious Weeds Act 1959 places a responsibility on the highway authority to take action to inhibit the growth and spread of injurious weeds growing within the highway. Weed spraying operations are also regulated by the Environment Agency and also by the Health and Safety Commission Code of Practice;

- The Clean Neighbourhoods and Environment Act 2005.

7.7.3 There is also a fairly recent framework of legislation not specifically related to highways, street and traffic functions but dealing with wider community issues with which the services are involved. These include:

- Disability Discrimination Act 1995 which requires employers and suppliers of goods and services to address discrimination against disabled people;

- Criminal Justice and Public Order Act 1994;

- Human Rights Act 1998;

- Freedom of Information Act 2000;
- Local Government Act 2000;
- Civil Contingencies Act 2004.

7.7.4 The Disability Discrimination Act 1995 makes it illegal to discriminate against disabled people in terms of access to goods, facilities or services. It has been introduced in two stages:

- from 1 October 1999 a service provider has had to take reasonable steps to change a practice, policy or procedure which makes it impossible or unreasonably difficult for disabled people to make use of its services, including the provision of an auxiliary aid or service or a reasonable alternative method of making services available.
- from 1 October 2004 where a physical feature makes it impossible or inconvenient for disabled people to make use of services, a service provider will have to take reasonable steps to either remove the feature, alter it so that it no longer has that effect, provide a means of avoiding it or provide an alternative method of making services available.

Website Amended
27 April 2012

7.7.5 There is no doubt that the Act applies to highway authorities, in that they are providing a service to the public. The DfT has not specifically published guidance on the applicability of the Act to highway maintenance. However, two documents, *Inclusive Mobility – a Guide on Best Practice on Access to Pedestrian and Transport Infrastructure* (http://www.dft.gov.uk/publications/inclusive-mobility) published by the DfT, and the Disability Rights Commission Code of Practice *Rights of Access: Goods, Facilities, Services and Premises* (www.disability.gov.uk), set out rights and duties under the Act. The Disability Rights Commission Code explicitly states that 'where the physical features are within the remit of a highway authority and the highway is a service provider; it will have a duty to make reasonable adjustments'. It also explains that the requirement to make reasonable adjustments is ongoing and that maintenance or (re-) construction works for example, will require consideration of disabled access to services.

7.7.6 There is as yet no definition of what constitutes 'reasonable adjustments' as applied to highway maintenance and no legal cases have yet been reported. Transport for London Street Management has devised an audit process which is recommended as good practice. Section 12 deals in more detail with provision for disabled people as part of maintenance schemes.

New Paragraph
Added 14 May 2009

7.7.7 Following its initial introduction in 1994, the Construction Design and Management Regulations (commonly known as the CDM Regulations) were re-introduced in April 2007. The revised Regulations are intended to make it easier for those involved in construction projects to comply with their health and safety duties. More information may be downloaded from the following website.

www.hse.gov.uk/construction/cdm.htm

New Paragraph
Added 14 May 2009

7.7.8 The Traffic Management Act was introduced in 2004 to tackle congestion and disruption on the road network. The Act places a duty on local traffic authorities to ensure the expeditious movement of traffic on their road network and those networks of surrounding authorities. The Act gives authorities additional tools to better manage parking policies, moving traffic enforcement and the co-ordination of street works. The Act states that local traffic authorities shall make appropriate arrangements for performing the network management duty. These arrangements must include provision for the appointment of a traffic manager. The Act may be downloaded from:

Website Amended
15 December 2010

http://www.legislation.gov.uk/ukpga/2004/18

7.8 DUTY OF BEST VALUE

7.8.1 The Local Government Act 1999 provides for the general duty of best value. This is applied and developing slightly differently in the various parts of the UK towards a more comprehensive performance improvement regime. The main aspects are as follows:

England

- statutory basis Local Government Act 1999;
- evolved into Comprehensive Performance Assessment;
- statutory inspection by Audit Commission;
- flexible cycle of service reviews and inspections;
- defined statutory framework of BVPI.

Wales

- statutory basis Local Government Act 1999;
- evolved into Wales Programme for Improvement;
- improvement Plans;
- Audit Commission have role but no statutory requirement for inspection;
- reviews of all services on 5 year cycle;
- statutory framework of BVPI.

Scotland

- Local Government in Scotland Act 2003 requires that 'a local authority shall discharge its duty of best value in a way which contributes to the achievement of sustainable development';
- authorities required to have in place Public Performance Reporting Framework, which is subject to audit;
- no statutory requirement for Best Value Reviews but authorities have agreed with the Scottish Executive to review services on 4/5 year cycle;
- Audit Scotland have role but no statutory requirement for inspection;
- Statutory Performance Indicators defined by the Local Government Act 1992 and the Publication of Information (Standards of Performance) Direction 2004.

Northern Ireland

- no statutory basis at present although legislation for local authorities has been proposed by the Northern Ireland Assembly. Many authorities have already adopted and implemented the principles of best value. Roads Service, which is an executive agency of the Department for Regional Development, has also adopted the best value regime;
- no statutory requirement to publish Best Value Performance Plans. Roads Service is required to publish an Annual Report, which is subject to external audit, and it is proposed to include performance against targets set as a result of reviews;
- no legislative requirement to undertake reviews, but Roads Service will review services over a five-year cycle;
- northern Ireland Audit Office has a role, but there is no statutory requirement for inspection;
- no statutory basis for performance indicators which are set by the Department for Regional Development.

New Paragraph
Added 13 August 2010

7.9 MINIMISING CLUTTER

7.9.1 In March 2008 the DfT published Local Transport Note 1/08 *Traffic Management and Streetscape,* to help all those involved in the design of traffic management measures. It aims to enhance streetscape appearance by encouraging design teams to minimise the various traffic signs, road markings and street furniture associated with traffic management schemes, and hence minimise clutter. A copy may be downloaded from the following link:

Website Amended
27 April 2012

http://assets.dft.gov.uk/publications/local-transport-notes/ltn-1-08.pdf

New Paragraph Added
13 August 2012

7.10 SIGNING THE WAY

7.10.1 In October 2011 the Department for Transport published "Signing the Way: Traffic Signs Policy Review". This document sets out a policy framework for ensuring that the traffic system meets the future needs of all road users, while building upon the existing and established traffic sign system. It sets out recommendations for improving the information that traffic signs communicate to road users by providing more freedom for decisions about signing at the local level. The review, which makes a series of recommendations, can be downloaded from the following website:

http://www.dft.gov.uk/publications/signing-the-way

RECOMMENDATIONS FOR SECTION 7

R7.1 Approval of Variations

Any variations in policies and practice from that identified by this Code should be derived following a risk assessment, then approved, adopted and published by the authority. The approval and adoption process should involve the authority's Executive and be explicit, transparent and inclusive.

R7.2 Consistency of Application

Policies and practice should be clearly defined, consistently applied and regularly reviewed. They should include a regime of safety inspection, and response arrangements derived following risk assessment.

R7.3 Understanding Legal Obligations

All employees, elected Members, contractors and agents for the authority involved in the procurement or delivery of highway maintenance services should understand the extent and nature of the authority's legal liabilities and risks for highway maintenance. This is particularly important with regard to the distinction between duties and powers, and how these relate to their particular responsibilities.

R7.4 Comprehensive and Accurate Records

Comprehensive and accurate records should be kept of all highway maintenance activities undertaken, particularly safety and other inspections, identifying the time and nature of any response, and subsequent required follow up action.

R7.5 Co-ordination of Records

Arrangements should be established to ensure the effective co-ordination of all highway maintenance records with other relevant record systems, including road accident information, together with a programme for regular review. The use of a relational database and GIS is desirable.

R7.6 Identification and Response to Changes

Arrangements should be established for early identification of both planned and evolving changes to the highway network and to traffic distribution and characteristics, in order that corresponding changes can be made, where necessary, to the hierarchy, frequency of inspection and response for those elements of the network affected.

Section 8
Strategy and Hierarchy

8.1 PRINCIPLES AND OBJECTIVES OF HIGHWAY MAINTENANCE STRATEGY

8.1.1 The policy framework for highway maintenance and its relationship with other transport and wider policies of the authority has been dealt with in Section 5. The general principles and objectives of highway maintenance management, including issues relating to inventory and hierarchy, are dealt with in this section.

8.1.2 Delivery of the strategy is dependent on understanding the relationship between:

- these wider strategic policies including the second round of Local Transport Plans (LTPs);
- the tactical delivery of the highway service in accordance with guidance documentation including this Code and the CSS Framework for Asset Management; and
- the delivery of the operational aspects of maintenance.

8.1.3 Highway maintenance strategy should be based on systematic logical approach in accordance with the principles of best value and continuous improvement, and should be an important component of a more broadly based Highway Asset Management Plan (HAMP). The focus of maintenance management should be primarily on the infrastructure itself and the focus of the HAMP primarily on the service provided by the infrastructure.

8.1.4 The HAMP should be developed in the context of a number of other plans that authorities are required to develop, namely:

Highway Improvement Plan This plan sets out the proposed improvements to the network necessary to meet performance targets such as safety and congestion and is set in the overall context of local transport planning requirements;

Network Management Plan This plan sets out how the network should be managed to meet the requirements of the Traffic Management Act and improve co-ordination between stakeholders in delivering works programmes;

Highway Maintenance Plan This plan sets out the operational requirements to maintain the network and identifies the resource requirements to deliver the maintenance service.

8.1.5 Figure 3 summarises the development of the HAMP in the context of these plans. It also illustrates how each of the following sections of this Code contributes to the development of an overall strategy.

8.1.6 Maintenance strategy should be aimed at optimising the maintenance contribution to the service provided by the infrastructure. The principles of highway maintenance strategy should therefore be:

- to deliver the statutory obligations of the authority;
- to be responsive to the needs of users' and the community;
- to contribute to effective highway asset management and maintain the asset value;
- to support effective delivery of the statutory network management duty;
- to support and add value to local transport objectives;
- to support and add value to wider corporate policy objectives.

8.1.7 These principles should underpin the following core objectives for maintenance strategy, and the respective sub-objectives:

Network Safety
- Complying with statutory obligations;
- Meeting users' needs for safety.

Network Serviceability
- Ensuring availability;
- Achieving integrity;
- Maintaining reliability;
- Enhancing condition.

Network Sustainability
- Minimising cost over time;
- Maximising value to the community;
- Maximising environmental contribution.

8.1.8 These core objectives are supplemented by a new overall objective of 'customer service' developed further in Section 11. This objective will apply to the highway service as a whole, as users may not be able easily to distinguish between maintenance, network management and improvement works. These objectives, together with risk management, needs based budgeting and competitive service delivery, provide the basis not only for highway maintenance strategy, but also the more broadly based asset management strategy. They should provide the framework for establishing outcomes against which service and asset performance should be measured. They should also drive the development of performance indicators for comparison and use in Best Value Reviews. They will also be helpful in monitoring performance of the statutory network management role for authorities in England established by the Traffic Management Act and similar developing legislation in Scotland.

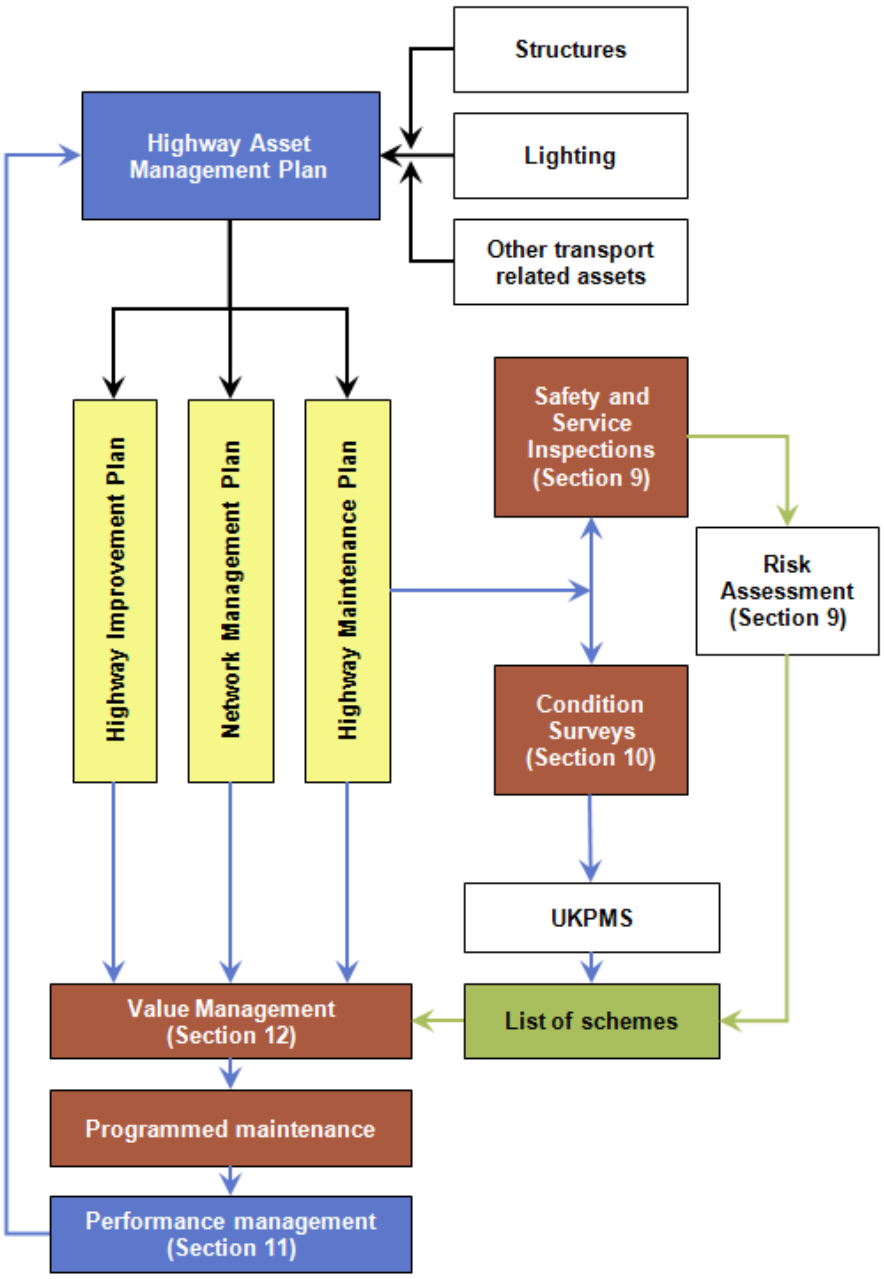


Figure 3 - Components of a Highway Maintenance Strategy

8.1.9 Each objective can be affected to a different extent by several different highway maintenance operations. For example:

- network availability can be affected by winter maintenance operations, NRSWA regulatory activity, deficiency of drainage systems and by careful planning of maintenance schemes in general;

- network integrity can be assisted by consistent, joined up and effective temporary signing, by ensuring consistent standards of maintenance on cycle routes between segregated and non-segregated sections, and providing consistent accessibility standards, for example through the use of dropped kerbs on key pedestrian routes especially those used by disabled people, older people, or those using prams;

- environmental contributions can be made through verge management plans, reducing sign clutter, use of recycled products or the provision of noise-reducing surfacing.

8.1.10 Every aspect of highway maintenance for each element of the network has the potential to contribute to some extent to a number of the above objectives. For example, the contribution to the safety objective of the carriageway is affected by:

- the actual condition of the surface;
- the response time for attending to inspections and user concerns;
- the quality of management and service delivery;
- the effectiveness of materials and treatments used.

8.2 COMPONENTS OF HIGHWAY MAINTENANCE STRATEGY

8.2.1 The foundations of a highway maintenance strategy are:

- a detailed inventory of all components to be maintained;
- a defined hierarchy for all elements of the network;
- a robust framework of levels of service linked to the core objectives of this Code.

8.2.2 These are the crucial components on which a highway maintenance strategy should be founded. Although they should each be comprehensive and robust, they should be dynamic and subject to regular review and updating in the light of changed circumstances. The network will be continually altered by new development and changes in character or use, and changes in transport or wider policies of the authority may have implications for maintenance strategy.

8.2.3 To be effective, these key components need to be supplemented by the following, which will be part of the HAMP:

- a comprehensive management system for inspecting, recording, analysing, prioritising and programming maintenance works so as to optimise their asset management contribution;
- a risk management strategy clearly identifying and evaluating the risks and consequences of investment decisions and measures to mitigate them;
- arrangements to finance, procure and deliver maintenance works, in accordance with the principles of sustainability and best value;
- arrangements to monitor, review and update as necessary, each component of the strategy and the performance of the strategy as a whole in delivering the core objectives above.

8.2.4 These arrangements should be determined locally, having regard to this Code, and the CSS Asset Management Framework, following consideration of the

relative risks and consequences relating to local circumstances, and the need to co-ordinate with other local strategies.

8.3 STRATEGY CO-ORDINATION

8.3.1 Highway maintenance management and operations contribute to the delivery of the HAMP and support and add value to local transport strategy. In this context it should, for example, have regard to strategies for the promotion of walking, cycling and public transport use and seek to add value or advance these strategies where appropriate. Strategies to provide users of motorcycles and other two wheeled vehicles and the management of heavy goods vehicles could have very particular implications for highway maintenance, as could strategies for accident reduction and prevention.

8.3.2 Co-ordination of highway management and operations is particularly relevant to the new statutory network management duty introduced by Section 18 of the Traffic Management Act 2004, which imposes a duty on authorities to coordinate street and roadworks and a duty on undertakers to co-operate in such co-ordination. Reference should be made to the Code of Practice on Coordination issued by the DfT.

8.3.3 A process of value management as discussed in Section 12 and shown in Figure 3 should be used to co-ordinate strategy. Possible examples of strategy co-ordination could include:

- moving a highway section to a higher or lower category in the hierarchy to take account of traffic characteristics and use;
- changing inspection regime to reflect actual or potential changes in accident risk;
- modifying or extending maintenance schemes to improve continuity or consistency for users and communities;
- modifying programmes to reflect broader priorities of the authority or other local authorities;
- modifying programmes to co-ordinate more effectively with works affecting the highway by utilities, developers or other local authorities.

8.3.4 It is also possible that, on occasion, particular aspects of highway maintenance strategy could potentially conflict with wider asset management or local transport strategy. For example, the need to address serious and potentially expensive carriageway defects could compromise, at least temporarily, public transport convenience and reliability. It is important that arrangements are in place to identify the potential for such conflicts at an early stage, to resolve them one way or the other, and to mitigate the effects of this as effectively as possible. This requirement will have been enhanced by the network management duty introduced in England by the Traffic Management Act 2004.

8.3.5 Another key principle is that highway maintenance should support and add value, where possible, to strategies for delivering the wider corporate objectives of the authority which may include the following, for example:

- building safer communities;
- continually improving educational achievement;
- developing and supporting the local economy;
- developing social welfare and promoting health;
- protecting and improving the environment;
- reducing inequality and poverty;
- improving accessibility of services;
- improving social inclusion.

8.3.6 Although it may be difficult to conceive areas where highway maintenance could contribute significantly to all of these objectives, there are some opportunities, which may vary between authorities. A similar approach should be adopted to that identified for transport policy co-ordination:

- identify the key areas of interaction between highway maintenance and each corporate objective;
- seek to add value where possible, by changes in scheme concept, design, scale, or priority;
- establish arrangements for resolving conflicts and mitigating their effects.

Website Amended
27 April 2012

8.3.7 It is also important to ensure that highway maintenance strategy is coordinated with that of neighbouring authorities for both locally and nationally maintained networks. Users will expect reasonable continuity of safety and serviceability, particularly at the higher end of the network hierarchy, but also at the lower levels where safety is a prime consideration, such as in the case of Winter Service. In such cases, serious discontinuities in service standards should be avoided though consultation and agreement. The Code of Practice on Co-ordination published to support the Traffic Management Act 2004 provides specific advice on this (http://assets.dft.gov.uk/publications/street-works-co-ordination/cop3rdedition.pdf).

8.3.8 Inter-authority co-ordination at both the strategic and operational level can bring other benefits, in terms of cost and resource management, levels of service and user perception. Opportunities for such co-operation include:

- integrated route management;
- optimisation of cross boundary service provision;
- optimised programming and procurement;
- shared traffic management and publicity;

- avoidance of multiple user delays;
- research, development and innovation.

8.3.9 A key example of inter-authority co-operation with the potential for significant enhancement is the establishment of the Scottish Roads Maintenance Condition Survey (SRMCS) involving the agreement by all Scottish authorities to the development and implementation of a common system of automatic condition data collection and analysis. Another example is the ROADS 2000 project for London, again based on a common system of data collection and analysis providing the basis for effective resource allocation. Co-operation in procurement of services is becoming more common and collaborative purchasing of services is being further encouraged following the *Gershon* report.

New Paragraph
Added 7 May 2010

8.3.10 The Department for Transport commissioned a research project on highway service levels, focusing on getting an improved understanding, in qualitative terms, of the levels of service the public expects for the surface of carriageways, cycletracks and footways. The report is available from the following website:

http://www.trl.co.uk/online_store/reports_publications/trl_reports/cat_highway_engineering/report_highway_service_levels.htm

8.4 DESIGNING FOR MAINTENANCE

8.4.1 Although much maintenance activity is undertaken on highway construction of long standing, new and improved highway schemes and facilities form an increasing proportion of the network over time. The future maintenance costs of such new infrastructure are therefore a prime consideration and DfT guidance for the second round of LTPs states that 'authorities should consider carefully the future maintenance requirements of proposed new infrastructure before including it in their LTP. It may be that the whole life cost of a capital scheme will be such that the transport need that it is designed to address could be more efficiently met through less capital intensive or even revenue funded interventions'.

Website Amended
24 May 2013

8.4.2 This is not to say that creativity should be inhibited. High quality or relatively expensive materials may provide appropriate, low maintenance and cost effective treatments in terms of their contribution to wider regeneration objectives, for example in improving the quality of public space and streetscape. It may also be appropriate to use environmentally sensitive materials in certain locations, despite the possibility of higher future maintenance costs. A series of regional guides published by English Heritage in collaboration with DfT provide useful advice (www.english-heritage.org.uk).

8.4.3 There are however many cases where careful consideration of maintenance implications at the design stage would have provided an equally effective outcome, but without maintenance complications either increasing costs or introducing practical difficulties which may in fact compromise the effectiveness of the feature. Examples include:

- materials requiring a disproportionately high frequency of maintenance;
- access difficulties for routine maintenance such as drain clearance and cleansing;
- inappropriate treatments and planting on narrow verges;
- maintenance requiring disproportionate traffic management costs;
- traffic calming and safety features with high rates of deterioration.

8.4.4 The Value Engineering process described in Section 12 is a structured approach that may be adopted to ensure the effective outcome of designs.

8.4.5 Disproportionately costly, inconvenient or impossible maintenance may inhibit or prevent programmed maintenance taking place. Failure to provide the specified maintenance regime could have potentially serious consequences for potential liability of the authority and its employees. It is also important to note that authorities have only powers to improve highways for various purposes but a statutory duty to maintain them. There is no liability for failing to exercise a power but using the power, for example to erect new signing or traffic calming, creates a liability to maintain.

8.4.6 Given that works of highway improvement will usually be funded from capital and that subsequent maintenance works will often be funded from revenue, the potential financial 'gearing' is greater than might be perceived, and the benefits to be gained from more 'maintenance friendly' design correspondingly higher. This balance between capital and revenue expenditure could of course be modified by certain forms of public private partnership.

8.4.7 Co-ordination between highway maintenance and highway improvement schemes can be improved through informal liaison and co-operation between those involved. Authorities should, however, give consideration to the introduction of more formal co-ordination arrangements in conjunction with the development of their HAMPs, to ensure that the whole life costs of schemes are optimised. These could involve formal consultation, value management and/or engineering, or a system of maintainability audit for a sample of schemes in order to establish local good practice. The DfT in England will require evidence of such a system in LTP appraisals.

8.4.8 A maintainability audit could usefully be carried out by reference to a standard checklist, an example of which is given in Appendix K, which could include the following items:

- what is the estimated design life?
- is this design life compatible with the adjacent infrastructure?
- are the design and materials suitable for the predicted traffic use?
- can the materials be readily replaced throughout the design life?
- can the materials be satisfactorily re-laid after utility works?
- are the materials liable to fading or discoloration?
- can the surfaces be cleaned?
- can the infrastructure be easily accessed for maintenance purposes?
- could tree planting be redesigned to avoid future obstruction to signs or visibility and consequent maintenance requirements?

8.4.9 It would also be a useful discipline to establish arrangements to identify any unusual maintenance requirements and costs associated with schemes brought forward for approval, so that these can be taken into account at the time. This is particularly important where new highways are being assessed for adoption and should be reflected in commuted sums for any higher than usual future maintenance costs sought from developers, which can be calculated for up to 20 years.

New Paragraph
Added 7 May 2010

Paragraph Amended
15 December 2010

Paragraph Amended
27 May 2011

8.4.10 ADEPT has published guidance that aims to provide advice on the commuted sums mechanism, through which developers are required to contribute to future maintenance of areas adopted by local authorities. The guidance may be downloaded from the following website:

Website Amended
27 April 2012

http://www.adeptnet.org.uk/assets/userfiles/documents/000296.pdf

8.5 HIGHWAY MAINTENANCE MANAGEMENT SYSTEMS

8.5.1 A highway maintenance management system (HMMS) comprises procedures and processes to achieve certain objectives, as well as the tools (including computer software) used for putting them into practice. Computerised systems have matured in recent years, following recognition that maintenance needed more relevant management tools, and are now able to manage the large volumes of data associated with a typical road network, and to model analytically the needs, options and priorities for maintenance strategies and programmes.

8.5.2 An HMMS will typically comprise four main types of components:

- network model (against which all other data is referenced), typically represented using a sectionally labelled, digitised road centreline, and possibly also employing a GIS;
- asset database (comprising information on the location and type of every asset and information about its condition);
- data rules, defining standards and data processing parameters;
- specialist applications (providing processing algorithms suited to each technical area e.g. traffic, accidents, maintenance, lighting etc).

8.5.3 Based on this general structure, authorities will need to design an HMMS to suit particular local needs and responsibilities, procurement arrangements and other factors. It may include specialist applications indirectly related to highway maintenance, for example traffic and accident analysis.

8.5.4 Each of the main technical elements relevant to HMMS, are dealt with in detail in subsequent sections and appendices of this Code.

8.6 NETWORK INVENTORY

8.6.1 The Highways Act 1980, applying in England and Wales, requires the keeping of a register of roads that are maintainable at public expense, which is primarily used for Land Charge Searches. Similar provisions exist within Scotland. Similar records exist within Northern Ireland although there is no legislative requirement to keep a register of roads maintained at public expense.

8.6.2 The National Parks and Access to the Countryside Act 1949 requires the keeping of the definitive map and accompanying statement for Public Rights of Way (PROW) which forms the legal record of the position and status of PROW in England and Wales. Certain parts of the network could be recorded both on the register of roads and the definitive map, and advice on the treatment of these is provided by the PROW Good Practice Guide published jointly by the Countryside Agency, CSS and others (www.prowgpg.org.uk).

8.6.3 There is also a requirement under the NRSWA 1991 to maintain information for the purpose of:

- identifying streets described as traffic sensitive where work should be avoided at certain times of the day;
- identifying structures under or over the street which need special consideration when work is planned;
- identifying reinstatement categories used by statutory undertakers in the reinstatement of their street works.

8.6.4 The Code of Practice on Consultation issued by the DfT provides further information on data requirements to support the statutory network management duty introduced by the Traffic Management Act 2004. Appendix B of that Code sets out a methodology for the creation, maintenance and publication of National Street Gazetteer, Operational District Data and Additional Street Data. Information must be in a format that can be electronically accessed by all parties and facilitate electronic transfer of notices. There is a National Notification System, 'moleseye' in Scotland.

8.6.5 Another important reason for maintaining accurate inventory information is the requirement to submit updated information to Government each year on road lengths maintained, which is used for the calculation of Formula Funding Share and Revenue Support Grants.

8.6.6 Each of these requirements can however be satisfied with fairly basic information, much less detailed than would be required for highway maintenance management purposes.

8.6.7 A detailed highway inventory or asset register or database is an essential prerequisite of establishing a cost effective and adequate maintenance regime. It is also a vital component of the HAMP and is the starting point for valuation of the asset which is dealt with in Section 17. The inventory is the foundation on which asset management is built and when analysed in combination with other data, for example, road casualties and traffic flows, it provides crucial decision support information.

8.6.8 The first task is to reference the highway network as a basis for the inventory of information concerning all assets associated with it. This may be done in stages, according to the priority attached to different specialist applications. Before commissioning potentially expensive asset inventory surveys, consideration should be given to the use of existing data. All existing data should be reviewed to assess its currency, completeness and quality to assess the level of confidence in the data held.

8.6.9 When inventory surveys are found to be necessary, the use of appropriate technology (e.g. video or aerial survey) may be considered. Careful specification of quality and accuracy is essential. In addition, once an asset inventory database has been established, it will be essential to keep it up to date, which means establishing a cyclic updating regime, defined by hierarchy or triggered by work on the ground. No authority should commence inventory data collection until assured arrangements for updating are in place.

8.6.10 The nature and extent of highway inventory collected should be such as to provide fitness for purpose, meet business case criteria and be subjected to risk assessment. There would be no business case for collecting data, where the cost would be disproportionately high, the benefits low, and the risks of non-availability low. Conversely, where the cost of collection is relatively low, the benefits high and the risks of non-availability high the business case would be strong.

8.7 NETWORK HIERARCHY

8.7.1 A network hierarchy is the foundation of a coherent, consistent and auditable maintenance strategy. It is also crucial to asset management in establishing levels of service and to the new statutory network management role for developing co-ordination and regulating occupation.

8.7.2 It is important that the hierarchy adopted reflects the needs, priorities and actual use of each road in the network. These may be determined by importance – a route leading to a major hospital, for example. They may be determined by environment – rural, urban, busy shopping street, residential street etc. They may be determined by non-vehicular traffic factors such as pedestrian usage. Indeed, footway priorities may sometimes conflict with carriageway priorities, and hence it is necessary to define separate footway and cycle route hierarchies. Collectively, these issues may be referred to as the ‘functionality’ of the section of highway in question.

8.7.3 The adoption of a common hierarchy to reflect the network management duty and the requirements for maintenance management, based on highway functionality would be desirable. However, it may be difficult to achieve completely, bearing in mind the differing definitions of protected streets, traffic sensitive streets, and streets with engineering difficulties associated with the network management duty. However a high degree of compatibility between networks would seem to be essential.

8.7.4 Ideally, the functionality of any part of the network should be the single basis of policy priorities. It should be the hook to which standards are to be attached together with associated targets and performance objectives. In the context of this Code, hierarchy is the link between maintenance policy and implementation but it can also be a consideration when defining standards for design and new construction. At an operational level, hierarchy may be the vehicle for implementation, say, for a cycling strategy. Essex County Council has adopted a 'functional' route hierarchy for its Traffic Management Strategy.

8.7.5 Guidance for the second LTP issued by the DfT confirms that Rights of Way Improvement planning in England will be progressively incorporated into local transport planning and that the Rights of Way Improvement Plans (ROWIPs), the preparation of which was imposed as a duty on local highway authorities by the Countryside and Rights of Way Act 2000, will be integrated with LTPs. Authorities are required to submit a short progress report on their ROWIP with their provisional LTP in 2005, prior to full integration from 2010 onwards. Authorities should therefore give consideration to a relevant hierarchy for PROW to assist integration with existing hierarchies for walking and cycling.

8.7.6 In Scotland the Land Reform Act (Scotland) Act 2003 introduced a duty for the authority (not later than 3 years after the Act) to draw up a plan for a system of 'Core Paths' sufficient for the purpose of giving the public reasonable access throughout their area, and integrating with the wider transport network. There is no requirement as yet for these to be incorporated into local transport strategies.

8.7.7 There will also be a need to define a hierarchy for Winter Service. This should take as a starting point the hierarchy developed for general maintenance purposes but this is likely to require extensive modification to accommodate a number of local operational factors, which are detailed in Section 13 of this Code.

8.7.8 Hierarchies are a useful basis on which to consult users and the community. They are strategic but relatively easy to present and understand and not so detailed as to cause difficulties in interpreting the results. They can also address directly some of the wider policy issues including special needs of older and disabled people.

8.7.9 Guidance on the network management duty issued by the DfT suggests that, when developing strategies and processes for improving the operation of the road network, authorities should consult with the public, frontagers, representatives of road users and neighbouring authorities with an interest. The regular public consultation process carried out by the authority should be reviewed and if possible, amendments made to it so that consultation on network operation is included as part of this regular process.

8.7.10 It is also important that hierarchies are dynamic and regularly reviewed to reflect changes in network characteristics and functionality, so that maintenance policies, practices and standards reflect the current situation rather than the use expected

when the hierarchy was originally defined. Where major maintenance, construction or other development involves significant traffic diversion, or when congestion in one part of the network results in traffic shift to another part of the network it is important that these changes are reflected in the hierarchy and subsequently in the maintenance and network management regimes.

8.8 CARRIAGEWAY HIERARCHY

8.8.1 Table 1 is intended to be used as a reference point from which to develop local hierarchies. The detailed descriptions relate to the most usual circumstances encountered in the UK. There are, however, some very significant variations from the norm and in Scotland, for example, there are some instances of trunk roads of very limited width.

Table 1 – Carriageway Hierarchy			
Category	**Hierarchy Description**	**Type of Road General Description**	**Description**
1	Motorway	Limited access motorway regulations apply	Routes for fast moving long distance traffic. Fully grade separated and restrictions on use.
2	Strategic Route	Trunk and some Principal 'A' roads between Primary Destinations	Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
3a	Main Distributor	Major Urban Network and Inter-Primary Links. Short - medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
3b	Secondary Distributor	Classified Road (B and C class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions	In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built up areas these roads have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons
4a	Link Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions	In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two way traffic. In urban areas they are residential or industrial interconnecting roads with 30 mph speed limits random pedestrian movements and uncontrolled parking
4b	Local Access Road	Roads serving limited numbers of properties carrying only access traffic	In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.

8.8.2 Indicative traffic flows have been therefore not been included in the table. Authorities should designate carriageway hierarchies, having regard to traffic flows but also on the basis of risk assessment and the functionality of the particular section of carriageway in the network.

8.9 FOOTWAY HIERARCHY

8.9.1 Footway hierarchy, as with the carriageway hierarchy, will not necessarily be determined by the road classification, but the functionality of the footway and scale of use. In urban areas the contribution of the footway to the quality of public space and streetscene will be particularly important. Local factors such as the age, distribution of the population, the proximity of schools or other establishments attracting higher than normal numbers of pedestrians to the area should also be taken into account. As a general guide, five broad maintenance categories are recommended for footways, as described in Table 2 below.

Table 2 – Footway Hierarchy

Category	Category Name	Description
1(a)	Prestige Walking Zones	Very busy areas of towns and cities with high public space and streetscene contribution.
1	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
2	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
3	Link Footways	Linking local access footways through urban areas and busy rural footways.
4	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.

8.9.2 The assignment of a footway to a particular category within the hierarchy is a matter for local discretion. However, the following issues should be taken into consideration:

- pedestrian volume;
- current usage and proposed usage;
- accident and other risk assessment;

- age and type of footway (e.g. old flagged footways may require more frequent inspection than newly laid); and

- character and traffic use of adjoining carriageway.

8.9.3 The footway hierarchy should have regard to any network of 'housing footways', serving housing estates or related development, which may be unadopted as public highways but maintained separately by the authority. Users will make no distinction and will consider the footway network as a whole.

8.9.4 Hampshire County Council has developed their footway hierarchy based on this Code as follows:

- Category 1 Primary walking - Major Town and city centres +30 number shops.

- Category 2 Secondary Walking - Small retail shopping out lets +5 shops, large schools and Industrial outlets +500 pupils or equivalent pedestrian movements.

- Category 3 Link Footways - Urban access, busy rural, all other schools.

- Category 4 Local access - Rural footways, non feeder footways in housing estates.

8.10 CYCLE ROUTE HIERARCHY

8.10.1 The categories suggested by this Code for cycle routes are shown in Table 3 below. They are categorised not by use or functionality but by location, as the level of use is generally low and not related to maintenance need. This approach also reflects the differing risks associated with shared, partially segregated and fully segregated cycle routes. Where the level of use on particular cycle routes is significant and relevant to maintenance need, for example on commuter cycle routes, authorities may establish categories based on use.

Table 3 – Cycle Route Hierarchy	
Category	**Description**
A	Cycle lane forming part of the carriageway, commonly 1.5 metre strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entries allowing cycle access).
B	Cycle track, a highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.
C	Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the highway authority, but may be maintained by an authority under other powers or duties.

8.11 PUBLIC RIGHTS OF WAY HIERARCHY

8.11.1 Authorities have not generally established a formal hierarchy for PROW, for the purpose of assigning maintenance and improvement priorities. The range of guidance on preparation of ROWIPs includes no reference to the need for hierarchy.

8.11.2 Some authorities have established hierarchies based on designation, for example Surrey County Council, which includes:

- Byways open to all traffic (BOAT);
- Long Distance Trails (LDT);
- Designated Recreational Routes (DRR);
- Rights of Way (ROW).

8.11.3 Perth and Kinross use the following, which reflects the different maintenance responsibilities in Scotland:

- Strategic link path;
- Recreational path (maintained);
- Recreational path (non-maintained);
- Other access rights.

8.11.4 The integration of ROWIPs with LTPs to ensure that PROW are recognised in LTPs as a key ingredient of an integrated transport network may make it helpful to establish some general principles of hierarchy, based on the relative contribution of particular links. Such an approach has already been adopted in Scotland through the designation of ‘Core Paths’ by the Land Reform (Scotland) Act 2003.

8.11.5 Many authorities have adopted a maintenance regime that incorporates PROW with a metalled surface, particularly those within or on the fringe of urban areas into the footway hierarchy, irrespective of their designation. This recognises users’

requirements for consistency in highway maintenance and is recommended good practice.

8.12 MAINTENANCE TYPE

8.12.1 The main types of highway maintenance are as follows:

- reactive - responding to inspections, complaints or emergencies;
- routine - regular consistent schedule, generally for patching, cleaning, grass cutting and landscape maintenance;
- programmed - flexibly planned schemes primarily of resurfacing, reconditioning or reconstruction;
- regulatory - Inspecting and regulating the activities of others. Much of this will be undertaken by the Traffic Manager under the new statutory duty for network management;
- winter Service;
- weather and other emergencies.

8.12.2 Each of these maintenance types contribute in varying degrees to the core objectives of safety, serviceability and sustainability, summarised earlier in this section of the Code. In each case therefore, standards and delivery arrangements should preferably be established having regard to these objectives focussed on outcomes, rather than on inputs mainly related to maintenance type. It is accepted that this principle may take time to establish and will be easier to pursue in conjunction with new procurement arrangements.

8.13 MAINTENANCE CATEGORY

8.13.1 Within each of the above types there are various categories of maintenance as follows, each of which should be considered in terms of their output contribution towards the core objectives of safety, serviceability and sustainability:

Reactive

- all assets -sign and make safe for safety purposes;
- all assets - provide initial temporary repair for safety purposes;
- all assets - provide permanent repair for safety purposes.

Routine

- carriageways, footways and cycle routes - minor works and patching;
- drainage Systems - cleansing and repair;
- embankments and cuttings – stability;
- landscaped areas and trees – management;
- verges – grass cutting;
- fences and barriers – tensioning and repair;
- traffic signs and bollards - cleansing and repair;
- road markings and studs – replacement;
- lighting installations -cleansing and repair;
- bridges and structures - cleansing and minor works.

Programmed

- carriageways - minor works, resurfacing or reconstruction;
- footways - minor works, resurfacing or reconstruction;
- cycle routes - minor works, resurfacing or reconstruction.

Regulatory

- maintenance of Highway Register and Definitive Map;
- co-ordination of road and street works (Traffic Manager responsibility);
- charging schemes and permits for highway occupation (Traffic Manager responsibility);
- other regulatory functions - encroachment, illegal signs, parking.

Winter Service

- pre-treatment;

- post-treatment;
- clearance of ice and snow.

Weather and other Emergencies

- flooding;
- high winds;
- high temperatures;
- other emergencies.

RECOMMENDATIONS FOR SECTION 8

R8.1 Development of Maintenance Strategy

The strategy for highway maintenance should be developed to deliver maintenance policy, to support corporate goals, local transport and network management policies. The strategy should be developed through the Highway Asset Management Plan.

R8.2 Objectives and Scope of Strategy

The objectives of the strategy related to the individual maintenance categories should be clearly defined in terms of safety, serviceability and sustainability. The strategy should incorporate all maintenance categories, and have regard to the differing requirements of the area, including rural and urban differences.

R8.3 Network Inventory

Authorities should prepare a detailed inventory or register of all highway assets requiring maintenance, together with information on the scale, nature and distribution of use. The nature and extent of highway inventory collected should be such as to provide fitness for purpose, meet business case criteria and be subjected to risk assessment.

R8.4 Storage and Updating of Inventory

The inventory should ideally be incorporated into a GIS system, together with other related information, including highway condition surveys, for ease of interpretation by non-technical stakeholders, and regular updating. No authority should commence inventory data collection until assured arrangements for updating are in place.

R8.5 Network Hierarchy

The strategy should define hierarchies for all elements of the highway network, including carriageways, footways, and cycle routes. The hierarchy should take into account current and expected traffic characteristics and use, having regard to Local Transport Plans, and Rights of Way Improvement Plans.

R8.6 Compatibility of Hierarchies

Hierarchies for maintenance and network management should ideally be common, or at least compatible with each other.

R8.7 Local Influences on Hierarchy

The hierarchy should also take account of local circumstances, for example the influence of schools and hospitals or particular concentrations of older, disabled or other potentially vulnerable users. It should also support the local accessibility strategies.

R8.8 Integrity of Facilities for Walking and Cycling

Particular account should be taken of the need for continuity in hierarchies for cycling and walking and the need for consistent maintenance standards between segregated and shared sections of routes. This principle should also apply where elements of the Public Rights of Way network form significant links within the local walking and cycling network.

R8.9 Consistency with Adjoining Authorities

The strategy should be co-ordinated with adjoining authorities, including those responsible for maintenance of the strategic network, to ensure that maintenance practice, standards and programmes meet road users' reasonable expectations for consistency, minimise disruption to users and the community and provide value for money.

R8.10 Designing for Maintenance

Authorities should establish arrangements to ensure that all highway improvement schemes including traffic management, environmental schemes and minor works are designed to facilitate future maintenance in accordance with the principles of this Code and informed by developing local experience. Consideration should be given to introducing formal maintenance audit on a selective basis to assist this process.

R8.11 Identification of Maintenance Implications

In accordance with the second round of Local Transport Plan guidance any additional maintenance costs arising from all new and improved infrastructure should be explicitly identified and taken into account in evaluating the whole life cost of the scheme. Where schemes provided in conjunction with new development are likely to involve unusual maintenance requirements and costs, consideration should be given to securing a commuted sum from the developer for such additional maintenance costs.

Section 9
Inspection Assessment and Recording

9.1 IMPORTANCE OF INSPECTION, ASSESSMENT AND RECORDING REGIME

9.1.1 The establishment of an effective regime of inspection, assessment and recording is the most crucial component of highway maintenance. The characteristics of the regime, including frequency of inspection, items to be recorded and nature of response, should be defined following an assessment of the relative risks associated with potential circumstances of network condition. These should be set in the context of the authorities' overall policy and maintenance strategy.

9.1.2 The inspection, assessment and recording regime should provide the basic information for addressing the core objectives of highway maintenance namely:

- network safety;
- network serviceability;
- network sustainability.

9.1.3 It will also provide the basic condition data for the development of programmes for maintenance as part of the Highway Asset Management Plan (HAMP).

9.1.4 All elements of the inspection and assessment regime should be applied systematically and consistently, in accordance with the principles of Quality Assurance. This is particularly important in the case of network safety, where information may be crucial in respect of legal proceedings. It is important to recognise, however, that all information recorded, even if not primarily intended for network safety purposes, may have consequential implications for safety and may therefore be relevant to legal proceedings. It is also important to recognise that, following the introduction of the Freedom of Information Act 2000, all records are potentially available for public inspection and reference.

9.2 CATEGORIES OF INSPECTION

9.2.1 Inspections and surveys can be considered in the following categories, approximately corresponding to the core objectives of highway maintenance.

Safety Inspections

9.2.2 Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. The risk of danger is assessed on site, and the defect identified either as a Category 1 or 2, with an appropriate priority response.

Service Inspections

9.2.3 These mainly comprise more detailed inspections tailored to the requirements of particular highway elements to ensure that they meet requirements for

serviceability. The scale and scope of these inspections is optional and will be determined by an authority's approach to asset management planning. The category also includes inspections for regulatory purposes, including NRSWA, intended to maintain network availability and reliability. It also includes less frequent inspections for network integrity.

Condition Surveys

9.2.4 Condition surveys are primarily intended to identify deficiencies in the highway fabric which, if untreated, are likely to adversely affect its long term performance and serviceability.

9.2.5 Authorities in England and the Devolved Administrations are required to undertake condition surveys in order to satisfy the requirements of statutory performance indicators.

9.2.6 Authorities are not statutorily obliged to undertake inspections of all highway elements under all of these categories. They are, however, strongly advised to undertake safety inspections in accordance with the principles of this Code in order that, where necessary, they are able to support a defence under Section 58 of the Highways Act 1980, and equivalent legislation within the Devolved Administrations. This requires that a court shall have regard to '*whether the highway authority knew or could reasonably be expected to know, that the condition of the part of the highway to which the action relates was likely to cause danger to users of the highway*'.

General Requirements

9.2.7 Guidance for each category of inspection is provided in this section of the Code. This may be varied by authorities in the light of particular local circumstances, and the relative risks and consequences associated with these, but the extent of variations should be clearly identified, together with the reasons for their adoption.

9.2.8 The extent of detail to which the inspection regime is defined by authorities will depend upon the nature of their arrangements for procuring highway maintenance services. In the future, with certain contracts, the authority may decide to specify the outcome, leaving the contractor to determine means of delivery, which could include aspects of the inspection regime. In these circumstances, the authority will need to consider carefully the implications and the contractor should have regard to the issues identified by this Code in determining the inspection regime.

9.3 RECORDING AND MONITORING OF INFORMATION

9.3.1 An asset register may be used by authorities to record all inventory on their network for which they have an associated liability. This register may be in electronic or paper format but will form the basis of identifying which asset items safety and serviceability inspections should cover.

9.3.2 All information obtained from inspections and surveys, together with the nature of response, including nil returns, should be recorded consistently to facilitate analysis. Such analysis should enable the data from inspections to be reviewed independently, but also in conjunction with other survey information to enable a holistic view to be taken of maintenance condition and trends related to network characteristics and use.

9.3.3 The recording system should also provide for recording service requests, complaints, reports or information from users and other third parties. These may require immediate action, special inspection, or influence future inspection or monitoring arrangements. The nature of response, including nil returns, should also be recorded. All inspections should record as a matter of course: time, weather conditions, any unusual circumstances of the inspection and the person conducting the inspection

9.3.4 Arrangements should be made to review the inspection, assessment and recording regime at intervals to consider:

- changes in network characteristics and use;
- completeness and effectiveness of data collected;
- effectiveness of data analysis;
- the need for changes to the inspection regime derived from risk assessment.

9.3.5 The frequency of such reviews should be determined locally, having regard to the extent and nature of changing circumstances. The analysis will also be helpful for other purposes, however, and these might also influence the frequency of review, which should include the following:

- ensuring compliance with legal obligations;
- measuring performance of network serviceability and condition;
- establishing extent of outstanding work;
- seeking continuous improvement;
- monitoring service delivery arrangements.

9.4 SAFETY INSPECTIONS

9.4.1 Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. Such defects should include those that will require urgent attention (within 24 hours) as well as those where the locations and sizes are such that longer periods of response would be acceptable.

9.4.2 They are normally undertaken by slow moving vehicle, at frequencies that reflect the characteristics of the particular highway and its use. In busy urban areas, particularly when inspecting footways, it may be difficult to obtain the necessary level of accuracy from vehicle-based inspections and walking should be used. It would seem logical for cycle routes to be inspected by cycle, although inspection of parts of some shared routes may be possible by vehicle.

9.4.3 Additional inspections may be necessary in response to user or community concern, as a result of incidents or extreme weather conditions, or in the light of monitoring information. These may be identified through the risk management process.

9.4.4 The safety inspection regime forms a key aspect of an authority's strategy for managing liabilities and risks. The report of the Roads and Highways Liability Claims Task Group, which will be published in Autumn 2005, and summarised in Appendix C, provides further advice.

9.4.5 The parameters which need to be specified for a safety inspection regime are:

- frequency of inspection;
- items for inspection;
- degree of deficiency;
- nature of response.

9.4.6 The regime should be developed based on a risk assessment and provide a practical and reasonable approach to the risks and potential consequences identified. It should be considered in the same light as a Safety Audit and treated accordingly. The inspection regime should take account of potential risks to all road users, and in particular those most vulnerable.

9.4.7 Frequencies for safety inspections of individual network sections should be based upon consideration of:

- category within the network hierarchy;
- traffic use, characteristics and trends;
- incident and inspection history;
- characteristics of adjoining network elements;
- wider policy or operational considerations.

9.4.8 Although the category within the hierarchy, in combination with traffic use, will be the main determinant of inspection frequency, other factors should be taken into account in deciding whether consideration should be given to increasing or reducing the frequency. These should be taken into account, and an on-site 'reality check' undertaken where there is any uncertainty about the category to be applied. For example:

- road use might be at the margin of the category but have higher than normal levels of growth. Extensive development may be taking place or planned;
- the section might have a higher than normal level of accidents or related incidents which would suggest unusually high levels of risk;
- although traffic flows on the carriageway might be low, there might be high levels of pedestrians or cyclists;
- the route might be the subject of promotion by the authority for example as a 'Safer Route to School' or access to a railway station. A cycling route may be part of the National Cycle Route Network;

- in urban areas, it may be desirable to combine footway and carriageway inspections to mitigate against problems associated with heavy traffic and parked cars;

- traffic composition might indicate unusually high proportions of particular users, for example motorcyclists or cyclists for whom surface condition is of particular importance.

9.4.9 The frequencies in Table 4 are based upon categories within the network hierarchy and are provided as a starting point, but in defining a safety inspection regime authorities should take into account all of the parameters listed.

Table 4 – Safety Inspection Frequency

Feature	Description	Category	Frequency
Roads	Strategic Route	2	1 month
	Main Distributor	3(a)	1 month
	Secondary Distributor	3(b)	1 month
	Link Road	4(a)	3 months
	Local Access	4(b)	1 year
Footways	Prestige Area	1(a)	1 month
	Primary Walking Route	1	1 month
	Secondary Walking Route	2	3 months
	Link Footway	3	6 months
	Local Access Footway	4	1 year
Cycle Route	Part of Carriageway	A	As for Roads
	Remote from Carriageway	B	6 months
	Cycle Trails	C	1 year

9.4.10 Where carriageway and footway hierarchies intersect, for example at pelican or zebra crossings, bollards, or other defined crossing points at junctions, the footway hierarchy should always take precedence in determining of inspection frequencies, defect definition and responses. This principle should also apply to intersections between carriageways and cycle routes and between cycle routes and footways.

9.4.11 Authorities have not generally established specific systems for safety inspections for Public Rights of Way (PROW) based on hierarchy. Respective liabilities for safety are complex, and providing planned safety inspections similar to those for highway maintenance would exceed resources currently available.

9.4.12 Authorities generally provide combined inspections on PROW including safety, obstruction and all network management functions. These may be planned, for example annually, or responsive following user complaints. Many authorities have adopted an inspection regime that incorporates PROW with a metalled surface, particularly those within or on the fringe of urban areas, into the footway hierarchy, irrespective of their designation. This recognises users requirements for consistency in highway maintenance and is recommended good practice.

9.4.13 The Statement of Action required by Rights of Way Improvement Plans (ROWIPs) provides the opportunity for authorities to consider the relevance of a more formal system of safety inspections, for at least some parts of the network.

9.4.14 Although the frequencies of inspection for various features are consistent with the various categories of hierarchy, there are particular circumstances which, because of their very nature and importance, could result in increased risk of damage or injury to highway users. These should be taken into account through the risk assessment procedure and clearly identified in the risk register. These circumstances relate to special usage or vulnerable users, such as :

- access to schools, hospitals and medical centres;
- vulnerable users or people with special needs – old people's homes etc;
- ceremonial routes and special events.

9.4.15 Where footways or cycle routes remote from carriageways form part of an integrated route or network intended to encourage walking and cycle use, or are promoted by the authority, consideration should be given to adopting a consistent safety inspection frequency, for the route or network as a whole.

9.4.16 An example of highway items to be included in safety and other inspections is provided in Appendix B. This is provided for guidance only and local circumstances will apply.

9.4.17 During safety inspections, all observed defects that provide a risk to users should be recorded and the level of response determined on the basis of risk assessment. The degree of deficiency in highway elements will be crucial in determining the nature and speed of response. Although some general guidance can be given on the likely risk associated with particular defects, on-site judgement will always need to take account of particular circumstances. For example the degree of risk from a pothole depends upon not merely its depth but also its surface area and location.

9.4.18 This Code defines defects in two categories, which correspond with those adopted in England by the Highways Agency (HA) in respect of motorways and trunk roads:

- Category 1 - those that require prompt attention because they represent an immediate or imminent hazard or because there is a risk of short-term structural deterioration.
- Category 2 - all other defects.

9.4.19 Category 1 defects should be corrected or made safe at the time of the inspection, if reasonably practicable. In this context, making safe may constitute displaying warning notices, coning off or fencing off to protect the public from the defect. If it is not possible to correct or make safe the defect at the time of inspection, which will generally be the case, repairs of a permanent or temporary nature should be carried out as soon as possible, and in any case within a period of 24 hours. Permanent repair should be carried out within 28 days. Some authorities have formally adopted a higher level response time of 2 hours for those Category 1 defects considered to pose a particularly high risk. Others, whilst not formally

defining such a high risk category, have arrangements in place to deal with situations requiring a particularly urgent response as they arise.

9.4.20 Category 2 defects are those which, following a risk assessment, are deemed not to represent an immediate or imminent hazard or risk of short term structural deterioration. Such defects may have safety implications, although of a far lesser significance than Category 1 defects, but are more likely to have serviceability or sustainability implications. These defects are not required to be urgently rectified, and those for which repairs are required shall be undertaken within a planned programme of works, with the priority as determined by risk assessment. These priorities together with access requirements, other works on the road network, traffic levels, and the need to minimise traffic management, should be considered as part of the overall asset management strategy. The programmes of work for their rectification should be part of the HAMP.

9.4.21 Category 2 defects may be categorised according to priority, high (H) medium (M) and low (L). Authorities should adopt a range of local target response times for Category 2 defects and apply them in responding to various categories of defect, based on the risk probability and its likely impact. This should also take into account the likelihood of further deterioration before the next scheduled inspection, and where this is a high probability, the defect should either be dealt with as Category 1 or an intermediate special inspection programmed.

9.5 DEFECT RISK ASSESSMENT

9.5.1 The principles of a system of defect risk assessment for application to safety inspections are set out below. A number of authorities have adopted arrangements based on these principles, which are recommended as good practice. Any item with a defect level which corresponds to, or is in excess of, the stated defect investigatory level adopted by the authority, is to be assessed for likely risk. The recommended procedure for risk assessment is as follows.

Risk Identification

9.5.2 An inspection item for which the defect investigatory level is reached or exceeded is to be identified as a risk. The suggested inventory to be observed and examples of investigatory levels are detailed in Appendix B.

Risk Evaluation

9.5.3 All risks identified through this process have to be evaluated in terms of their significance, which means assessing the likely impact should the risk occur and the probability of it actually happening. A defect risk register will considerably assist the risk evaluation process. Although it may not be possible to include every conceivable risk, the register identifies a wide range of risks likely to be encountered. This enables the vast majority of all risks actually encountered through comparison, interpolation or extrapolation, to be assessed with the identified risks. The risks contained in the register are based upon the highest assumed risk attributable to the type of defect, position and assessed type of usage. Local knowledge could assess the risk differently.

Risk Impact

9.5.4 The impact of a risk occurring should be quantified on a scale of 1 to 4 assessed as follows:

- little or negligible impact;
- minor or low impact;
- noticeable impact;
- major, high or serious impact.

9.5.5 The impact is quantified by assessing the extent of damage likely to be caused should the risk become an incident. As the impact is likely to increase with increasing speed, the amount of traffic and type of road are clearly important considerations in the assessment.

Risk Probability

9.5.6 The probability of a risk occurring should also be quantified on a scale of 1 to 4 assessed as follows:

- very low probability;
- low probability;
- medium probability;
- high probability.

9.5.7 The probability is quantified by assessing the likelihood of users, passing by or over the defect, encountering the risk. As the probability is likely to increase with increasing vehicular or pedestrian flow, the network hierarchy and defect location are, consequently, important considerations in the assessment.

Risk Factor

9.5.8 The risk factor for a particular risk is the product of the risk impact and risk probability and is therefore in the range of 1 to 16. It is this factor that identifies the overall seriousness of the risk and consequently the appropriateness of the speed of response to remedy the defect. Accordingly, the priority response time for dealing with a defect can be determined by correlation with the risk factor, as shown in the Risk Matrix in Table 5 below.

Risk Management

9.5.9 Having identified a particular risk, assessed its likely impact and probability and calculated the risk factor, the category and the timescale to rectify the defect should be either defined as Category 1 response or allocated to one of the locally determined timescales for rectifying Category 2 defects as described in Section 9.4. The response category is represented by the coloured cells in Table 5 below.

Table 5 – Risk Matrix

Probability →Impact↓	Very low (1)	Low (2)	Medium (3)	High (4)
Negligible (1)	1	2	3	4
Low (2)	2	4	6	8
Noticeable (3)	3	6	9	12
High (4)		8	1	16
Response Category	**Category 2(L) response**	**Category 2(M) res onse**	**Category 2(H) response**	**Category 1 esponse**

9.5.10 This approach is similar to that adopted by the Northern Ireland Roads Service who specify four categories of response time, relating these to specified categories of defect and the level of road hierarchy. These response time categories are:

R.1 make safe or repair within 24 hours;

R.2 make safe or repair within 5 working days;

R.3 repair within 4 weeks;

R.4 repair during the next available programme, schedule more detailed inspection, or review condition at next inspection, based on an assessment of the risk of deterioration before next visit.

9.5.11 Where defects with potentially serious consequences for network safety are made safe by means of temporary signing or repair, arrangements should be made for a special inspection regime to ensure the continued integrity of the signing or repair is maintained, until a permanent repair can be made.

New Paragraph
Added 14 May 2009

9.5.12 A model based on risk assessment principles has been developed to allow the calculation of the cost of claims for footways. The model is described in a report that was published in 2007. The report describes the application of risk management techniques to the management and maintenance of footways and cycle tracks, essentially to address the physical risk of accidents to pedestrians and cyclists resulting from the construction and maintenance of footway and cycle track surfaces. Detailed advice on risk management is given in relation to policy and categorisation, and on strategic, tactical and operational issues. A risk assessment model for footways is currently under development to calculate the number of accidents on a local highway networks. The model is based on deriving the probability that a person walking over a given defect will fall and be injured, and on the assumption that the number of defects on the network will be a dynamic balance between the rate at which they appear and the rate at which they

are repaired. A software tool containing this model is under development. More information may be found from the following website.

http://www.footways.org/data/uploads/PPR171_Development%20of%20a%20Risk%20Analysis%20Model%20for%20Footways%20and%20Cycle%20Tracks.PDF

9.6 SAFETY INSPECTION OF HIGHWAY TREES

9.6.1 Trees are important for amenity and nature conservation reasons and should be preserved but they can present risks to highway users and adjoining land users if they are allowed to become unstable. In England and Wales the highway authority is also responsible for ensuring that trees outside the highway boundary, but within falling distance, are safe. All trees within falling distance are collectively termed 'highway trees'. Section 154 of the Highways Act 1980 empowers the authority to deal, by notice, with hedges, trees and shrubs growing on adjacent land which overhang the highway, and to recover costs.

9.6.2 Safety inspections should incorporate highway trees, including those outside but within falling distance of the highway. Inspectors should take note of any encroachment or visibility obstruction and any obvious damage, ill health or trip hazards. A separate programme of tree inspections, however, should be undertaken by arboricultural advisors.

9.6.3 Authorities should include some basic arboricultural guidance in training for inspectors but it is important that arboricultural advice is obtained to advise on the appropriate frequency of inspections and works required for each individual street or mature tree, based on assessment of respective risks.

9.6.4 Extensive root growth from larger trees can cause significant damage to the surface of footways, particularly in urban areas. A risk assessment should therefore be undertaken with specialist arboricultural advice on the most appropriate course of action, if possible to avoid harm to the tree. In these circumstances, it may be difficult for authorities to reconcile their responsibilities for surface regularity, with wider environmental considerations and a reduced standard of regularity may be acceptable.

9.6.5 Overhanging branches may present a risk to buildings adjoining the highway. In such circumstances the necessary comprehensive consideration of respective risks and liabilities of the authority and landowner will require specialist technical, arboricultural and legal advice to determine the most appropriate course of action.

9.7 SAFETY INSPECTION OF ELECTRICAL INSTALLATIONS, LIGHTING, ILLUMINATED SIGNS AND SIGNALS

9.7.1 The presence of electrical equipment on highways relating primarily to road lighting, illuminated traffic signs and signals requires special attention to ensure the safety of users and the community. The failure of street lighting and illuminated signs and signals could have implications for the safety of users. It will therefore be necessary for authorities to establish priorities for responding to reported lamp failures, together with a regime of regular monitoring based on principles of risk assessment. Detailed advice on inspections associated with street lighting is included in the *Well-lit Highways Code of Good Practice for Road Lighting Maintenance* published November 2004.

9.7.2 Immediate attention should be paid to any damage or defect which could result in exposure of live cables and detailed advice on this is also provided by the Lighting Code of Practice.

9.8 SKIDDING RESISTANCE SURVEY REQUIREMENTS

Website Amended
27 April 2012

9.8.1 The HA have revised their skidding resistance standard, HD28/04, and the County Surveyors Society (CSS) has subsequently prepared guidance on how these changes should be reflected on treatment of highways, for which local authorities are responsible. This section of the Code is based on a summary of these guidelines (http://www.adeptnet.org.uk/assets/userfiles/documents/000041.pdf).

9.8.2 Advice on early life skid resistance is specifically excluded from HD28/04 but is addressed in Interim Advice Note IAN 49/03. Authorities should state in their Skid Resistance Strategies that they will follow the requirements of IAN 49/03, or produce an Early Life Skid Resistance Strategy that is based generally on the requirements of IAN 49/03.

Paragraph Amended
Added 14 May 2009

Paragraph Amended
27 May 2011

9.8.3 Concerns have been raised with regard to early life skid resistance and horses slipping on negatively textured new surfaces. CSS (now ADEPT) and the British Horse Society worked in partnership to produce a report that considers the use of Stone Mastic Asphalt in highway maintenance schemes and its impact on horse riders. The report recommends that a surface treatment to increase friction may be appropriate. The report may be ordered from the ADEPT web site: (Report ENG/3-05 (January 2006)).

Website Amended
27 April 2012

http://www.adeptnet.org.uk/assets/userfiles/documents/000144.pdf

9.8.4 The maintenance of adequate levels of skidding resistance on running surfaces is a most important aspect of highway maintenance, and one that contributes significantly to network safety, particularly for riders of motorcycles. However, whilst the frequency of accidents is expected to increase as skidding resistance falls, the effect will be more pronounced for more 'difficult' sites and there is no skidding resistance boundary at which a surfacing passes from being 'safe' to 'dangerous'. Difficult sites are those where the geometry, for example, bends, junctions, steep gradients, pedestrian crossings and traffic signals increase the risks of skidding accidents.

9.8.5 Authorities should appoint a member of staff to be responsible for the duties described in this section, in particular, setting investigatory levels, leading site investigations and reviewing investigatory levels. Where an authority decides to contract out this work, it is important that the authority appoints a member of staff to approve any work undertaken by other parties.

9.8.6 Authorities should publish their Skid Resistance Strategy as part of their HAMP. The strategy, which should be informed by risk assessment, should define:

- the network to which it applies taking account of traffic flow and characteristics and accident risk;
- the test equipment to be used, i.e. SCRIM or Grip Tester. Authorities should state if they will use the Pendulum Skid Tester for detailed investigations;
- the method of survey to be used to provide an estimate of the summer skid resistance, referred to as the Characteristic SCRIM Coefficient (CSC). Authorities can choose between the Single Annual Survey Method, Mean Summer SCRIM Coefficient Method, or Annual Survey with Benchmark Method;
- Quality Assurance procedures for data collection;
- frequency of surveys;
- the approach to setting investigatory levels, including the range of investigatory levels which are to be used for different categories of site. This should be based on the table in HD28/04, but may have additional categories, for example for urban roads. Any deviations from the HD28/04 table must be justified;
- frequency of re-assessment of investigatory levels;
- list of staff authorised to set or approve investigatory levels;
- the approach to be followed in site investigation, including prioritisation of investigations, and staff authorised to undertake site investigations. Each site investigation should be undertaken or led by personnel experienced in pavement engineering;
- how remedial works will be prioritised in relation to available funding in the overall context of the HAMP;

- whether they will follow IAN 49/03 or produce their own strategy for dealing with early life skid resistance;
- a realistic/achievable timetable for each part of the strategy;
- responsibilities for delivering each part of the strategy;
- the documentation to be retained to enable implementation of policy to be demonstrated (in court if necessary).

9.8.7 Authorities should note that the table in HD 28/04 is significantly different from that in HD28/94 and there is more scope for judgement in setting investigatory levels. Authorities should define the criteria used to set investigatory levels and in what circumstances these may vary from the values in HD28/04, for example in assigning a lower investigatory level to urban roads with a speed limit of 30 mph or less. This may best be achieved by the authority publishing a replacement table for its own network. Any reduction in investigatory level below that in the HD28/04 standard must be fully justified, for example by evidence from skidding accident statistics. The decisions taken when setting investigatory levels should be recorded dated and signed.

9.8.8 Investigatory levels should be reassessed whenever a significant change to the network is made, for example the installation of traffic lights, a pedestrian crossing, or roundabout. The investigatory levels for the full defined network should be reviewed every three years, or as a result of risk assessment.

9.8.9 Authorities need to decide whether to use SCRIM or Grip Tester for network testing and whether they will use Grip Tester or the Pendulum Skid Tester (recommended for localised investigations only). The Roads Board intend to undertake research into the correlation between Grip Tester and SCRIM in 2005/06, the conclusion of which will be included in an update of this Code.

9.8.10 Authorities have to decide between the traditional method of testing one third of the network three times each year (the Mean Summer SCRIM co-efficient (MSSC) method), the full network once a year, with benchmark sites tested three times a year (the Annual Survey with Benchmark Method), or the full network once a year (the Annual Survey method). The latter is recommended as this reduces between-year variations of skid resistance, as well as within-year variations. The characteristic SCRIM co-efficient (CSC) is derived from whichever of the above methods is used.

9.8.11 Authorities moving from the MSSC method to the Annual Survey method will have to establish a transitional procedure. Those authorities currently surveying one third of their network three times a year can make the transition as follows, in Table 6, where A, B and C are each one third of the network.

9.8.12 All sites where the skid resistance is at or below investigatory level should be investigated as soon as is practicable. The site investigations should be undertaken in a prioritised order, by personnel experienced in pavement engineering, consulting persons with relevant local knowledge, including the person responsible for accident investigation and prevention. Site investigations should also be undertaken at sites where wet or skidding accident levels have increased.

Table 6 – Transition from MSSC Method to the Annual Survey Method			
	A	**B**	**C**
Year 1	Tested 3 times	Not tested	Not tested
Year 2	Test once, early season	Test 3 times	Test once, early season
Year 3	Test once mid season	Test once, mid season	Test 3 times
Year 4	Test once late season	Test once late season	Test once late season
Year 5	Test once early season	Test once early season	Test once early season

9.8.13 The results of the investigations, including whether further action is required, should be documented and retained, together with the identity of the assessor and other parties consulted.

9.8.14 Where the skid resistance is considerably below the Investigatory Level (0.10 CSC units below Investigatory Level may be an appropriate figure) slippery Road signs should be erected as a matter of urgency.

9.8.15 In other cases Slippery Road signs should be erected at locations where a site investigation has shown that there is a need for treatment to improve skid resistance.

9.8.16 Slippery Road signs should be removed as soon as they are no longer required. This should be after the remedial action has been taken and maintenance engineers are satisfied that skidding resistance levels have been returned to an appropriate level. In some cases this will not be immediately after treatment, for example at sites where surface binder has to be worn off before the skid resistance becomes adequate.

9.8.17 Where skidding resistance is determined as being substantially below the Investigatory Level (0.10 CSC units below Investigatory Level may be an appropriate figure) and there are clear indications that improving the condition of the surfacing is likely to significantly reduce the risk of accidents occurring then remedial treatment should be prioritised as a relatively urgent task.

9.8.18 Priority should then be given to the following sites:

- where the skid resistance is at least 0.05 CSC units below the investigatory level;
- where low skid resistance is combined with low texture depth;
- where the accident history shows there to be a clearly increased risk of wet or skidding accidents.

9.8.19 Where investigations show that treatment is necessary, consideration should also be given to whether other measures may be more appropriate. Surface treatment may not always be a necessary response and other measures to reduce the accident risk of the site may be both more cost effective and consistent with local transport policy.

9.9 SERVICE INSPECTIONS GENERAL REQUIREMENTS

9.9.1 Service inspections should be strongly focused on ensuring that the network meets the needs of users and comprise more detailed specific inspections of particular highway elements, to ensure that they meet the levels of service defined within the HAMP. These surveys are optional and are dependent upon the asset management regime adopted by the authority to determine programmes of work. Any safety defects encountered during service inspections should be assessed as being either Category 1 or Category 2 and dealt with in accordance with the requirements of the safety inspection regime. Some items identified in Appendix B of this Code may require both service and safety inspections. Where this is the case, these inspections may be combined taking due consideration for the difference in investigatory levels.

9.9.2 This category also includes inspections for regulatory purposes, including NRSWA, which are also primarily intended to maintain network availability and reliability. It also includes less frequent inspections for network integrity. The extent of the service inspection regime adopted by authorities is discretionary and the advice given in the following paragraphs may be subject to considerable local variation in the light of individual circumstances.

9.9.3 Risk assessments for service inspections are dealt with differently to safety inspections. In regard to safety related defects, risk assessments are based purely on the safety aspect and defects must be rectified in accordance with the timescales appropriate to their significance. Serviceability related defects, however, are mainly related to network reliability and integrity and the ability of the network to meet the needs of users. Risks should be assessed by reference to the HAMP by taking due consideration of standards, relative priorities and available budget.

9.9.4 As part of developing their asset management regime, authorities may develop individual risk assessments for each service inspection identified in this Code, following a similar procedure to that identified for safety inspections. This risk based approach to service inspections will be the basis for identifying the need, frequency and period for remedial action for each of the service inspection items.

9.9.5 The approach of this edition of the Code has been to adopt throughout the principles and practice of risk management. However, it is accepted that many authorities may not be sufficiently well advanced in their asset management planning to fully adopt this approach. Accordingly, in Sections 9 and 10 of the Code, where reference is made to risk assessment being used to derive inspection frequencies for service inspections, default values will also be suggested. These default values will usually be based on the current edition of the Trunk Road Maintenance Manual (TRMM).

9.10 SERVICE INSPECTIONS FOR CARRIAGEWAYS, FOOTWAYS AND CYCLE ROUTES

9.10.1 Service inspections for carriageways, footways and cycle routes will generally be undertaken at less frequent intervals than safety inspections This Code makes no recommendation in respect of frequency, as this will be a matter for local determination, based on local user and community requirements for network serviceability and identified as part of the HAMP. They may be undertaken separately, or in conjunction with safety inspections and certain aspects of service

inspections can be incorporated as part of other visual inspections, such as the CVI or DVI regime for UKPMS. These surveys may be undertaken either by slow moving vehicle or on foot depending upon the circumstances.

9.10.2 Where footways, cycle routes or PROW remote from carriageways form part of an integrated route or network intended to encourage walking or cycle use, consideration should be given to adopting a consistent service inspection frequency for the route or network as a whole.

New Paragraph
Added 14 May 2009

9.10.3 The Footways & Cycletrack Management Group (FCMG) (Figure 1) has established a website to promote awareness of the work of the FCMG in general and through the publication of project reports and consultation papers where appropriate. More information may be found from the following website.

www.footways.org/

9.11 SERVICE INSPECTION OF HIGHWAY DRAINAGE SYSTEMS

9.11.1 In general inspection of drainage has proved problematic to authorities for a variety of reasons, including inaccurate records of drainage locations, uncertainty of ownership and lack of resources. In order to mitigate some of these problems, authorities should adopt a risk based approach to identifying the condition of their drainage network as described below.

9.11.2 A risk based approach would identify the risk associated with inadequate serviceability from, for example:

- gullies, grips and ditches, which may be obstructed by the growth of vegetation or damaged by traffic (in most cases the responsibility for maintenance of ditches will rest with the adjoining landowner);
- culverts under roads which may be affected by blockage, subsidence or structural damage;
- other piped drainage which may be affected by blockage or subsidence;

- sustainable urban drainage systems (SUDS), which may require special maintenance attention for maximum effectiveness;

- surface boxes and ironwork for both drainage and non-drainage applications, which may be affected by subsidence or obstructed access.

9.11.3 Authorities should identify the risks associated with these drainage elements and determine an inspection regime that would meet the expected levels of service. Where possible and in order to create greater efficiency, these inspections should be combined with safety inspections, particularly in the case of gullies and ironwork. Culverts under roads should be inspected every five years by default, and more frequently in wooded areas.

9.11.4 Fundamental in the development of this risk based approach is the identification of areas that may be particularly susceptible to risk of flooding, either from topological factors outside the highway or from frequent silting of systems. Frequency of these inspections will depend on local circumstances but again could form part of safety inspections. They should be carried out during or immediately following periods of heavy rain as opportunity allows. Further information on this is contained in Section 14 Weather and Other Emergencies.

9.12 SERVICE INSPECTION OF EMBANKMENTS AND CUTTINGS

9.12.1 Significant embankments and cuttings should be defined and an inspection regime identified based upon the geological characteristics and the potential risk of slippages or rockslides. Service inspection arrangements should be based on specialist geotechnical advice, but should usually be programmed wherever possible to follow periods of heavy rain, severe frost or prolonged dry weather. A risk based approach should be adopted to identify any issues critical to network performance, after which an enhanced service inspection regime should be adopted.

9.13 SERVICE INSPECTION OF LANDSCAPED AREAS AND TREES

9.13.1 Highway trees contribute to amenity and nature conservation and in urban areas can enhance the space between buildings, reinforcing the area's character and appeal. Close co-operation between arboriculturalists, highway engineers, landscape architects and urban designers is essential to preserve and enhance

the range and quality of street trees. Avenues, boulevards, town squares and formal spaces, and informal rural locations all require the application of different planting principles. Trees and planting should reflect the history, architecture and tradition of places. Small pockets of poor quality planting can undermine the quality of the streetscape.

9.13.2 Street trees and planting are not appropriate in every instance. Trees and planting should always form part of the overall urban context, and not be added or preserved without question.

9.13.3 Authorities should develop, with advice from arboriculturalists, landscape architects and urban designers, a policy for the installation, management, removal and replacement of highway trees and landscaping. The policy should recognise the amenity and nature conservation value of trees and also seek constructively to manage ongoing risk to the authority. The policy should include the approach to service inspections, to be undertaken by arboriculturalists, including frequency, for various types of tree.

9.13.4 Most trees should ideally have an arboricultural inspection every five years but this period may be reduced on the advice of an arboriculturalist. Default intervals is for arboricultural inspections at least every five years.

9.14 SERVICE INSPECTION OF FENCES AND BARRIERS

9.14.1 Steel and wire rope safety fences and pedestrian guard rails should be inspected at regular intervals determined through risk assessment in respect of mounting height, surface protective treatment and structural condition, to ensure that they remain fit for purpose. Tensioning bolts of tensioned safety fences should be checked and reset to correct torque at intervals determined by risk assessment, or by default every 2 years. Safety barriers adjacent to bridges should be inspected as part of the highway asset.

9.14.2 Inspection and testing of safety barriers with respect to mounting height and integrity should be undertaken by default no less frequently than 5 years. Sections of safety fence that are found to be mounted at heights outside the limits specified or for which structural integrity is not in doubt, should be treated as Category 2 defects.

9.14.3 Pedestrian safety fences and guard rails are used primarily in urban areas at busy road junctions and to encourage use of pedestrian crossings rather than other, potentially unsuitable, locations. Damaged sections should be treated as Category 1 defects and made safe within 24 hours, unless damage is clearly superficial with no loss of integrity of the fence or barrier.

9.14.4 Pedestrian safety fences, boundary fences and environmental barriers for which the authority is responsible, should be also inspected in respect of integrity, and where appropriate stock proof qualities, during the course of service inspections of carriageways, footways and cycle routes. A higher frequency may be necessary in some locations (e.g. in areas with known higher incidence of vandalism). Inspections of structural condition and protective treatment should be carried out at regular intervals. All inspection intervals should be determined using a risk based approach, or by default every 2 years.

Website Amended
27 April 2012

9.14.5 Safety barriers and fences adjacent to railway lines should be inspected by the highway authority irrespective of liability. Generally, inspection intervals should be determined using a risk based approach. The DfT publication *Managing the Accidental Obstruction of the Railway by Road Vehicles* provides more guidance on this (http://www.dft.gov.uk/publications/tal-6-03/).

9.15 SERVICE INSPECTION OF TRAFFIC SIGNS AND BOLLARDS

9.15.1 Traffic signs are the most visible elements of the highway network, highly valued by users, and contribute significantly to network serviceability through facilitating efficient and effective use of the network.

9.15.2 The primary objective is to keep all traffic signs legible, visible and effective as far as possible at all times in relation to the road use and traffic speeds. The following defects in signs and bollards should be treated as Category 1 defects. The speed of permanent repair will depend on the degree of danger but important warning and regulatory signs should be replaced as a matter of urgency:

- matters affecting the legality of important warning and regulatory signs;
- damage, deterioration, or vandalism to signs and bollards leaving either the sign or situation to which it applies in a dangerous condition;
- missing traffic cylinders across gaps in central reserve fence at emergency crossing points.

9.15.3 Vegetation potentially obscuring road signs should be recorded during safety inspections and service inspections of carriageways, footways and cycle routes, and treated accordingly. Additional inspections may be needed during periods of maximum growth (May-June).

9.15.4 Special signing schemes, for example blockwork chevron treatments at roundabouts and traffic calming schemes using special signing may deteriorate more quickly than conventional signing. They are also likely to have been installed to improve network safety. Inspection arrangements should reflect this. Blockwork chevrons are likely to need inspecting and cleaning at a frequency determined by risk assessment or by default annually.

9.15.5 The condition of non-illuminated road signs should be inspected in daylight, and also at night for degradation of colour, retro-reflectivity, deteriorating fittings, legibility distance, and average surface luminance, after cleaning. The frequency is to be determined by risk assessment or every two years by default. More frequent inspections may be necessary for strategic routes and main distributors, where more consistent high standards are desirable. Cleaning may be necessary annually, or more frequently where subject to heavy soiling.

9.15.6 Optical inspections and cleaning of illuminated signs should be carried out at regular intervals determined by risk assessment or by default every two years. A visual inspection of the sign supports should be carried out at the same time. Night-time inspections should be undertaken in conjunction with those for street lighting faults. Due to the legal requirements for the illumination of traffic signs, it is

recommended that a group lamp replacement strategy be adopted for illuminated traffic signs and bollards. The lamp replacement period will depend upon the type of lamp and its annual burning hours. Monitoring is also referred to in *Well-lit Highways – Code of Good Practice for Road Lighting Management*.

9.15.7 Inspections should initially be visual, and condition assessed against the criteria set out in TD 25/01. Any suspect areas identified by the visual inspection should be noted and further testing as described in TD 25/01 instigated. The coefficient of retro-reflection of sign face sheeting is a specialist site test that may require the services of a specialist organisation. TD 25/01 states that the acceptable level of retro-reflection is 80% of the 'as new' value for motorways and trunk roads, where higher performance materials are used. Authorities will obviously wish to allow for local variation, and choose sign performance levels depending on the overall risk assessment and road hierarchy, but the 80% of the 'as new' level should be applied for replacement planning purposes.

9.15.8 Inspection of Stop and Give Way Signs at minor roads should be included in the inspections of signs on the major road to which they control entry.

9.15.9 Service inspections should ideally identify signing that is inappropriate or no longer necessary and may be a distraction to users, or detrimental to the streetscene. Such signing should be noted for removal or replacement either as part of future programmed works or more urgently, if necessary.

New Paragraph
Added 24 May 2013

9.15.10 Over-provision of traffic signs can have a detrimental impact on the environment and can dilute more important messages if resulting in information overload for drivers. The Department for Transport published a Traffic Advisory Leaflet (TAL 1/13) which gives practical advice on reducing sign clutter. It emphasises that designers should use their engineering judgement and local knowledge to complement guidance to ensure signing solutions are effective. The leaflet may be downloaded from the following website:

https://www.gov.uk/government/publications/reducing-sign-clutter

9.16 SERVICE INSPECTION OF ROAD MARKINGS AND STUDS

9.16.1 Inspections in respect of wear, spread, colour, skid resistance and retro-reflectivity shall be undertaken for paint markings and for thermoplastic markings, at frequencies determined by risk assessment, or by default one year and two years respectively. Inspections for reflective conspicuity should be carried out during the hours of darkness and programmed to enable maintenance works to be completed before the onset of winter.

9.16.2 The standard TD 26/04 has recently been issued for the trunk and motorway network. A CSS Task Group has been appointed to review the document and produce guidelines for local roads in England. This document will be available late summer 2005.

9.17 SERVICE INSPECTION OF ROAD TRAFFIC SIGNALS AND PEDESTRIAN CROSSINGS

9.17.1 Service inspections of road traffic signals will not usually be necessary in relation to the functioning of the internal equipment, as this will usually be provided through remote monitoring of the installation. The remote monitoring system may also identify the need for lamp replacement, but bulk changing is likely to be preferred. Signal lenses should be cleaned at a frequency based on risk assessment or by default annually.

9.17.2 Service inspections of the physical condition of controller and auxiliary equipment cabinets and of other site hardware, and inspections in respect of electrical safety, should be carried out at intervals determined through risk assessment or by default annually. Guidance on aspects to be inspected and on defect criteria is given in TD 24/97. Inspections should be visual, by remote monitor or by approved test equipment as detailed in TD 24/97.

9.17.3 For pedestrian crossings, scouting for illumination should be undertaken in conjunction with street lighting night-time inspections, unless otherwise indicated by risk assessment. Optical cleaning should be undertaken to a frequency determined by risk assessment, or by default every two years. Electrical safety inspections should be undertaken in accordance with the advice in *Well-lit Highways – Code of Practice for Road Lighting Management*.

9.18 SERVICE INSPECTIONS FOR ROAD LIGHTING

9.18.1 Service inspections of road lighting are not dealt with by this Code and reference should be made to *Well-lit Highways, Code of Practice for Road Lighting Management*.

9.19 SERVICE INSPECTIONS OF BRIDGES AND STRUCTURES

9.19.1 Structural inspections of bridges and structures are dealt with in *Management of Highway Structures – A Code of Practice* due for publication in autumn 2005.

9.20 SERVICE INSPECTIONS FOR NETWORK INTEGRITY

9.20.1 Although each element of each component within each category of network hierarchy might be well maintained within the framework of an overall asset management strategy, the network might still not deliver best value, as the asset might not be performing to optimum efficiency. Operational efficiency is primarily a network management consideration but aspects of it are closely related to the maintenance function, for example:

- traffic signs or markings may be poorly sited or the legend may be either incorrect, confusing or not reflect current priorities;
- traffic signs or markings may be redundant;
- facilities for walking, cycling or public transport might be discontinuous or poorly defined. Opportunities for installation of dropped kerbs or textured paving should be taken;
- opportunities might be taken to modify layout as part of future relevant maintenance schemes.

9.20.2 Such network deficiencies are unlikely to be noted as part of safety, or condition inspections, but are nevertheless relevant to network efficiency. It is therefore suggested that authorities undertake service inspections of network integrity at intervals determined by risk assessment, or by default three to five years, and that the outcome of such surveys be taken account of in planning of network maintenance and improvements.

9.20.3 Further guidance on surveys of network integrity for cycling and walking are given in IHT Guidelines on the conduct of Cycling and Walking Review.

9.21 GENERAL REQUIREMENTS OF CONDITION SURVEYS

9.21.1 The most significant financial investments in highway maintenance will be in repairing, reconditioning and reconstructing highway pavements, in particular those of carriageways. Condition surveys identify the current condition of the network and from this condition, both long-term and short-term maintenance funding decisions can be made. Repeatable condition surveys allow trend analysis to be used to confirm the original decisions or allow for changes as a result of the changing network condition.

9.21.2 As part of their HAMP, authorities will need to demonstrate value for money from investment in maintenance to meet the serviceability requirements. Authorities will therefore need to have available information on the nature and severity of deterioration, in order to determine the most appropriate maintenance treatment. There are a number of types of survey, each providing information from a differing perspective, and which in combination can provide a comprehensive picture of the condition of the asset.

9.21.3 These surveys may broadly be sub-divided into network level and project level. At network level surveys may include:

- SCANNER (Surface Condition Assessment of the National Network of Roads);
- Coarse Visual Inspections (CVI);
- skidding resistance (SCRIM or Grip Tester);
- detailed visual surveys (DVI) for footways.

9.21.4 Network level surveys may be supplemented at a local or project level by further investigation. The nature of this investigation will depend on the circumstances of the case. Survey methods include:

- Deflectograph;
- Falling Weight Deflectometer (FWD);
- Ground Penetrating Radar (GPR).

9.21.5 Basic information on each of these methods is given in this Code, together with further details in Appendix E on how the information is used in developing a survey regime.

9.22 CONDITION SURVEY REQUIREMENTS

9.22.1 SCANNER surveys became mandatory in England in 2004/5 for reporting of BVPI 223 (previously BVPI 96), Condition of Principal Roads, and will be mandatory from 2005/6 for reporting BVPI 224a (previously BVPI 97a) Condition of Non-Principal Classified Roads. SCANNER surveys were mandatory in Scotland from 2001-02 as part of the Scottish Road Maintenance Condition Survey (SRMCS).

9.22.2 SCANNER surveys are traffic speed surveys that follow similar principles to the HA's TRACS surveys. These surveys collect data on transverse and longitudinal profiles, texture and cracking of pavements. These are fast surveys with real time processing of condition information, that were introduced with the aim of providing both reliable and repeatable information, for the assessment of pavement condition.

9.22.3 CVI will eventually be replaced as a mandatory survey for classified roads by SCANNER, for all parts of the network where its use is practically feasible. CVI is normally carried out from a slow moving vehicle, complemented in some cases with machine measured rut depth data. In the meantime however CVI remains a fast, cost-effective survey that enables authorities to cover large parts of their road network on a regular basis. Rather than recording detailed measurements of individual defects, the survey identifies and categorises lengths of features having generally consistent defectiveness.

9.22.4 DVI is used to report BVPI 187 for Category 1A, 1 and 2 footways. It may also be used on carriageways where more detailed information is required to support and validate treatment decisions and scheme identification (supplementing CVI data), and also on a cyclical basis for those parts of the network where a more detailed routine visual assessment is required (e.g. in urban areas). DVI can also be used for concrete carriageways. Segregated cycle routes may also be surveyed by DVI.

9.22.5 Network surveys such as SCANNER and CVI provide regular whole network coverage and are used to target more detailed investigations of provisional treatments, using more detailed project level surveys. These are described in more detail in Appendix E.

9.22.6 It is recommended that, as a minimum, surveys are carried out to support the requirements of statutory indicator reporting, and to support participation in the NRMCS and SRMCS. In addition, surveys over and above this minimum should be carried out to support local need.

9.22.7 Details for good practice survey regimes, to be adopted on local authority roads in England and other parts of the UK, are also summarised in Appendix E.

New Paragraph
Added 14 May 2009

9.22.8 The SCANNER User Guide was published in 2007 incorporating guidance on the use of the equipment, to support local authorities through all stages of collecting SCANNER information, from procurement of surveys to data use. The Guide includes 5 volumes.

Volume 1 – Introduction to SCANNER

Volume 2 – Advice to Local Authorities – Procuring Surveys

Volume 3 – Advice to Local Authorities – Using SCANNER Survey Results

Volume 4 – Technical Requirements – SCANNER survey data and Quality Assurance

Volume 5 – Technical Requirements – SCANNER Survey Parameters and Accreditation

9.22.9 The Guide may be downloaded from the following website.

Website Amended
15 December 2010

http://www.pcis.org.uk/

9.23 UKPMS REQUIREMENTS

9.23.1 UKPMS accommodates data provided from machine based surveys such as SCANNER and visual surveys such as CVI and DVI. The UK Roads Board are currently reviewing the strategic role of UKPMS, and its future application as described in this Code may vary as a result.

9.23.2 In utilising UKPMS, authorities should firstly establish their expectations in terms of benefit and value from the system. The choice of system and the data requirements will vary between an authority that is merely expecting UKPMS to provide statutory indicators, and one that is looking for UKPMS to form an integral part of their highway management arrangements. In particular, authorities should consider which of the following they are expecting UKPMS to deliver:

- production of BVPI and other statutory indicators;
- production of data for NRMCS and SRMCS;
- road condition information to support their LTP;
- development of a HAMP including:
    - local identification and prioritisation of treatments;

  - local budget setting and needs identification;
  - local performance indicators;
- comparable information to benchmark with others.

9.23.3 UKPMS allows considerable flexibility in the types of data that are collected to support the operation of the system, and in the frequency and the level of detail at which those data are collected. A number of possible approaches are proposed below, and suggest a number of issues that influence the choice of a particular configuration.

9.23.4 In defining their approach, authorities may also take into account the following:

- whether to collect inventory and how much to collect;
- what machine and visual condition surveys to collect;
- whether to carry out surveys on a routine cyclical basis, or to target surveys (particularly more costly detailed surveys) to areas of concern or where treatments are proposed;
- frequency of inspection;
- whether to collect more detailed condition surveys over and above the mandatory surveys to support the detailed consideration of maintenance schemes;
- whether to vary the approach by hierarchy or some other sub-division of the network;
- whether the main focus of UKPMS will be as a strategic tool to support decisions based upon network condition and budget levels, or an operational tool to support engineering decisions relating to the identification and prioritisation of remedial works at the scheme level. Many users will, of course, be looking for UKPMS to fulfil both of these roles and will need to tailor their data requirements accordingly;
- requirements for benchmarking.

9.23.5 There are three possible scenarios for the application of UKPMS, and associated inspection regimes, these are described below.

Scenario 1 - Full

- information used to target more detailed investigation using Deflectograph and other surveys, including DVI, to refine the provisional treatments proposed through the network level surveys;
- use of additional scheme and treatment building functionality to that provided by UKPMS may be required;
- this approach would also enable network analysis to take place;

- information used to allow future audit of treatment decisions, or to allow allocation of relative priorities on a condition or economic basis.

Scenario 2 - Enhanced

- collecting minimum data to support the requirements of the statutory indicators and to provide local information for NRMCS and SRMCS;

- consequences of historic funding and policies are monitored by tracking changes in network condition;

- treatment length costing and evaluation. Once treatments have been formulated, priorities are established on a condition (worst condition) or economic (best value) basis.

Scenario 3 - Minimum

- collecting minimum data to support the requirements of the statutory indicators and to provide local information for NRMCS and SRMCS.

9.23.6 Adoption of Scenario 1 and particularly Scenario 2 by authorities will contribute significantly toward the development of their HAMP. Further information on the use of UKPMS can be found in Appendix D. Further information on good practice for the development of pavement condition assessment regimes is provided in Appendix E.

9.24 ROAD MAINTENANCE CONDITION SURVEYS

9.24.1 The UK Roads Board, took over the responsibility for National Road Maintenance Condition Survey (NRMCS) policy following the decision to introduce automated surveys for NRMCS and best value reporting purposes. Arrangements are presently under development to change radically the way the NRMCS collects data. This is aimed at achieving more consistent survey standards locally, regionally and nationally and to ensure that data collected for NRMCS is the same as that utilised for maintenance purposes.

9.24.2 The principles underlying the new NRMCS are:

- to provide an objective measure of road condition at the national level and by type of road;

- to provide sufficient detail to permit comparisons of condition at authority and regional level;

- to permit meaningful comparisons to be made with UK and other European countries;

- to enable the calculation of outstanding maintenance work at national and regional level, in relation to targets that are consistent with maintenance minimum whole life cost;

- to avoid the necessity for authorities to carry out specific surveys for the NRMCS, but to use data collected for BVPIs and to reflect changes in the

BVPIs as they are introduced, in order to provide information that is useful to participating authorities.

9.24.3 The UK Roads Board have agreed an action plan to achieve this radical change, with work ongoing to move to full use of machine based SCANNER surveys. In order to demonstrate their contribution to meeting the Government targets, authorities in England should continue to adopt the different elements of the programme, as this is developed and rolled out. Authorities in other parts of the UK, although not presently subject to similar targets, are participating in the new Roads Performance Management Group developments in order to establish a more robust framework of condition information within the Devolved Administrations. CHART will remain in use until at least 2007-8.

9.24.4 In Scotland, where trend condition data from NRMCS was not available, all 32 authorities took the decision in 2002, to form a consortium to carry out an automated annual machine based condition survey (SRMCS) for all the road network. The information and experience gained from these surveys has been made available to the UK Roads Board and DfT. More information on SRMCS can be found in Appendix E.

9.25 DEFLECTION SURVEY REQUIREMENTS

9.25.1 In Wales and Northern Ireland Deflectograph surveys are still used for statutory reporting. In England SCANNER is now used for statutory reporting on the principal road network. The CSS has therefore published a guidance note on the future use of the Deflectograph in monitoring highway condition and prioritising and designing structural maintenance works. This section of the Code summarises this guidance.

9.25.2 The Deflectograph is a valuable tool to indicate the structural condition of the whole pavement, particularly on the vast majority of local authority roads, which are not deemed long life. (A long life pavement is defined as a pavement with over 300mm of bituminous materials and a low deflection.)

9.25.3 SCANNER only measures surface condition. Where defects have been identified by SCANNER, the Deflectograph may be used at project level to augment this condition information by providing the structural condition of the defective section for flexible and flexible composite pavements. This will assist in supporting treatment decisions. Where SCANNER and Deflectograph show that remedial works can be limited to the surface, no strengthening is required. However where the Deflectograph shows that the structure needs to be strengthened, the Deflectograph results provide recommendations for overlay thickness or reconstruction. At this stage, other tools such as FWD, GPR, coring and trial pitting can also be employed to provide useful data.

9.25.4 With SCANNER data giving a good indication of the overall condition and deterioration pattern for long life pavements, there is a potentially reduced need for Deflectograph surveys. However, for roads which are not long-life, SCANNER surveys will not take into account structural condition until it has manifested itself as rutting or cracking, therefore the need for Deflectograph surveys on a network basis on these types of highways remains valid.

9.25.5 The CSS guidance recommends that authorities suspend Deflectograph surveys on any lengths of highway which are known to be long life, or have more than 10

years residual life. The analysis should take into account the reduction in residual life since the survey. Authorities should bear in mind that deleting short lengths (i.e. part sections) of the network is unlikely to be economic or practical.

9.25.6 Authorities should therefore consider undertaking Deflectograph surveys as follows:

Principal Roads	1) Routine surveys of 20% of the non long life network each year;
	2) Specific surveys to provide data for remedial works where routine surveys show strengthening is required.
Non-Principal Roads	From 2005 authorities should consider undertaking specific Deflectograph surveys on sections highlighted by SCANNER for treatment.

9.26 INSPECTIONS FOR REGULATORY PURPOSES

9.26.1 A significant element of highway maintenance comprises regulation and enforcement of activities on or affecting the highway. The most significant of these involves responsibilities under the New Roads and Street Works Act 1991 (NRSWA). Most of these issues are now incorporated within the statutory duty for Network Management imposed by the Traffic Management Act 2004, and are the responsibility of the authority's Traffic Manager.

9.26.2 The main key regulatory activities include:

- ensuring 'expeditious movement of traffic';
- management of the Highway Register;
- management of the Definitive Map for PROW;
- dealing with encroachment on the highway;
- dealing with obstruction on highways or PROW;
- dealing with illegal and unauthorised signs;
- issuing permits for utilities, skips, hoardings, temporary closures and other authorised occupation of the highway;
- construction of vehicle crossings;
- dealing with illegal parking on verges and footways;
- adoption of new highways.

9.26.3 Although each of these are separate duties, many of them have wider implications for highway maintenance, for example:

- many of these items, for example illegal signs or encroachment, may have the potential to contribute to accidents; and the details of how the occurrence was dealt with (or not dealt with) by the authority may be a material consideration in legal proceedings;

- illegal parking on verges and footways, especially by heavy vehicles, could cause considerable damage and where this has occurred it might be relevant to increase inspection frequency and consider new materials or prevention.

9.26.4 It will therefore be important to establish standards for regulatory inspection on the basis of risk assessment undertaken in conjunction with the Traffic Manager.

9.27 CO-ORDINATION OF INSPECTION REGIME

9.27.1 Although there is a wide range of inspections which need to be considered by authorities, it should be possible to co-ordinate these to make the best use of resources. It may also be possible to integrate inspections with other activities. For example, where 'Integrated Street Management' arrangements are adopted in town centres for cleansing and repair, it may be possible to combine safety inspections with street cleansing and other inspections undertaken by Street or Community Wardens to provide more frequent inspection at minimum cost. It may also be possible to combine DVI surveys on footways with service inspections. Many authorities will choose to combine safety and service inspections. Where combined inspections are adopted, particular care should be taken to ensure that consistent standards of recording are maintained.

9.27.2 A most important aspect of optimised inspections relates to NRMCS. It has been the case until now that information for NRMCS has been collected separately from data required for the authority's own purposes. Under the new strategy being developed for NRMCS outlined earlier in this section, this duplication will be avoided and one common set of data will be used for both national and local purposes. This approach is already being adopted in Scotland as part of the SRMCS surveys.

9.28 RELIABILITY OF DATA AND TRAINING

9.28.1 Survey data to be used for determination of highway condition will have considerable influence on the development of the HAMP, in determining spending levels and priorities, to achieve the serviceability standards. It will be used to produce BVPIs through UKPMS as the basis of inter-authority comparisons, and for the assessment of national condition and maintenance need through the NRMCS and SRMCS. Data needs to be accurate, complete and repeatable, and high standards of quality management and control should therefore be applied to its specification, procurement, collection and processing.

9.28.2 Opportunities to ensure quality and reliability of data occur at a number of levels including:

- survey instructions and documentation;

- selection and appointment of inspectors;

- training;

- specification and procurement of surveys;
- audit procedures;
- survey procedures;
- data capture software;
- processing software;
- maintenance and calibration of equipment;
- record keeping.

9.28.3 All surveys should be carried out in accordance with the current documentation including, but not limited to, the latest versions of the following:

- UKPMS Visual Survey Manual and Users Manual;
- relevant sections of the Design Manual for Roads & Bridges and TRMM.

9.28.4 The development of survey procedures may vary from the standard documented approach, and considerable care should be taken in the derivation of locally enhanced versions of surveys to ensure that the standard data can be extracted, without bias from the survey.

9.28.5 In the case of machine surveys such as SCANNER, Deflectograph, SCRIM, FWD, GPR and Grip Tester, these should be carried out only using accredited machines. Normally these machines are accredited annually.

9.28.6 Training is especially important in the case of inspections and surveys where the quality and treatment of data could have significant legal and financial implications.

9.28.7 The City and Guilds 6033 Scheme has been specifically developed to provide a range of recognised vocational qualifications, available nationally, which are gained based on the assessment of inspectors against the requirements of this Code, other related national standards, legislation, and where appropriate, locally determined highway standards and procedures.

9.28.8 The holding of City and Guilds Scheme 6033 unit 311 ‘Highway Safety Inspection award’ can contribute positively to risk management and the exercise of the special defence in compensation or liability cases.

9.28.9 The DfT has introduced inspector accreditation requirements, commencing 2004/05, for all inspectors undertaking visual surveys for BVPIs 224b and 187. Accreditation is achieved through the City and Guilds 6033 Scheme, specifically Unit 301 – Health and Safety, Unit 331 – CVI and Unit 332 – DVI.

9.28.10 Care should also be taken in the specification of surveys when deciding whether these are to be carried out in house or by contract, to ensure that appropriate quality provisions are included in the specification that address:

- selection and training of inspectors;

- survey procedures and documentation;
- quality management procedures, audit and error correction.

9.28.11 Audit and quality control procedures are essential, and reference should be made either to the visual survey manual or model contract for UKPMS surveys.

9.28.12 Visual inspection survey data to be used for highway condition assessment purposes should be collected in accordance with specified requirements, in order to ensure accuracy, repeatability and comparability of BVPIs.

9.28.13 From 2004/05, it is a requirement that all versions of Data Capture Device (DCD) software that are used to undertake UKPMS visual surveys for BVPIs 224b and 187 have successfully passed the UKPMS DCD Software Accreditation test.

Website Amended
27 April 2012

9.28.14 Visual inspection survey data to be used for highway condition assessment purposes must be processed by a PMS fully accredited to UKPMS requirements, in accordance with the currently approved set of Rules and Parameters, to provide condition indices and hence relative maintenance priority based on condition for each network section. Further details of UKPMS are provided in Appendix D and at (http://www.pcis.org.uk/index.php?p=25/42/0).

9.28.15 The data may also be processed according to other rules at the discretion of the authority, in order to consider other options for prioritisation. Any variations from the current Rules and Parameters utilised by the authority should be recorded for LTP monitoring purposes.

RECOMMENDATIONS FOR SECTION 9

R9.1 Inspection and Survey Regime

Authorities should develop, and implement an inspection and survey regime to provide accurate, timely and relevant information on the condition of the highway network, including cycle routes and footways, as a basis for assessment of local maintenance need. The regime should include regular safety inspections and condition surveys as a minimum.

R9.2 Risk Assessment

Frequency of safety inspections, together with the nature and speed of response to identified defects, should be developed from a process of risk assessment including a risk register. Any variations in standards from this Code should be identified, approved and adopted by authorities. The approval and adoption process should involve the authority's Executive and be explicit, transparent and inclusive.

R9.3 Inspection of Highway Trees

Highway safety inspections should include highway trees, including those outside, but within falling distance of, the highway. Inspectors should take note of any encroachment or visibility obstruction and any obvious damage, ill health or trip

hazards, but a separate programme of tree inspections should be undertaken by arboricultural advisors. Authorities should include some basic arboricultural guidance in training for highway inspectors.

R9.4 Highway Tree Policy

Authorities should develop, with arboricultural advice, a policy for the installation management, removal and replacement of highway trees. The policy should recognise the amenity and nature conservation value of trees, but also seek constructively to manage ongoing risk to the authority.

R9.5 Recording of Information

Information from all inspections and surveys, together with any immediate or programmed action, including nil returns, should be accurately and promptly recorded, monitored, and utilised with other relevant information in regular reviews of maintenance strategy and practice. This is particularly relevant in the case of safety inspections.

R9.6 Highway Condition Survey Regime

The highway condition survey regime should reflect the different requirements of the network based upon the defined hierarchy, and may be based on machine collected data, coarse visual walked or driven surveys, according to particular circumstances, taking account of statutory requirements.

R9.7 Scope of Highway Condition Survey

The highway condition survey regime will need to provide as a minimum the condition information necessary to determine and monitor relevant statutory indicators. It should, however, also provide information to support more detailed assessment and monitoring of highway elements, for example surface and road edge condition, in order to establish a Highway Asset Management Plan, and to assist the programming of maintenance.

R9.8 Co-ordination with NRMCS and SRMCS

The highway condition survey strategy should be compatible with the requirements for surveys of strategic and local road condition specified through NRMCS and SRMCS and to facilitate the provision of information to national surveys, as a basis for assessment of national maintenance need, where this applies.

R9.9 Accuracy and Reliability of Data

Highway condition assessment data from SCANNER and CVIs will have considerable influence on statutory indicators, spending levels and priorities. It will need to be accurately referenced, complete and repeatable, and high standards of quality management and control should therefore be applied to its specification, procurement, collection and processing.

R9.10 Visual Survey Data Processing for Structural Condition Index

Survey data to be used for highway condition assessment purposes should be processed by a pavement management system accredited to UKPMS, in accordance with the currently approved set of Rules and Parameters, to provide condition indices and priority for network sections based on condition.

R9.11 Skidding Resistance Strategy

Authorities should publish a skid resistance strategy, as part of their HAMP. The strategy, which should be informed by risk assessment, should address all relevant issues identified by this Code, including provision of Slippery Road signing, frequency of surveys, approach to setting investigatory levels, priorities for subsequent treatment and approach to dealing with early life skid resistance.

R9.12 Developments in Survey Technology

Regular reviews of survey strategy should take account of new technologies and methods. This could include the use of in-vehicle location and communications technology to record the position of defects and to ensure that they are instantaneously recorded with the works gang.

R9.13 Training

Authorities should adopt and support relevant highway training and vocational qualifications (NVQs, SVQs and the City & Guilds 6033 Scheme) which establish the competence of all those involved in highway maintenance, having particular regard to the training and qualification of personnel engaged in highway inspection and survey tasks.

Section 10
Condition Standards and Investigatory Levels

Comment Added
Added 14 May 2009

In Section 10 various references are made to Best Value Performance Indicators (BVPIs). These have now been replaced by National Indicators (NI). Hence, when reading Section 10, BVPIs must be read as NIs.

10.1 RELEVANCE OF CONDITION STANDARDS AND INVESTIGATORY LEVELS

10.1.1 As indicated in Section 8, each aspect of the maintenance regime needs to be founded on the core objectives of:

Network Safety
- Complying with statutory obligations;
- Meeting users' needs for safety.

Network Serviceability
- Ensuring availability;
- Achieving integrity;
- Maintaining reliability;
- Enhancing condition.

Network Sustainability
- Minimising cost over time;
- Maximising value to the community;
- Maximising environmental contribution.

10.1.2 These core objectives are supplemented by a new overall objective of Customer Service developed further in Section 11. This objective will apply to the highway service as a whole, as users may not be able easily to distinguish between maintenance, network management and improvement works.

10.1.3 Every aspect of highway maintenance for each element of the network has the potential to contribute to some extent to the above objectives. For example, the contribution to the safety objective of the carriageway surface is affected by:

- the actual condition of the surface;
- the response time for attending to inspections and user concerns;
- the quality of management and service delivery;

- the effectiveness of materials and treatments used.

10.1.4 Authorities should therefore define standards for the condition of each element of the network, developed through risk assessment, which they consider necessary to meet the requirements for safety, serviceability and sustainability. Where these standards are not met they should set targets for attaining them and sustaining them in the long term.

10.1.5 Authorities should also set standards and targets for achievement in respect of response times to inspections and user concerns, based upon risk assessment. They should also work towards setting standards and targets relating to quality of management and service delivery and possible contributions from changes in materials and treatments.

10.1.6 In some cases these standards will relate to statutory indicators, but others may be locally determined. It is important that locally determined standards take account of the views of users and the local community, and have regard to the advice of this Code.

10.1.7 In the case of standards relating to network safety, it is essential that authorities take note of their statutory responsibilities as well as users' needs, and review legal interpretations in determining standards of condition and response.

10.1.8 Authorities should ensure that all standards are formally adopted and published as part of a Highway Asset Management Plan (HAMP). They will also need to be consistently applied and reviewed at intervals in the light of changing circumstances.

10.1.9 With experience over time it may be possible to develop a single outcome standard for each of the maintenance objectives as the basis for a performance based procurement regime. It will still be necessary, however, for the contracting service partner to expand these into a wider range of standards for operational purposes.

10.2 TYPES OF STANDARD OR INVESTIGATORY LEVEL

10.2.1 The highway maintenance regime should incorporate the following standards:

- operational;
- management of programming and priorities;
- materials and treatments;
- management of procurement and service delivery;
- management of finance.

10.2.2 The last four of these are dealt with in subsequent sections of this Code. Operational aspects concerning inspection frequency and response are dealt with in Section 9. This section deals with asset condition requirements for each element of the network and its contribution to safety, serviceability and sustainability.

10.2.3 Each element of the network could have different standards of condition, a minimum one to satisfy requirements for safety, and higher ones, designed to meet local requirements for serviceability or sustainability, as part of the asset management strategy adopted by the authority. These different higher standards have previously been given a range of names including ‘warning levels’, ‘intervention levels’ and ‘investigatory levels’. In this Code the term has been standardised as ‘investigatory levels’, as failure to reach the defined standard in most cases could give rise to a range of responses each of which needs to be further investigated, prior to action being taken. There will be certain circumstances, of course, primarily for safety reasons, where an immediate response is necessary.

10.2.4 The term ‘intervention level’ has been retained only for use with the automatic treatment selection criteria used in UKPMS, as the system does actually ‘intervene’ at the defined condition standard. It will, however, always be referred to as system intervention level (SIL) for the avoidance of confusion.

10.2.5 The following paragraphs set out the suggestions for the nature of contributions made by each element of the network towards safety, serviceability and sustainability together with, where appropriate, a suggested standard of condition. It should be stressed that these standards are suggested ones only, and presently tend to identify input rather than wider outcomes. They should be developed locally over time, in consultation with users, providers and the wider community. Assessment should be based on risk and outcome based standards, wherever possible. This process is a fundamental part of the development of the HAMP.

10.2.6 Each element of the network will contribute differently to the objective of customer satisfaction and possibly within different timescales. For example good surface condition or signing will have an immediately positive effect, whilst the effect of good quality drainage will probably be imperceptible for most of the time. Generally the level of customer satisfaction is more relevant when applied to the whole of the network and it is therefore not dealt with by this Code under each of the individual elements.

10.2.7 The approach of this edition of the Code has been to adopt throughout the principles and practice of risk management. However, it is accepted that many authorities may not be sufficiently well advanced in their asset management planning to fully adopt this approach. Accordingly, in Sections 9 and 10 of the Code, where reference is made to risk assessment being used to derive inspection frequencies for safety or service inspections, default values will also be suggested. These default values will usually be based on the current edition of the Highways Agency’s Trunk Road Maintenance Manual (TRMM).

10.3 CONDITION OF CARRIAGEWAYS

10.3.1 The condition of the carriageway fabric can contribute to the core objectives as follows:

Safety	• Nature, extent and location of surface defects; • Nature and extent of edge defects; • Nature and extent of surface skidding resistance.
Serviceability	• Nature and extent of surface defects; • Ride quality of the surface.
Sustainability	• Surface noise attenuation characteristics; • Nature and extent of surface defects; • Nature and extent of carriageway deflection.

10.3.2 In England local road carriageway condition is identified by statutory indicators, which record the percentage of the road network where maintenance should be considered. There are separate indicators for Principal Roads (BVPI 223), Non-Principal Classified Roads (BVPI 224a), and Unclassified Roads (BVPI 224b). Further details of survey and data processing requirements, together with investigatory levels for surface and skidding resistance, commonly used by authorities to meet safety objectives, are included in Section 9. The definition of investigatory levels to meet requirements for serviceability will be a matter for local determination, preferably in consultation with users.

10.3.3 Once appropriate investigatory levels have been established to support the required standards, these may be codified as SILs within UKPMS. In this way, the use of UKPMS represents an effective means of delivering and implementing predetermined standards.

Paragraph Amended
14 May 2009

10.3.4 In England local road carriageway condition is identified by statutory indicators, which record the percentage of the road network where maintenance should be considered. There are separate indicators for Principal Roads (NI 168) and Non-Principal Roads (NI169). Details of these National Indicators may be found in the following website:

http://www.communities.gov.uk/publications/localgovernment/nationalindicator

Further details of survey and data processing requirements, together with investigatory levels for surface and skidding resistance, commonly used by authorities to meet safety objectives, are included in Section 9. The definition of investigatory levels to meet requirements for serviceability will be a matter for local determination, preferably in consultation with users.

10.3.5 In practice, the development of a rule set for UKPMS can be an extensive and complex exercise. For this reason, the UKPMS Rules and Parameters Project was initiated to develop a default rule set to be available for use with accredited UKPMS systems and to provide a template for local development. A key principle in the development of this default rule set, was to attempt to ensure that the treatment options produced by the automatic processing reflected the likely solution of a maintenance engineer, taking account not only of the condition of the pavement, but also maintenance policy, funding constraints and the hierarchy of the road.

Website Amended
27 April 2012

10.3.6 While treatment selection in the Automatic Pass of UKPMS involves a number of process elements, the SILs represent the final criteria, defining the relationships between condition and allocated treatment. More information on UKPMS can be found at (http://www.pcis.org.uk/index.php?p=25/42/0).

New Paragraph
Added 24 May 2013

10.3.7 The Highways Maintenance Efficiency Programme has developed a lifecycle planning toolkit for use by local highway authorities to provide planning level decision support, including the following:

- assessing the impact of different levels of funding on asset performance and asset maintenance needs;
- investigating current and future levels of funding required to sustain or improve the condition or performance of the asset;
- identifying the level of funding required to minimise whole life costs; and
- allocating resources to assets and treatments that provide the best whole life costs.

10.3.8 Three different versions have been published, namely for carriageways, footpaths and ancillary assets. The carriageway model incorporates work that was carried out to develop standard deterioration models for bituminous carriageways suitable for the local road network in England. The lifecycle planning toolkit, together with a user guide and information on the carriageway deterioration models, may be downloaded from the following website:

http://www.dft.gov.uk/hmep/efficiency/asset-management.php

10.4 CONDITION OF FOOTWAYS

10.4.1 The condition of footways can contribute to the core objectives as follows:

Safety

- Nature, extent and location of surface defects;
- Nature and extent of kerb and edging defects.

Serviceability

- Nature and extent of surface defects;
- Extent of encroachment and weed growth;
- The slipperiness of the surface;
- The quality of the surface;
- Integrity of the network.

Sustainability

- Convenience and ease of use;
- Nature extent and location of surface defects;
- Extent of damage by over-running and parking.

Paragraph Amended 14 May 2009

10.4.2 In England, since 2008, there are no statutory indicators for the condition of footways. However, recognising the importance of recording and monitoring the condition of footways, many authorities are continuing to collect information to calculate the indicator that was previously defined as BVPI 187, which records the percentage of Categories 1, 1A and 2 footways where maintenance should be considered.

10.4.3 DVI surveys are undertaken on foot using staff and software accredited in accordance with the UKPMS survey manual. The resultant survey data is then processed on a compliant UKPMS system to produce BVPI 187. The output report from BVPI 187 gives a combined figure for all survey categories, as well as individual values for each of the hierarchies included in the survey.

10.4.4 In addition to providing the BVPI report, the survey data can be manipulated to produce priority listings and indicative generic footway treatments. These generic treatments are predefined within the PMS and are triggered by the level of defects recorded within a section. The trigger varies from surface to surface; therefore it is essential that inventory data is collected in tandem with the defect data, to ensure the accuracy of the treatment selection and overall BVPI. If inventory data is not available then the default feature width is used to provide the feature.

10.4.5 Securing continuous improvement in the safety and serviceability of footways, in particular network integrity, will be a necessary component for encouraging walking as an alternative to the car, particularly for journeys of up to three miles in urban areas. It will be important for maintenance strategy positively to address this.

10.4.6 It will also be important in determining priorities for footway maintenance to ensure that opportunities are taken to aid social inclusion, particularly improving accessibility for older and disabled people and also the use of prams and pushchairs. This should be included as part of the Value Management process described in Section 12. Proposed treatments may include the provision of dropped kerbs in suitable locations and textured paving adjacent to crossing points at marginal cost during the course of works. Since October 2004, this is of even greater importance, as there is a statutory duty on service providers under the Disability Discrimination Act 1995 to take reasonable steps to remove or alter physical features to improve access for disabled people, or provide an alternative method of making services available.

10.4.7 There is no doubt that the Act applies to highway authorities, in that they are providing a service to the public, and in recognition of this TfL Street Management commissioned a report to review the suitability of its network for access by people with disabilities and to consider the needs for improvements. The report identifies the specific problems related to different types of disability and identifies measures that can be applied to the design and layout of the existing highway infrastructure, to remove or mitigate these problems. Some of these measures can be applied as part of maintenance works at marginal cost. The report includes an audit checklist and its use is recommended as good practice (www.tfl.gov.uk).

10.4.8 Although ensuring the safety of footways for users will be a priority, in some cases the presence of roadside trees may complicate the provision of footway surface regularity. The radical treatment or complete tree removal necessary to ensure surface regularity may not be possible or desirable and reduced standards of surface regularity may be a more acceptable outcome. Further information on trees is provided in Section 15.

10.4.9 Where footways are remote from carriageways, safety and security of users will be an important consideration, both from the point of view of unauthorised vehicular use and quality of lighting. Maintenance strategy should pay particular attention to this.

New Paragraph
Added 15 December 2009

10.4.10 The UK Roads Board has developed and tested a new footway survey known as the Footway Network Survey (FNS). This is now available for use. Work is ongoing towards its implementation within UKPMS for April 2010. The FNS is intended to provide a cost effective, efficient and consistent approach to footway surveys, based on a linear basis. The survey is carried out by a single surveyor walking along the footway, referenced to chainage within a UKPMS section. Further details on the survey may be found on

www.footways.org.

10.5 CONDITION OF PUBLIC RIGHTS OF WAY

10.5.1 The condition of Public Rights of Way (PROW) can contribute to the core objectives and to the broader quality of life objectives associated with leisure and recreation.

10.5.2 In England the condition of PROW is assessed by BVPI 178 which measures the percentage of the total length of rights of way in the authority area that are easy to use by the general public. Easy to use in this context means:

- signposted where they leave the road in accordance with section 27 of the Countryside Act 1968 and to the extent necessary to allow users to follow the path;
- free from unlawful obstructions or other interference (including overhanging vegetation) to the public's right of passage;
- surface and lawful barriers (e.g. stiles, gates etc) in good repair and to a standard necessary to enable the public to use the way without undue inconvenience.

10.5.3 Condition standards for PROW will be determined as part of a Rights of Way Improvement Plan (ROWIP), in consultation with the Local Access Forum established by the Countryside and Rights of Way Act 2000.

10.6 CONDITION OF CYCLE ROUTES

10.6.1 The condition of cycle routes can contribute to the core objectives as follows:

Safety
- Nature, extent and location of surface defects;
- Nature and extent of kerb and edging defects.

Serviceability
- Nature and extent of surface defects;
- Extent of encroachment and weed growth;
- The slipperiness of the surface;
- The quality of the surface;
- Integrity of the network.

Sustainability
- Convenience and integrity of the network;
- Nature extent and location of surface defects;
- Extent of damage by over-running and parking.

10.6.2 There is presently no statutory indicator specifically identifying the condition of cycle routes, but guidance on investigatory levels for cycle routes is provided in TRL 535 and the Footway and Cycle Route Design Construction and Maintenance Guide AG26. The definition of investigatory levels for surface, and skidding resistance, commonly used by authorities to meet safety objectives is dealt with in Section 9. The definition of investigatory levels to meet requirements for serviceability will be a matter for local determination, preferably in consultation with users. SILs may, as for carriageways, be codified within a PMS, and suggested values have been established for the current UKPMS default rule set.

10.6.3 Securing continuous improvement in the safety and serviceability of cycle routes, in particular network integrity, will be a necessary component for encouraging cycling as an alternative to the car. It will be important for maintenance strategy positively to address this.

10.6.4 Network integrity is a particularly important consideration where cycle routes are segregated for part of their length, but intermittently rejoin the carriageway. In these circumstances a reasonably consistent standard of maintenance should be provided and attention paid to carriageway edge condition in the un-segregated sections. Cambridgeshire County Council specifies that:

- where carriageway cycle lanes are established particular attention will be required to ensure drainage gullies, valve covers, inspection chambers etc do not pose hazards to cyclists and that the road surface is in good repair;

- carriageway cycle lanes necessitate the use of additional traffic signs and road markings, and coloured surfaces where appropriate;

- where possible the quality of the road surface at the edge of carriageways, especially in urban areas, will be improved. Programmes of resurfacing and carriageway reconstruction can assist in making the existing highway network ‘cycle friendly’ and thereby assist in the implementation of the National Cycling Strategy;

- road gully gratings shall be of the flat type and laid within 10mm of the road surface. Where other types of gratings exist, a programme of replacement will be affected;

- when designing new cycle lanes, due regard to the road surface condition shall be taken and if the existing carriageway is poor, while the rest of the road is good, inlaying the cycle route with asphalt should be considered as part of the scheme. A check should be made on the position and condition of any ironwork within the cycle lane;

- the surface of a cycle route is crucial to its acceptability by cyclists. New surfaces should give a good ride quality, being smooth and free from bumps and depressions. Where it is possible for a paving machine and delivery lorries to gain access to a cycle route (e.g. alongside the carriageway) hot laid asphalt should be used between edging strips. Where this is not possible, textured and smooth bituminous material should be used. It is particularly important that weeds are killed before surfacing a cycle route;

- dropped kerbs across a cycle route should be flush (3mm high) with the carriageway or access particularly where cyclists will cross them obliquely;

- drainage should prevent the ponding of water or the accumulation of grit or silt on the cycle route. However this is often impossible to achieve where a converted footway runs through a wide verge at a lower level than the carriageway with little longitudinal fall;

- the authority notes that it is the responsibility of the adjacent landowner to trim hedges from the edge of the cycle route once each year. Where the natural hedge line is within half a metre of the edge of the carriageway, a second trim will be required and this cut can be allocated from the highway maintenance budget. Arrangements should be made for the District Council's contractor to sweep the cycle route after these operations (this is particularly important for thorn hedges) to a maximum of 2 sweeps. These 2 sweeps may be funded by the highway authority and may be in addition to sweeping by the District Council to keep the highway clean.

- headroom along cycle routes beneath signs and branches should be at least 2.7m.

10.7 CONDITION OF HIGHWAY DRAINAGE SYSTEMS

10.7.1 The condition of highway drainage systems can contribute to the core objectives as follows:

Safety

- Accumulation of water on carriageways, footways and cycle routes.

Serviceability

- Accumulation of water on carriageways, footways and cycle routes.

Sustainability

- Polluted effluent from clearing of highway drainage should not be directed into watercourses;

- Authorities have a duty to prevent nuisance to adjoining landowners by flooding and should also work with others in the wider community to minimise the future risk of flooding;

- Inadequate drainage of the highway structure will reduce effective life and increase maintenance liability.

10.7.2 Highway drainage elements fall into five main categories:

- gullies, grips and ditches, which may be obstructed by the growth of vegetation or damaged by traffic. In most cases the responsibility for maintenance of ditches will rest with the adjoining landowner;

- culverts under roads which may be affected by blockage, subsidence or structural damage;

- other piped drainage which may be affected by blockage or subsidence;

- sustainable urban drainage systems, which may require special maintenance attention for maximum effectiveness;

- surface boxes and ironwork for both drainage and non-drainage applications, which may be affected by subsidence or obstructed access.

10.7.3 There are no statutory or local indicators identifying the condition of highway drainage systems. Authorities should develop local standards based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the system. The impact of drainage system failure will be greater on high speed roads, or in areas susceptible to flooding, and specified condition standards should reflect this. In such circumstances, the condition of drainage systems should require them to be free of obstructions at all times, with an appropriate inspection and cleansing regime to deliver this.

10.7.4 The frequency of emptying will also depend upon the location, extent of tree cover, level of rainfall, the extent of kerbing and the frequency of sweeping. The nature of local industrial and agricultural land use may also be influential. In lower risk situations, by default all gullies should be cleansed annually and arrangements made for non-functioning gullies to be recorded for more frequent or detailed attention. Schedules of gullies requiring increased frequency of emptying should be built up by experience and any known trouble spots included. Streets rather than individual gullies may be identified. Gullies should be over-filled when emptied to ensure they are clear and if not, the unit should be recorded for jetting. No more than 50mm of material should remain in the unit before it is recharged with clean water.

10.7.5 In lower risk areas culverts and manholes should be inspected every five years by default and cleaned where necessary, and piped drainage should be checked and flushed if necessary during regular service inspections, but by default at not more than 10 year intervals. Grips and kerb offlets should be jetted by default annually.

10.7.6 The frequency of cleansing of oil interceptors will depend on their design and location and will need particular consideration on a site-specific basis.

10.7.7 Material arising from all road drainage emptying and cleansing operations has potential implications for pollution and should be disposed of correctly in accordance with Environment Agency (EA), or equivalent authority, requirements.

10.7.8 Where despite effective maintenance operations, flooding of the highway occurs, with implications for safety or serviceability, relevant warning signs should be placed in position as quickly as possible and users advised through local media. The cause of the flooding should be determined and given prompt attention, in order to restore the highway to a reasonable condition. If it is subsequently determined that the flooding is attributable to deficiencies in infrastructure or the

maintenance regime, given the nature of the weather conditions under which it occurred, then action to permanently relieve the problem should be considered urgently. If the event is attributable to the actions of a third party, the matter should be taken up with them at the earliest opportunity.

10.7.9 Ironware comprising covers, gratings, frames and boxes set in carriageways, footways and cycle routes has the potential to compromise safety and serviceability, and in certain cases cause noise and disturbance to local residents. Responsibility for defective ironwork, where this is part of the apparatus installed by a utility, lies with the company. Defects identified during inspection or from users should be formally notified to the utility, with a follow up procedure to ensure that dangerous defects are remedied within a specified timescale.

10.7.10 The following default condition standards are suggested for ironware set in carriageways. Manhole covers and boxes in the carriageway should be installed to a tolerance of ±5mm to the surrounding level. Gully frames and gratings should be installed level, or not exceeding 10mm lower than the surrounding carriageway. When boxes, frames and covers are found to be greater than 20mm lower than the surrounding carriageway they should be re-set.

New Paragraph
Added 13 August 2010

10.7.11 The Highways Maintenance Efficiency Programme has produced guidance on the management of highway drainage assets that recognises that in order to maintain highway drainage systems cost effectively, local highway authorities need to have a robust management strategy. Authorities should consider this guidance when making decisions on the management of drainage assets. The guidance may be downloaded from the following website:

http://www.dft.gov.uk/hmep/docs/asset-management/121127-guidance-on-management-of-drainage-assets.pdf

10.8 CONDITION OF EMBANKMENTS AND CUTTINGS

10.8.1 The condition of embankments and cuttings can contribute to the core objectives as follows:

Safety
- Risk of loose material falling to injure users or damage facility.

Serviceability
- Risk of damage or service interruption.

Sustainability
- Damage or loss of habitat;
- Interruption or pollution of watercourse;
- Extent of damage and reduced life.

10.8.2 There are no statutory or local indicators identifying the condition of embankments or cuttings. Authorities should develop local standards based on fitness for purpose to provide the level of service required, and assessment of the risk of this being compromised by failure of the system. The probability of failure will be affected by soil conditions and drainage. The impact of embankment or cutting failure will generally be high in all situations, but particularly so on important high

speed links, or where dwellings could be affected. In such circumstances, the condition of embankments and cuttings will require a robust regime of inspection, and possibly continuous condition monitoring.

10.8.3 Slips and rock-falls from embankments and cuttings are relatively infrequent but the frequency and severity of such events may be affected by climatic change. Authorities should have records of relevant locations and should establish an inspection and maintenance regime based on a local risk assessment. In higher risk locations, or where ground conditions are difficult, specialist geotechnical advice should be obtained.

10.9 CONDITION OF LANDSCAPED AREAS AND TREES

10.9.1 The condition of landscaped areas and trees can contribute to the core objectives as follows:

Safety
- Obstruction to user visibility and legibility of traffic signs;
- Falling branches from trees;
- Leaf fall from trees causing slippery surface;
- Root growth affecting surface regularity.

Serviceability
- Potential for service interruption;
- Quality of user experience.

Sustainability
- Landscape conservation;
- Mitigation of climate change effects;
- Support for habitat and biodiversity;
- Problems of root growth for surface, structure and highway drainage.

10.9.2 There are no statutory indicators identifying the condition of landscaped areas and trees, but the HA includes this within its Area Performance Indicator API 4 Environmental Amenity Index. Authorities should develop local standards based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure. The probability of landscaping and tree failure will generally be low but is likely to increase as a result of climate change. The impact will generally be related to safety or damage to road surfaces or property, and will increase on higher speed roads and the proximity to property. The inspection and maintenance regime should identify high risk locations, together with appropriate condition standards.

10.9.3 The condition of landscaped areas has major implications for all of the core objectives. The maintenance regime will therefore require particularly careful consideration to ensure that the necessary balance continues to be achieved. It is also possibly the most visible aspect of the highway, of wide interest to both public and special interest groups, and provides the opportunity to demonstrate

sensitivity and flexibility in maintenance policy. Further advice on the sustainable management of landscaped areas is given in Section 15.

10.9.4 The obstruction of street lighting and traffic signs can be a major safety risk to users. During routine night-time inspections any such obstruction should be recorded. Trees and other foliage should be trimmed back to allow the lighting to function and the signs to be legible, while maintaining the shape of the tree.

10.9.5 The National Assembly for Wales notes that highway verges should be differentiated from the 'soft estate'. Verges should be considered as part of the trafficked highway, maintained principally for the operational needs of the highway, but priorities for the wider soft estate will be different. The following definition of the soft estate is used: 'Land within the highway curtilage, which is not surfaced or constructed for use by vehicular or pedestrian traffic. It includes land that is in ownership of the NAW, having been purchased or used for the purposes of construction and the mitigation of the effects of the highway on the environment. The management of such areas will include all necessary maintenance tasks and operations set for the land by the Transport Directorate. It excludes all hard standings, lined ditches, drains, signs, and telecommunications equipment and fences. Verges and areas where grass is cut for safety and forward visibility fall within the soft estate, but are maintained to meet the overriding operational objectives but including consideration of environmental objectives or commitments.'

10.9.6 The soft estate includes areas of land having various functions, for example habitat, nature conservation interests, screening, planting, and wild flower diversity. The verge serves a safety and refuge function and to a lesser extent and in certain situations an amenity. The soft estate can be included in highway maintenance strategy but it requires a specialist expertise.

10.9.7 Dealing first with requirements for safety: vegetation either on verges, other parts of the soft estate or on private land, should not restrict visibility at junctions, access points and bends. Sight lines and minimum stopping distances should be kept clear and signs, lights, and marker posts should not be obstructed. It may also be necessary for vegetation to be cut back in order to enable inspections or surveys. Areas of highway grass that incorporate access to ducts, drainage systems etc may need to be cut about once in three years in order to maintain accessibility to these systems.

10.9.8 Condition standards and frequency of grass cutting on rural roads should be determined locally from risk assessment, but by default:

- embankment and cutting slopes and verges, except visibility areas, should not normally be cut;
- on all other roads, visibility areas, and to provide a pedestrian refuge, the first swathe from the edge of the carriageway should always be kept cut. Frequency of mowing will depend on the rate of growth but will normally be twice per year. Other areas of highway grass should also be cut every three years unless a positive decision is taken to allow it to vegetate. Performance based standards can be included in maintenance contracts;

- special requirements may be necessary in Sites of Special Scientific Interest or Nature Conservation. Advice should be sought from specialist advisors or the authority's biodiversity plan.

10.9.9 In urban areas grass cutting practice needs to involve a different balance of highway safety, serviceability and sustainability. Using the standards for rural roads would deliver safe standards from a visibility perspective, but length of grass, possible concealed debris and the potential for grass cuttings to block gullies, suggests there is a need for a higher frequency of cutting in urban areas. The frequency of cutting needs to balance these priorities in contributing to overall townscape management, taking into account the needs of users and the community.

10.9.10 Authorities should also provide for flexibility in applying urban and rural standards, and these should take account of the character of the area rather that be determined solely by speed limit considerations.

10.9.11 Northamptonshire County Council have established a detailed grass cutting regime, as follows:

- vision splays, traffic islands, raised roundabouts and grass adjoining highways in built up areas with numerous accesses - Cut 5 times per year on strategic and main distributors, 4 times on other roads;

- grass areas adjoining highways on all other roads - Cut 2 swathe widths 5 times per year on strategic and main distributors, 4 times on other roads;

- grass areas adjoining footways, horse riding and cycle tracks - Cut single swathe 5 times per year on strategic main distributors, 4 times on other roads;

- newly seeded areas - One full cut in first season;

- three cuts of single swathe are provided for at sensitive locations and other sites adjacent to the carriageway on strategic and main roads rather than two;

- at all lay-bys and at locations where there is restricted visibility causing an exceptional hazard to motorists or pedestrians - Full width cut 5 times per year. This is also applied to picnic sites associated with lay-bys;

- at junctions and sharp bends where open fencing (iron hurdle) has been provided - Once per year clearance of vegetation under the fence to maintain visibility;

- where possible, to encourage the growth of wild flowers, verges will not be cut until seeds have set.

10.9.12 Suffolk County Council requires all grass to be cleared around columns, safety fences, sign posts and walls, and grass which cannot be cut by machine is to be trimmed by other means. The Council also suggests that length of grass on urban verges is not expected to exceed 100mm and in a normal season, 8 cuts per year is the maximum requirement to achieve this standard. Cut grass is not removed but is swept from footways where necessary. The Council also provides local discretion to apply rural standards, where speed limits extend into an environment which is still of mainly rural character. The need to tailor maintenance practice to

suit the character of the areas, rather than to rigidly applied standards, is dealt with in Section 15.

10.9.13 Edge maintenance or 'siding' of carriageways, footways and cycle routes will occasionally be necessary to prevent encroachment of grass and reduction of width. It is often done in advance of other maintenance work, in particular surface dressing. Staffordshire County Council suggests that 'siding' of verges should only be carried out where the encroachment of the verge is likely to cause damage or a marked reduction in width. This work should be carried out infrequently, normally not more than once in three years. 'Siding' of kerbed roads should be carried out only when the encroachment of vegetation obscures the kerb. It is anticipated that, in most cases, this will be achieved by weed spraying. On unkerbed roads, 'siding' should only be carried out in advance of surface dressing, and only where absolutely necessary.

10.9.14 The growth of weeds in footways and cycle routes, hardened verges, central reserves and along kerb lines, may cause structural damage, and the general perception of such growth is that it is untidy. Indeed, in some circumstances weeds have been considered to have implications for pedestrian safety. Weed growth is also a source of significant community interest and service requests. Weed treatment should therefore be undertaken according to traffic and pedestrian usage and to a standard that takes account of local concerns. The use of weed-killers should be the minimum compatible with the required results.

10.9.15 It will be important to co-ordinate arrangements for weed spraying with street cleansing arrangements, which may be the responsibility of other authorities and it may be possible to facilitate co-operative arrangements.

10.9.16 Materials to be used for weed spraying can have serious environmental implications. Specialist advice should be taken on these and the frequency of application, in the light of developing standards. Noxious weeds should be dealt with on an ad hoc basis. All weed spraying should be carried out in accordance with the Control of Pesticides Regulations 1986. Only approved pesticides may be used, these are chemicals listed in the 'Blue Book' entitled *Pesticides Approved under the Control of Pesticides Regulation 1986*.

10.9.17 Staffordshire County Council suggests the following:

- all weed spraying operations will be carried out taking into account the Health and Safety Commission's Approved Code of Practice: *The safe use of pesticides for non-agricultural purposes*;

- for highway surface weed killing operations, a translocated non-residual contact herbicide should be used. Currently the only weed killer 'available' for use on the paved highway, which conforms with the Health and Safety Commission's Code of Practice and with the Environment Agency's requirements is Glyphosate;

- for the sterilisation of surfaces prior to construction work, an approved granular residual herbicide which contains 6.75% Dicholobenil as the active ingredient shall be spread at a rate of 175 kg per ha, or as directed by the manufacturer. The use of chemicals such as Dicholobenil is approved by the Environment Agency because, provided that they are used in accordance with the

manufacturer's instructions, any subsequent run-off will not be detrimental to watercourses;

- the frequencies for the application of weed killer are specified in guidance and the presumption is that the rate of spread of the pesticide in question will be compatible with this frequency in achieving effective weed control;

- Glyphosate has no residual qualities and will only affect plants where there is direct contact. This results in an increase in the number of applications necessary to obtain effective control. Glyphosate is only effective on actively growing plants, which restricts the time period over which the control can be achieved. New weed growth occurs in spring and autumn, so for effective weed control, there needs to be at least two applications with the possibility of a third application in mid-Summer.

10.9.18 The Noxious Weeds Act 1959 places a responsibility on the authorities to take action to inhibit the growth and spread of injurious weeds growing within the highway. Further advice on this is contained within Section 15 of this Code.

10.9.19 Safety inspections and maintenance of trees are dealt with in Section 9 of this Code. Where it is the responsibility of the authority, trimming of seasonal growth should be carried out once a year on rural roads. Where there are special requirements in visibility areas or across central reserves, cutting should be undertaken when required. Owners of private hedges should be requested to adopt similar standards.

10.9.20 Significant pruning or felling of trees, even for safety reasons, can be the subject of significant local concern and should only be done with specialist advice and support. The following procedure adopted by Cambridgeshire County Council illustrates these concerns:

'When a request is received by Divisions to fell a tree located on the highway arboricultural advice should be taken. If the advice given is that the tree should be felled, (due to disease, unsuitability of location etc) the adjacent property owner, the Parish council and the local Member will be informed prior to the work being carried out. If the recommendation is that only trimming or no work is required the person making the initial request will be informed, giving the arboriculturalists reasons. Any tree within a Tree Preservation Order can only be felled or trimmed with the permission of the Arboricultural Officer from the District or City Council. If the tree is within a conservation area, planning permission will be required to fell the tree.'

10.9.21 In rural areas, work on highway trees will be mainly reactive and limited other than for safety reasons. Some routine maintenance will be necessary from time to time to maintain the condition of the tree. This should be a matter for local consideration having regard to user and community views.

10.9.22 In urban areas, trees have a significant impact on the local environment, but can cause damage to highways and property if not properly managed. A proactive management programme including regular inspections by qualified arboricultural officers, thinning and crown reduction, can mitigate the negative impact of trees, whilst retaining their environmental benefits.

10.9.23 Trimming of hedges should be infrequent, provided that visibility sight lines and road signs are not obscured, in accordance with specialist advice, and will often be the responsibility of adjoining landowners.

10.9.24 Any action taken must be in accordance with the requirements of the EC Nesting Birds Directive, Wildlife and Countryside Act 1981, which includes protection for birds, their nests and other relevant legislation. Significant nature conservation benefits will result from this practice. Any trimming should, as far as possible, be done in late winter, to avoid the bird-nesting season and to allow birds and mammals the maximum opportunity to take advantage of any fruits or seed present.

10.9.25 The requirements for tree maintenance can be greatly reduced by the careful selection of trees when planning planting or replacement operations. Pruning after planting should only be necessary where it is required to enhance or guide the shape of the tree. Trees which require pollarding should be avoided as it is costly, time consuming and unattractive. Expert advice should always be sought in the management of any tree within the highway environment, whether on highway land or not.

10.10 CONDITION OF FENCES AND BARRIERS

10.10.1 The condition of fences and barriers can contribute to the core objectives as follows:

Safety
- Integrity and location of safety fencing for vehicles and pedestrians.

Serviceability
- Risk of livestock disrupting traffic.

Sustainability
- Appearance and condition of fencing.

Website Amended
27 April 2012

10.10.2 There are no statutory or local indicators identifying the condition of fences and barriers. Authorities should develop local standards based on fitness for purpose, to provide the level of service required and assessment of the risk of this being compromised, by failure of the fence or barrier. The impact of vehicle safety on fence failure will be higher with increasing difference in level. It will be particularly so adjacent to railways and at approaches to bridges over railways. The DfT publication *Managing the Accidental Obstruction of the Railway by Road Vehicles* provides more guidance on this (http://www.dft.gov.uk/publications/tal-6-03/). Impact will also be higher on higher speed roads. Impact of failure to pedestrian barriers will increase with volumes of vehicles and pedestrians, especially children, and again where railways, rivers and similar high risk features are concerned.

10.10.3 All high risk situations will require a robust inspection regime with a commensurate high standard of condition. Safety fences should be maintained in a sufficiently sound structural condition to serve their function and not be dangerous to road users or pedestrians.

10.10.4 All fences and barriers, whether for safety purposes or general use, are potentially important features and their overall appearance is an environmental consideration. They should be cleaned and painted when necessary and where safety fencing is provided with chevron markings, these should be dealt with in accordance with the cleaning regime for traffic signs.

10.11 CONDITION OF TRAFFIC SIGNS AND BOLLARDS

10.11.1 The condition of signs and bollards can contribute to the core objectives as follows:

Safety
- Identification of risk to users;
- Separation of potential traffic conflicts.

Serviceability
- Contributes to ease of use;
- Contributes to network integrity.

Sustainability
- Support of sustainable transport mode;
- Contribution to local economy;
- Heavy traffic routing can optimise maintenance.

10.11.2 There are no statutory indicators identifying the condition of signs and bollards. Authorities should develop local standards based on fitness for purpose, to provide the level of service required and assessment of the risk of this being compromised by failure of the signing. The impact of failure will be greater for mandatory signs than for warning signs, the impact of which will be greater than direction signs. The probability of sign failure is generally low, higher in areas

subject to vandalism but the probability of sign illegibility, defectiveness or clutter is much higher.

10.11.3 Traffic signs and bollards represent a highly visible component of the highway network, highly valued by users. At best they can significantly affect both network efficiency and the convenience of users. At worst they can be intrusive, confusing and capable of detracting even more significantly from the local environment, if in poor condition.

10.11.4 The following standards are suggested by default for the condition of illuminated and non-illuminated signs and bollards:

- cleaning when required and at least annually;
- brackets bolts and fittings should be tightened and adjusted at the time of service inspection;
- painting of supports and frames when required but not exceeding 10 years interval.

10.11.5 The following additional standards are suggested by default for the condition of illuminated signs and bollards:

- optical inspection and cleaning together with the inspection of sign supports every 2 years;
- lamp changing at regular intervals to coincide with service inspections and cleaning.

10.11.6 Many authorities have found it necessary to clean bollards and signs in heavily trafficked areas much more frequently than annually. Some have adopted standards of twice a year for signs and up to six times a year for bollards at particularly vulnerable sites. In some areas the presence of graffiti presents a significant problem and may require even more frequent attention, if the problem is to be eventually eradicated.

10.11.7 Many authorities have provided blockwork chevrons at roundabouts for road safety or traffic calming purposes. In order to maintain their effectiveness, they will need to be inspected annually and treated routinely for weed growth. Blocks may need to be cleaned at intervals, annually by default, to maintain a uniform appearance.

10.11.8 Traffic signs are probably the most important potential contributor to the maintenance of network integrity and obtaining best value from the network. At intervals of 3-5 years the overall signing regime should be reviewed, possibly in conjunction with Best Value Reviews, to ensure that integrity is maintained and that unnecessary clutter is removed.

10.11.9 Although in many circumstances illuminated signs are essential, the use of high-reflectivity, non-illuminated signs can bring benefits in terms of sustainability. This should be a consideration, both for new signs and on replacement, and should also be considered during the 3-5 year network integrity inspections.

10.12 CONDITION OF ROAD MARKINGS AND STUDS

10.12.1 The condition of road markings and studs can contribute to the core objectives as follows:

Safety
- Route delineation in darkness and poor weather;
- Potential for damage and injury if loose.

Serviceability
- Ease of use in darkness and bad weather;

Sustainability
- Support of sustainable transport modes;
- Edge delineation to reduce edge damage;
- Movement of wheel tracking to reduce localised damage.

10.12.2 There are no statutory or local indicators identifying the condition of road markings and bollards. Authorities should develop local standards based on fitness for purpose, to provide the level of service required and assessment of the risk of this being compromised by failure. The impact of failure will be greater for mandatory markings than others. The probability of sign failure is generally low, but the probability of marking wear is higher and increases with traffic volume.

10.12.3 Many road markings are used to give effect to regulatory provisions and it is important that their legal status is not affected by undue wear or damage. A high proportion of road markings are essential for road safety or fundamental to the implementation of integrated transport policy, for example traffic calming schemes, bus priority measures and the delineation of cycle routes. If such markings are not kept in good order, the measures may lose effectiveness and the success of transport integration compromised.

10.12.4 White line markings on Strategic and Main Distributor roads and sites of high safety risk or with a relevant accident record, should be renewed when they are no longer adequate for their intended purpose. This is generally accepted to be when more than approximately 30% of their area becomes worn away. Standards for other routes should be based on assessment of the relative risks.

10.12.5 All mandatory road markings existing before resurfacing or surface dressing should either be masked during treatment or replaced as soon as reasonably practicable after the completion of work. If it is not possible to restore immediately in permanent materials, temporary markings should be used at sites where their absence is likely to give rise to dangerous conditions. Stop and Give Way marks

should ideally be replaced permanently within 7 days, other mandatory lines within 14 days and other markings and road studs within 28 days of completion of work.

10.12.6 During resurfacing 'No Road Markings' boards should be displayed until all markings have been replaced.

10.12.7 Road studs that are either missing, or have become defective, should be replaced individually or by a bulk change, depending on the individual highway circumstances. The aim should be for a minimum 90% of the studs to be reflective prior to the winter period. Displaced road studs lying on the carriageway, hard shoulders or lay-bys, and loose studs if considered to be a hazard, should be removed immediately if reasonably practicable.

10.13 CONDITION OF TRAFFIC SIGNALS, PEDESTRIAN AND CYCLE CROSSINGS

10.13.1 The condition of traffic signals, pedestrian and cycle crossings can contribute to the core objectives as follows:

Safety
- Separation of potential traffic conflicts;
- Key safety contributor for vulnerable road users.

Serviceability
- Contributes to ease of use and efficiency;
- Contributes to network integrity.

Sustainability
- Support of sustainable transport modes;
- Support for local economy.

10.13.2 There are no statutory indicators identifying the condition of traffic signals, pedestrian and cycle crossings, but in England BVPI 165 measures the percentage of pedestrian crossings with facilities for disabled people. Most authorities have local indicators measuring response time for traffic signal defects. Authorities should develop local standards based on fitness for purpose to provide the level of service required, and assessment of the risk of this being compromised by failure of the signal or crossing. The impact of failure will increase with traffic and pedestrian volume and the importance of the link in carriageway, cycle route or footway hierarchies.

10.13.3 Traffic signals, pedestrian and cycle crossings are the key points of interaction between vehicles and the most vulnerable road users, and are also key to the maintenance of network integrity. It is therefore crucial to the cause of transport integration that they are maintained to a high standard. Signal control also can add significantly to the efficiency of the network. In most cases an automatic fault monitoring regime, incorporated into the system, will facilitate an effective maintenance programme.

10.13.4 The primary objective is to keep traffic signals, pedestrian and cycle crossings legible, visible and effective, as far as possible at all times, in relation to the road use and traffic speeds. The following condition standards are suggested by default for signalled controlled facilities:

- defects in operation should be treated as Category 1;
- warning signs should be erected if signals are likely to be off in excess of one hour;
- at certain critical junctions, temporary traffic management measures to be installed if signals are likely to be off in excess of one day;
- urgent faults - emergency action within specified times, damage repair within 24 hours, less urgent faults to be repaired within 1 week;
- failed lamps should be replaced within 2.5 days;
- signal lenses, regulatory signs and VMS signs should be cleaned once per year;
- flashing zebra crossing beacons should be replaced within 24 hrs;
- school crossing patrol flashing lights should be repaired within 24 hrs during term times.

10.13.5 Lamp changing regimes vary at the discretion of the authority according to local circumstances. Arrangements in Cambridgeshire are as follows:

- in Cambridge City traffic signal lamps are repaired as they fail. In the rest of the County it is more economical to bulk change all signal aspect lamps at 4 monthly intervals. Push button lamps are changed at 8 months. On the 4-monthly visit the operation of all signal lamps, wait lamps, pedestrian push buttons and audible units are checked. The alignment and visibility of signal heads is also checked. Additionally, the general condition, accessibility and electrical safety of the equipment is checked annually on all installations;
- in the County the response time for replacing faulty red lamps is within one hour and for other lamps by the end of the next working day. Installations which are all out will be repaired within 24 hours, except for electric cable faults.

10.14 STANDARDS FOR REGULATORY FUNCTIONS

10.14.1 Regulatory functions can contribute to the core objectives as follows:

Safety	• Risk to users and adjoining property.
Serviceability	• Minimising and signing of obstruction.
Sustainability	• Inconvenience to disabled people;
	• Structural damage from parked heavy vehicles.

10.14.2 There has previously been a relatively loose framework of standards for regulatory activity, primarily related to the nature of powers and duties. In England the introduction of the statutory duty for network management introduced by the Traffic Management Act has significantly increased the emphasis on standards for regulatory activity. A range of indicators will be published to support the role. A range of Codes of Practice also provide fairly clear guidance on required standards.

10.15 STANDARDS FOR USER AND COMMUNITY RESPONSE

10.15.1 Standards of user and community response do not contribute directly to the core objectives of safety, serviceability and sustainability, but are included as part of the new objective of customer service. They can, however, make a significant indirect contribution both to safety and serviceability by ensuring that service requests and complaints are dealt with promptly and converted into actions for which direct standards will apply. Prompt provision of information will also enable users to obtain better serviceability from the network.

10.15.2 Standards for user and community response can be considered at three levels:

- user and community satisfaction with arrangements for their engagement in the policy development process;
- user and community satisfaction with the delivery of the highway maintenance service;
- authority response to user and community contact by phone, mail and email.

10.15.3 Some of these will be incorporated into general statutory indicators relating to the corporate health of the authority, and will also be relevant to the management of contracts for service delivery. This is dealt with in more detail in Section 11 of this Code.

10.16 CO-ORDINATION OF STANDARDS

10.16.1 In setting standards for all aspects of highway maintenance services, authorities should have regard to the standards of adjoining authorities and those applying to the strategic network. It will be important to deliver consistency, wherever practicable, particularly in respect of Winter Service.

New Paragraph
Added 13 August 2010

10.17 THE ROLE OF UKPMS

10.17.1 A review has been carried out to determine authorities' requirements for pavement information and decision support tools to deliver their transport objectives. The aim of the review was to establish what changes are required in the current UKPMS functional specification to meet authorities' and government's needs. The report determines the priorities and produces a rationale for the commonality of PMS functions across local authorities and systems, taking account of the increasing importance of an asset management approach. It sets out the proposed core functional specification and maps its implementation to an indicative timetable and budget, taking account of where the costs are likely to fall and the ability of the market to deliver. It identifies where there are gaps or techniques that would benefit from further research. The report may be downloaded from the following website:

http://www.trl.co.uk/online_store/reports_publications/trl_reports/cat_highway_engineering/report_review_of_ukpms_core_functionality___the_minimum_functionality_all_pms_should_embody_in_the_uk.htm

RECOMMENDATIONS FOR SECTION 10

R10.1 Definition of Standards or Warning Levels

Authorities should prescribe service standards for all aspects of highway maintenance, developed through risk assessment. These should define the nature and extent of works to be undertaken in particular circumstances of maintenance need, and the level of urgency that would be assigned to the response. Such standards should relate to the core objectives of safety, serviceability, sustainability and customer satisfaction.

R10.2 Consistent and Benchmarked Standards

Authorities have discretion to define and review their own standards in the light of local circumstances, but should benchmark these against the default values identified by this Code for the purpose of best value comparison, and apply them consistently.

R10.3 Application of UKPMS System Intervention Levels

The standard System Intervention Levels for application of maintenance treatments prescribed within the currently approved set of UKPMS Rules and Parameters and other DfT advice should be used for consistent calculation of condition indices and statutory indicators. Authorities may vary these at their discretion to consider other options for economic prioritisation based on condition. Any variations from the current version of UKPMS Rules and Parameters utilised by the authority should be recorded for LTP monitoring purposes, and stated within their Highway Asset Management Plan.

R10.4 Standards for Regulatory Functions and Utilities Management

Authorities should establish standards and response arrangements for the regulatory elements of highway maintenance, in conjunction with the Traffic Manager, who has a statutory responsibility for network management.

R10.5 Standards for User and Community Response

In addition to 'operational' standards, authorities should establish standards and response arrangements for providing information and responding to customer contacts, consistent with corporate standards.

Section 11
Performance Management

11.1 PERFORMANCE MANAGEMENT

Website Amended
27 April 2012

11.1.1 Performance management is a fundamental component of best value and the new Comprehensive Performance Assessment (CPA) regime, in that there is a requirement for authorities to secure continuous improvement in the way they exercise their functions, having regard to a combination of economy, efficiency and effectiveness. The new Code of Audit Practice 2005 for Local Government Bodies published by the Audit Commission includes guidance on the audit of performance management arrangements (http://www.audit-commission.gov.uk/audit-regime/codes-of-audit-practice/Pages/codelocalgov.aspx).

11.1.2 Performance management needs to take into account:

- economy – acquiring human and material resources of the appropriate quality and quantity at the lowest cost;
- efficiency – producing the maximum output for any given set of resource inputs or using the minimum inputs for the required quantity and quality of service provided;
- effectiveness – having the organisation meet the customers' requirements and having a programme or activity achieve its established goals or intended aims.

11.1.3 In order to demonstrate continuous improvement, performance has to be continually measured and this is undertaken through performance indicators, standards and targets, which can be defined as follows:

- performance indicator – the measure of performance to be used in exercising a function. Can be categorised in varying levels of importance, for example 'statutory' 'key', 'core', 'local' etc;
- performance standard – the minimum acceptable level of performance in the exercise of a function and measured by reference to a performance indicator for that function. Failure to meet this standard will be deemed as failing the test of best value for that function;
- performance target – the level of performance in the exercise of a function that is expected to be achieved over a minimum period of a year and measured by reference to a performance indicator for that function.

11.1.4 Performance can be measured in a number of ways, but in respect of best value these can best be summarised in four basic methods:

- input – the resources (human, material or financial) utilised in delivering the function or service;

- process – the methodology and procedure of committing the resources in the pursuit of fulfilling the function;

- output – the resultant effect (often numerical) of completing the process with the resource input;

- outcome – the ultimate impact on the community and the best way of measuring performance.

11.1.5 Outcome measures should be sought wherever possible and increasingly Government is seeking to prescribe these through statutory performance indicators. For some aspects of highway maintenance it may be difficult to establish directly measurable outcome links, and output measures may need to be used. Input measures should only be used as an exception, and process measures will usually be used during reviews for comparison purposes.

11.2 THE FAMILY OF PERFORMANCE INDICATORS

11.2.1 As defined by the Audit Commission, there are effectively four levels of performance indicator, otherwise known as the family of performance indicators, which are applicable to all authorities. These comprise:

- corporate health indicators - set by Government which give a view of the organisational, financial, managerial and democratic integrity of an authority;

- nationally set statutory service delivery indicators - also set by Government, which give a rounded view of service delivery covering strategic objectives, service delivery outcomes, cost/efficiency, quality and fair access. In England these will usually be BVPIs;

- other indicators - may be set by Government departments to cover areas not covered by the previous indicators, such as Core Indicators in Wales;

- locally set indicators - to be developed by individual authorities to reflect local priorities and provide key management information.

11.2.2 There is one other level of indicator of particular relevance to highway maintenance. This is contract performance indicators, sometimes called Contract KPIs, which measure the performance of the contractor in, for example, delivering projects to cost, time, and client satisfaction. These were dealt with separately in the 2001 edition of this Code, but experience with longer term partnering contracts based on shared values and objectives suggests an increasingly close alignment of contract performance indicators, with the wider family of service indicators.

11.2.3 Contracts will still need a framework of lower level indicators to monitor day to day operations, financial transactions and human relations matters, but these are not covered in detail by this Code.

11.3 PERFORMANCE ASSESSMENT

11.3.1 The statutory performance assessment and improvement regime for authorities has changed significantly since the 2001 edition of this Code. In England, the Best Value Inspection and Assessment process has evolved into Comprehensive Performance Assessment (CPA), which provides greater focus on corporate and cross-cutting issues, greater flexibility on areas for inspection and reduced assessment for the best performing authorities.

11.3.2 Furthermore, new arrangements for Public Service Agreements established for Government departments and agencies have been extended to Local Public Service Agreements (LPSA) for authorities. These enable authorities to undertake to exceed Government targets in shared priority areas in return for increased funding. These LPSAs are now evolving into area agreements.

11.3.3 In the Devolved Administrations the statutory performance assessment regime is generally less prescriptive, with fewer statutory indicators, and a less robust inspection regime.

11.3.4 The performance assessment regimes applying to highway asset management are summarised below and more detail of their application is provided in Appendix G.

11.4 INDICATORS FOR HIGHWAY ASSET MANAGEMENT

11.4.1 For the purpose of this Code highway maintenance is considered as a discrete service, although it influences and is influenced by, policies, priorities and programmes for wider aspects of the overall highways service. This includes highway improvement and network management.

11.4.2 In these circumstances it can be difficult to isolate and measure some aspects of the performance of highway maintenance, from that made by the other highway services. This is particularly the case in measuring user and community satisfaction, where they will often be unable to distinguish between maintenance and improvement works, and indeed works from others, including utilities.

11.4.3 Nevertheless, the emphasis on delivering user and community satisfaction has continued to increase since the 2001 edition of this Code, and this needs to be recognised more specifically in service objectives and performance management regimes. Accordingly, an overall highway service objective of customer service has been adopted to supplement the original core objectives of:

- Network Safety;
- Network Serviceability;
- Network Sustainability.

11.4.4 Table 7 attempts to define the level of contribution towards these core objectives by the respective aspects of the highways service, in order to provide some guidance as to where performance measurement is most likely to be productive. The level of contribution is defined as either:

- Prime – making a major contribution to the objective and performance management - essential;

- Main Support - making a significant contribution to the objective and performance measurement - desirable;

- Support – making a moderate contribution to the objective and performance measurement-useful; or

- Contributor – making some contribution to performance measurement unlikely to be productive.

11.4.5 The logic for selection as Prime, Main Support etc for respective components of the Local Transport Plan (LTP) or strategy, is based on assumptions as to how they will each develop. They may therefore vary slightly between authorities according to how they manage, for example, their responsibilities under the Traffic Management Act 2004, or the preparation of their HAMP. Each authority should therefore develop its own model of the table.

Table 7 – Level of Contribution			
Objectives	**Highway Asset Management Plan**		
	Operate **Network Management Plan**	**Maintain** **Highway Maintenance Plan**	**Improve** **Highway Improvement Plan**
Customer Service			
Delivering satisfaction	**Prime**	Main Support	Support
Providing effective consultation and information	**Prime**	Support	Main Support
Providing efficient enquiry and complaints management	Contributor	**Prime**	Support
Safety			
Complying with statutory obligations	Contributor	**Prime**	Main Support
Meeting users needs for safety	Contributor	Main Support	**Prime**
Serviceability			
Ensuring availability	**Prime**	Main Support	Support
Achieving integrity	Main Support	Contributor	**Prime**
Maintaining reliability	**Prime**	Main Support	Support
Enhancing condition	Contributor	**Prime**	Main Support
Sustainability			
Minimising costs over time	Contributor	**Prime**	Main Support
Maximising value to community	Contributor	Main Support	**Prime**
Maximising environmental contribution	Contributor	Main Support	**Prime**

11.4.6 It may be helpful in constructing the table to set out the assignment of key aspects of the service. In Table 8 below aspects leading to a Prime rating are in red, those leading to a Main Support rating are in Blue.

11.4.7 This suggests that highway maintenance has four Prime responsibilities and six Supporting responsibilities, and therefore makes a significant overall contribution to perceptions of overall service quality.

11.4.8 It is important that those aspects for which highway maintenance is Prime or Main Support have robust, reliable and outcome based performance indicators. Appendix F provides further details.

Table 8 – Assignment of Key Aspects			
Objectives	**Highway Asset Management Plan**		
	Operate **Network Management Plan**	**Maintain** **Highway Maintenance Plan**	**Improve** **Highway Improvement Plan**
Customer Service			
Delivering satisfaction	Minimising disruption	Quality and timeliness of work	Support
Providing effective consultation and information	Consultation on policy operational information	Support	Scheme consultation and information
Providing efficient enquiry and complaints management	Contributor	Service Requests and Complaints Management System	Support
Safety			
Complying with statutory obligations	Contributor	Inspection and response regime	Health and safety accessibility improvements
Meeting users needs for safety	Contributor	Skidding resistance strategy	Safety improvements programme
Serviceability			
Ensuring availability	Managing occupation	Programming of works	Support
Achieving integrity	Main Support	Contributor	Sustainable improvements and signing programme
Maintaining reliability	Managing network operation	Programming of works	Support
Enhancing condition	Contributor	Programmed maintenance	Main Support

Continued

Table 8 – Assignment of Key Aspects continued			
Objectives	**Highway Asset Management Plan**		
	Operate **Network Management Plan**	**Maintain** **Highway Maintenance Plan**	**Improve** **Highway Improvement Plan**
Sustainability			
Minimising costs over time	Contributor	Managing maintenance priorities	Designing for maintenance
Maximising value to community	Contributor	Integrated townscape management	Regeneration programme
Maximising environmental contribution	Contributor	Sustainable materials and practices	Environmental schemes programme

11.4.9 This work takes into account the work by the HA following the Gershon efficiency review and the recent publication of the *Toolkit for Measuring Local Roads Efficiency Gains*. (www.rcoe.gov.uk)

11.5 STATUTORY PERFORMANCE INDICATORS

11.5.1 In England statutory performance indicators for local transport are specified as Best Value Performance Indicators (BVPI) and also as mandatory indicators in guidance for LTPs.

11.5.2 For 2005-6 there are 11 English BVPIs for local transport, the great majority of which have direct or indirect relevance to road maintenance, and these are listed below. Detailed descriptions and reporting arrangements are summarised in Appendix F.

BVPI 99 Road casualties by categories of user and injury;

BVPI 100 Temporary road closures;

BVPI 102 Passenger journeys on buses;

BVPI 103 Bus information satisfaction (reported triennially);

BVPI 104 Bus satisfaction (reported triennially);

BVPI 165 Pedestrian crossings with facilities for disabled people;

BVPI 178 Footpaths and Rights of Way easy to use by the public;

BVPI 187 Condition of surface footway;

BVPI 215 Rectification of street lighting faults;

BVPI 223 Condition of Principal Roads (previously BVPI 96);

BVPI 224 Condition of Non-Principal classified and unclassified roads (previously BVPI 97).

11.5.3 There are also 8 mandatory indicators specified for LTPs, as follows. These are less specifically directed at road maintenance, but at the wider accessibility and sustainability outcomes of the shared priorities. Road maintenance can however still make a contribution. LTP6 to LTP8 are mandatory for some authorities, but not all. Detailed descriptions and reporting arrangements can be found at (www.dft.gov.uk).

LTP1 An accessibility target;

LTP2 Change in area wide road traffic mileage (vehicle-km);

LTP3 Cycling trips (annualised index);

LTP4 Mode share of journeys to school;

LTP5 A bus punctuality indicator (% 1min early to 5 min late);

LTP6 Changes in peak period traffic flows to urban centres;

LTP7 Congestion (vehicle delay);

LTP8 An air quality target.

11.5.4 There will also be a requirement for authorities to report on progress with their Transport Asset Management Plans (TAMPs). The report should set out what has been achieved, and any remaining challenges. It should cover briefly such issues as, the ambition and realism of LTP asset management targets and the whole life maintenance resource implications of transport schemes proposed in authorities' LTPs.

11.5.5 The HA has seven high level Key Performance Indicators (KPIs) in 2005 for managing the motorway and trunk road network, of which one is directly relevant, and most indirectly relevant, to highway maintenance:

- deliver the programme of improvements to the strategic road network;
- deliver a demonstrable reduction in incident-related congestion and minimisation of road works-related congestion;
- make information available to influence travel behaviour and inform decisions;
- deliver the HA's agreed proportion of the national target to reduce by a third the number of people killed/seriously injured on trunk roads compared with the 1994-98 average;
- maintain the network in a safe and serviceable condition;
- mitigate the potentially adverse impact of strategic roads and take opportunities to enhance the environment, taking into account value for money;

- deliver a high level of road user satisfaction.

11.5.6 The HA also has 14 Area Performance Indicators (API) in 2005 listed below, which are used to monitor performance of the area commissions. These are reviewed from time to time and reference should be made to the HA website for the most up to date information (www.highways.gov.uk).

API 1 response to emergency incidents;

API 2 response to Category 1 defects;

API 3 customer satisfaction;

API 4 environmental amenity index (over 10 categories);

API 5 site (workplace) safety;

API 6 predictability of discrete schemes (time);

API 7 predictability of discrete schemes (cost);

API 8 predictability of resource (accruals) forecasting;

API 9 winter Maintenance;

API 10 defect free work;

API 11 road traffic accidents at roadworks;

API 12 street lighting outages;

API 13 network availability;

API 14 third party claims.

11.5.7 Scotland presently has five statutory indicators relating to road and bridge maintenance, which are set out in the Local Government Act 1992. The Publication of Information (Standards of Performance) Direction 2004 (www.audit-scotland.gov.uk) has the following indicators:

- the percentage of the road network that should be considered for maintenance treatment;
- traffic light failure: the percentage of repairs completed within 48 hours;
- street lights failure: the percentage of repairs completed within 7 days;
- the proportion of street lighting columns that are over 30 years old;
- the number of council and private bridges not meeting the European standard of 40 tonnes that have a weight or width restriction placed on them, expressed as a percentage of the total number of assessed bridges.

11.5.8 In Wales there is one statutory strategic indicator (condition of roads) and a further seven core indicators that authorities are effectively expected to report (www.cymru.gov.uk). These are:

THS001 condition of;

(a) Principal (A) roads;

(b) Non-principal classified roads;

THS002 annual highway-related insurance costs as a percentage of the annual structural maintenance expenditure;

THS003 the percentage of the annual structural maintenance expenditure that was spent on planned structural maintenance;

THS004 the percentage of the local authority maintained road network subject to precautionary salting during the year;

THS005 a) the average number of calendar days taken to repair all street lamp failures during the year;

b) the average number of calendar days taken by the authority to repair those street lamp failures for which they are responsible during the year;

THS006 the percentage increase in the total length of local authority maintained cycle routes within the local authority area during the year;

THS007 the percentage of adults aged 60+ who hold a concessionary travel pass;

THS008 the percentage of total length of footpaths and other rights of way which are easy to use by members of the public.

11.5.9 In Northern Ireland the Roads Service Business Plan sets out seven high level objectives (www.roadsni.gov.uk). For 2004-05 there are 10 Key Performance Indicators and targets reflecting these objectives and a further 29 supporting business targets. The key objectives are:

- deliver our part of the Regional Transportation Strategy for Northern Ireland 2002-2012;
- maintain the road infrastructure to keep it safe, effective and reliable and to preserve the value of the asset;
- manage and improve the road network to promote safety and efficient operation;
- improve journey times on the motorway and trunk road network;
- deliver quality services for our customers and stakeholders in a fair and equitable way;
- operate to resource limits and improve value for money;

- support and motivate all our people to achieve the Agency's objectives.

11.6 LOCAL PERFORMANCE INDICATORS

11.6.1 In addition to the nationally set indicators, authorities are encouraged to develop and use Local Performance Indicators (LPIs) relevant to their area. A good LPI should include consideration of the following criteria:

- designed as far as possible on outcomes;
- practical concise and easy to interpret;
- capable of precise definition;
- readily measurable;
- relatively inexpensive to collect in terms of supporting data;
- readily understood, meaningful and of interest to the public;
- relate to an authority's corporate or service objectives;
- performance should be entirely within the authority's control;
- clearly indicative of good or bad performance;
- balance of cost against quality should be measurable;
- where possible comparison of public and private sectors should be identifiable.

11.6.2 The following dimensions have been adopted by Government in developing the national indicators and these are also relevant in developing LPIs:

- cost and efficiency of service provision, to show that the service is being provided at a price comparable to that which other authorities are achieving;
- effectiveness of service delivery and management to show that effective systems are in place to deliver the service;
- quality of service (including user satisfaction) to show that the quality of service delivered is commensurate with the price that is paid;
- fair access to service (in terms of ease and equality of access) to show that stakeholders have easy access to the services they need regardless of gender, race etc;
- strategic objectives to show that the services provided meet the needs.

11.6.3 The emphasis on LPIs should be on their importance and relevance to the customer. Local service users and communities and service providers should be consulted on new performance targets set as part of Best Value Reviews.

11.6.4 DfT guidance suggests that, for LTPs, the optimum number of indicators, of all kinds in an effective set, appears to be between twenty and forty, partly dependent on the size and characteristics of the plan area. Authorities within a region are encouraged to adopt LPIs that are consistent in definition and methodology, and that could form the basis of improved regional monitoring.

11.6.5 Two indicators feature in all lists of indicators for highway maintenance, although expressed differently in each case; network condition and user satisfaction. Although the most important indicators, they are the most difficult to measure consistently and repeatedly.

11.6.6 Continuing changes in the methodology of measuring network condition have caused inconsistency in interpreting year on year changes, and the move to machine condition surveys in Scotland and England is intended to improve this.

11.6.7 Similarly, user satisfaction survey results can be significantly affected by a wide range of factors, including method of survey (face to face, telephone etc), framing of questions, opinion on other authority services and media reporting. Greater consistency is necessary in survey methodology, questions and procedure, and this is dealt with in Appendix J.

11.6.8 An increasing degree of uniformity with all local indicators is clearly desirable in assisting the process of comparison. The 2001 edition of this Code took into account ideas being developed throughout the UK by numerous benchmarking clubs and LTP submissions. They attempted to distil this information into meaningful indicators, upon which authorities could begin to develop their own indicators.

11.6.9 Since 2001, the process of LPI development has continued and this edition of the Code incorporates emerging thinking and good practice. It is clear that the practice of formulating LPIs is still developing and it is likely that there will be a need for continuing change. The suggested indicators in this Code are included as Appendix F, which will be updated from time to time. The key construction best practice indicators for the construction industry, promoted by the Egan and

subsequent reports, provide a useful basis for LPIs comprising programme, financial and operational compliance, and client and user satisfaction (www.odpm.gov.uk). These are included in Appendix G.

11.7 PERFORMANCE TARGETS

11.7.1 The Ten Year Plan for Transport in England included highway maintenance indicators and targets to arrest the deterioration in the condition of local roads by 2004 and to eliminate the backlog by 2010.

11.7.2 Current national policy *The Future for Transport* makes little explicit reference to highway maintenance, and new LTP guidance does not now expect authorities to set local targets to abolish maintenance backlogs by a particular date, where the authority would consider such a target to be unrealistic. DfT will however expect, as a minimum requirement, authorities to aim to ensure no overall deterioration in local road conditions from 2004/05 levels. DfT will expect most authorities to be more ambitious than this, and to achieve significant improvements in overall condition over the second LTP period.

11.7.3 The Devolved Administrations never previously had targets addressing backlog and this continues to be the present position, although Scotland has made most progress in identifying the extent of its backlog, and this is set out in Appendix I.

11.7.4 English authorities will need to set targets for all statutory and mandatory LTP indicators and report progress against these annually in their APR and Performance Plan. They will also need to set stretching targets for any Local PSAs.

11.7.5 LTP guidance requires local authorities:

- to set locally relevant targets for all outcome indicators;
- to set targets for a minimum period of one year with an optimum period of five years;
- for BVPIs to relate targets to the period required to achieve best quartile performance or improvement within present quartile;
- to set trajectories for key targets to illustrate expected progress;
- not to derive targets merely as the consequences of predetermined transport investment plans (this has particular relevance to highway maintenance);
- to compare and benchmark targets with comparable authorities.

11.7.6 Scottish authorities will need to set targets for their five statutory indicators and publish progress in accordance with the annual Publication of Information (Standards of Performance) Direction. Welsh authorities will need to set targets for National Strategic Indicators, which will need to be reported in their Improvement Plans. They will also need to collect information and set targets for Core Indicators and share these nationally for comparative purposes but will be free to choose how data is used and reported, both internally and publicly.

11.7.7 Examples of established targets for the motorway and trunk road network include:

for the HA:

- for the KPI of maintaining the network in a safe and serviceable condition the 2004/5 target is to achieve a road surface condition index score of 100 ±1;
- for the KPI of environmental impact the target is to achieve at least 95% across the 5 sub-targets of air quality, biodiversity, landscape, noise, and water pollution;
- for the KPI of user satisfaction the target is to achieve from the road user satisfaction survey an average annual score of at least 85% for motorways and at least 80% for trunk roads.

for the Northern Ireland Roads Service:

- to maintain the motorway network so that at least 85% is in satisfactory structural condition;
- by the end of March 2005, increase the length of the trunk road network in satisfactory structural condition to 75%;
- by the end of March 2005, increase the length of other roads receiving resurfacing treatment to 55% of that recommended in Best Practice Guidelines (the 2002 base year value was 50%).

11.8 PERFORMANCE IMPROVEMENT

11.8.1 Since the 2001 edition of this Code there has been increased focus on performance improvement. The Improvement and Development Agency (IDeA) has established a library of local indicators and best practice (www.idea-knowledge.gov.uk). The County Surveyors Society (CSS) Best Value Group and its regional subgroups have been renamed the Service Improvement Group. Wales has established a Performance Improvement Programme.

11.8.2 A wide range of incentives, tools and techniques have been developed to assist the process of performance improvement, most of which are in use somewhere within highway maintenance management. These include:

- EFQM Business Excellence Model;
- benchmarking;
- Beacon Council Scheme;
- balanced scorecard;
- Capability Assessment Toolkit;
- performance frameworks;
- Disaggregated Effectiveness Technique.

11.8.3 A short description of the key features and application for each of these is given below, together with web references for obtaining further information.

EFQM Business Excellence Model

11.8.4 This is a non-prescriptive framework which measures organisations against nine criteria of business excellence, including leadership, policy, strategy and key performance results, each weighted to take account of its relative importance in a quality organisation. The results provide a benchmark for comparison against other organisations, in order to identify best practice and highlight areas where performance can be improved. Further information on the EFQM Excellence Model can be obtained from the website (www.efqm.org).

Benchmarking

11.8.5 Benchmarking is a systematic process, collecting and comparing information for enabling comparisons and improving performance, both absolutely and relative to others. It provides a structure to search for better practice in other organisations that can then be integrated into an authority's own service delivery.

11.8.6 There are four approaches to benchmarking, each of which provides a different perspective:

- data benchmarking - which involves the use of objective data for comparing performance, very often cost or measurement related;
- process benchmarking - which compares and measures processes, sequences or activities with those of other organisations to identify how existing methods can be improved;
- functional benchmarking - which compares the performance and structure of an entire service area or function within an organisation;
- strategic benchmarking - which compares outcome performance in the implementation of strategic or policy objectives across organisations.

11.8.7 Selection of the benchmarking network is important, as any grouping of highway maintenance service providers will provide useful information. Its significance will be improved if partners have similar characteristics. The Audit Commission 'family' groups or regional groups provide a useful starting point.

11.8.8 There are a number of benchmarking groups or networks in existence dealing with highway maintenance information, and co-ordination between them is improving. Some of the groups are listed below together with web contact details:

Websites Amended 27 April 2012

- The National Best Value Benchmarking Scheme (http://www.nbvbs.co.uk/);
- County Surveyors Society Service Improvement Group (www.cssnet.org.uk);
- TAG Performance Improvement Group (www.webtag.org.uk);

- Midland Service Improvement Group;
- Metropolitan Authorities Group;
- Welsh Authorities Service Improvement Group (www.cymru.gov.uk);
- The Celtic Benchmarking Group (http://scots.sharepoint.apptix.net/celtic/default.aspx);
- DLO Service Excellence Group.

Balanced Scorecard

11.8.9 The balanced scorecard approach enables the present performance of an organisation to be established against a range of disparate criteria such as learning, business, customers, and financial. Objectives, targets and actions are then set against each of the criteria. Subsequent performance can be similarly recorded following improvements, enabling the effect of the improvement to be identified.

Performance Frameworks

11.8.10 The TAG Performance Framework is a form of balanced scorecard which enables performance to be assessed for a wide range of municipal technical services, including highway maintenance.

Capability Assessment Toolkit

11.8.11 The Capability Assessment Toolkit is another specialist application of the balanced scorecard used as a self scoring approach. It has been adopted by the HA in its procurement strategy and is based on the EFQM model.

Disaggregated Effectiveness Technique

11.8.12 The Disaggregated Effectiveness Evaluation (DEE) Technique is a business analysis methodology. The technique allows the focus and impact of disparate activities at an operational level to be measured and their effect upon the achievement of corporate goals or objectives to be evaluated. DEE has been applied within the UK to support current public sector development initiatives.

RECOMMENDATIONS FOR SECTION 11

R11.1 Performance Management Regime

Authorities should establish an integrated performance management regime for highway maintenance, highway improvement and network management, to measure the contribution of each to the core objectives of customer service, safety, serviceability and sustainability.

R11.2 Performance Indicators

The regime should include relevant statutory and local indicators and preferably measure performance against outcomes or, where this is not practicable, against outputs.

R11.3 Local Performance Indicators

Authorities should adopt Local Performance Indicators that comply with this Code and are identical or similar to others so far as possible, in order to facilitate comparison and development of good practice.

R11.4 Contract Performance Indicators

Contract performance indicators for partnering contracts should so far as possible be designed to be compatible with statutory and local indicators for the service, supplemented as necessary by lower level indicators to monitor day to day operations, financial transactions and human relations matters.

R11.5 Targets and Trajectories

Realistic but challenging targets should be included to drive continuous improvement over a minimum period of one year, with an optimum period of five years. Trajectories should be developed where appropriate to track progress towards targets.

R11.6 Performance Improvement

Authorities should develop and apply a strategy for performance improvement adopting one or more of the tools identified in this Code and build this into their procurement arrangements.

R11.7 Sharing Performance Information

Authorities should, where contractually possible, arrange to share performance information in the interests of the wider continuous improvement agenda, through participation in benchmarking networks and similar arrangements.

R11.8 Use of CIPFA Code of Practice

The development of financial performance information for benchmarking purposes should for consistency be based upon the categories and definitions contained in the CIPFA Code of Practice.

Section 12
Programming and Priorities

12.1 THE IMPORTANCE OF PRIORITISING AND PROGRAMMING

12.1.1 Developing and implementing effective systems for programming and prioritising highway maintenance activity is a key requirement for the delivery of a user focused highway service, but one that presents significant challenges. This assumes, however, that the level of funding relative to the overall maintenance requirement is sufficient to provide scope for effective choices to be made. Where there are very acute levels of deficiency and a low level of funding, authorities may only be able to undertake limited works beyond their statutory and safety obligations, so that detailed arrangements to support wider choices would be less relevant. This would be especially significant in cases where claims and/or awards against the authority for alleged failure to maintain are unusually high.

12.1.2 In most cases, however, following recent increases in capital funding for highway maintenance, wider choices will be possible and authorities should establish approaches to enable these to be as informed and objective as possible. These approaches will need to form part of a wider asset management strategy, in order to support decisions on the relative allocation of priorities at different levels:

Strategic Level

- between corporate priorities and objectives;
- between areas of the authority.

Transport Level

- between Local Transport Plan (LTP) objectives and targets;
- between Best Value Performance Indicators (BVPI) and targets;
- between Public Service Agreement targets;
- between maintenance, network management and other local transport services.

Maintenance Level

- between the core objectives (customer service, safety, serviceability and sustainability);
- between maintenance service type;
- between maintenance service category;
- review against transport and strategic level priorities.

12.1.3 The establishment of priorities will inevitably involve an iterative process, working down through the strategic, transport and maintenance levels, then reviewing the draft programme against the higher levels and repeating the process, until a satisfactory outcome is achieved. There are well established analytical techniques that may be used to take an objective view on balancing priorities. These are discussed later in this section.

12.2 BALANCING STRATEGIC PRIORITIES

12.2.1 These levels are not as clear cut as, for example, the process for allocating resources between various parts of the authority, which may operate at the strategic, transport or maintenance level, or in combination according to local practice and democratic arrangements. There may be arrangements to devolve decisions on certain service priorities, including maintenance to local council or neighbourhood level, or to otherwise empower local communities. At this level it is important that the Highway Asset Management Plan (HAMP) demonstrates the importance of highway maintenance in meeting authorities' corporate objectives.

12.2.2 The pursuit of best value and continuous improvement requires that all services, including highway maintenance should be managed so as to optimise their contribution to the corporate objectives of the authority. This needs to be considered in three stages:

- identify the nature and extent of inter-action between the service and each of the corporate objectives;
- where there are opportunities to add value these should be maximised;
- where there are potential conflicts these should be resolved.

12.2.3 The process need not be a complex or time-consuming one and can be improved over time in the light of experience. It will be important, however, that where potential conflicts between maintenance practice and programmes are identified, a process is put in place to resolve these, either one way or the other.

12.3 BALANCING TRANSPORT PRIORITIES

12.3.1 The framework for local transport priorities and programmes will largely be determined by the LTP, which will have been prepared taking into account the wider corporate and strategic priorities. It will also have taken into account the outcome of consultations with users and the community. It may need to be modified, however, as a result of new information arising since the approval of the plan.

12.3.2 In particular a number of the issues potentially affecting the serviceability of the network may have altered, including changes in public transport routing, statutory undertakers' works, land use developments and also the nature and extent of highway deterioration. The programme for highway maintenance to meet the serviceability of the network will be included as part of the HAMP. As part of this process, authorities will be required to assess competing maintenance needs and prioritise accordingly.

12.4 BALANCING PRIORITIES BY TYPE

12.4.1 The broad priorities for the respective types of highway maintenance will largely be determined by the outcome of safety and service inspections and condition surveys, assessed against local risks and policies specified by the authority in the light of this Code. In general it will be important to establish priorities and programmes for each of the following:

- reactive maintenance - attending to Category 1 defects and other urgent safety matters arising from inspections or user information;
- routine maintenance - providing defined standards of serviceability (or level of service), including attending to Category 2 defects;
- programmed maintenance - providing co-ordinated sustainable schemes and projects to meet the serviceability requirements of the network;
- regulation - regulating occupation, interference or obstruction of the network;
- Winter Service - providing defined standards of salting and clearance of ice and snow;
- weather and other emergencies - planning for emergency response.

12.4.2 The determination of priorities and programmes for items within the categories of regulation, Winter Service and weather and other emergencies will tend not to require any special consideration and will largely arise out of the design of the services. For the other three categories it will be helpful to establish a more structured approach as outlined in the following paragraphs.

12.5 PRIORITIES FOR REACTIVE MAINTENANCE

12.5.1 Reactive maintenance involves attending to the rectification of Category 1 defects and other matters requiring urgent attention, arising either from inspections or user requests in accordance with the specified standards of response. Although all such matters will by definition have a degree of urgency, some may have potentially even more serious consequences, and priorities will usually be determined exclusively on the basis of risk assessment. This is discussed in more detail in Section 9.

12.5.2 The only other consideration is whether to:

- sign and make safe;
- provide initial temporary repair;
- provide permanent repair.

12.5.3 The option selected, together with relevant follow up, will largely be determined by operational practicalities and also whether the site is already part of a programme for more comprehensive treatment, in which case a temporary repair may be an appropriate course of action.

12.5.4 Many authorities use ‘Highway Wardens’, ‘Community Wardens’ or ‘Care Teams’ for providing an integrated service of safety inspection, signing and temporary repair. In some cases, these are also extended to provide ‘Integrated Street Management’ services, and teams will need clear guidance on the application of priorities.

12.6 PRIORITIES FOR ROUTINE MAINTENANCE

12.6.1 Routine maintenance is primarily for the purpose of providing defined standards of network serviceability, maximising availability, reliability, integrity and quality. The priorities and programmes will be determined largely, but not exclusively, from Category 2 defects identified during service inspections together with items from safety inspections not requiring urgent attention and user requests.

12.6.2 Priorities and programmes will need to be defined for all routine maintenance categories. Routine maintenance for each category may be undertaken separately, according to the frequency defined in each case, but it will usually be more efficient to combine a number of operations into a co-ordinated programme. It may also be convenient in central urban areas to consider coordination with other related street activities.

12.6.3 Particularly in rural areas, it will be helpful to prepare a regular programme of visits to local council areas for the purpose of undertaking the widest possible range of routine maintenance activity and to inform the local council and community in advance. Such arrangements may also be appropriate for neighbourhoods within urban areas.

12.7 PRIORITIES FOR PROGRAMMED MAINTENANCE

12.7.1 Programmed maintenance is undertaken primarily in the interests of providing for a sustainable outcome, seeking to minimise cost over time, to add community value to the network or to the environment. It can also be for safety purposes by, for example, improving skidding resistance or contributing to serviceability by, for example, improving ride quality.

12.7.2 It will be necessary to develop priorities and programmes for the structure, surface and edge of carriageways, footways and cycle routes.

12.7.3 Programmed maintenance schemes may be more expensive than routine or reactive treatments in initial cost, but should be designed to have a lower whole life cost, therefore providing value for money. The determination of priorities between competing schemes needs to be based more objectively, utilising processes such as Value Management, that has been successfully used by the HA.

12.7.4 One method of identifying programmed maintenance schemes for carriageways, footways and cycle routes is through UKPMS. Arrangements for undertaking surveys and the application of UKPMS are referred to in Sections 9 and 10 of this Code respectively. Further information on UKPMS is provided in Appendix D.

12.7.5 The identification of programmed maintenance schemes should be undertaken in stages:

- the information obtained from condition surveys should be processed by a UKPMS accredited system to establish a preliminary programme based on the principle of minimising whole life cost;

- the preliminary programme should then be developed into individual schemes that meet the levels of service in the HAMP. The schemes may then be prioritised using a process of Value Management (Section 12.8). Schemes should not necessarily be prioritised on the basis of 'worst first' as this may not always provide the best value for money in terms of whole life cost. In some circumstances a 'just in time' approach may provide better value.

12.7.6 There are three important new issues that should be addressed by all highway maintenance schemes, each of which present important opportunities to add value, and which should be grasped enthusiastically rather than being seen as an imposition. These are:

- the implications of the scheme on the duty, imposed by the Traffic Management Act 2004, in England, to 'secure the expeditious movement of traffic on the authority's road network'. This may require changes to design and construction arrangements in consultation with the authority's Traffic Manager;

- the requirement under the Disability Discrimination Act 1995 to make 'reasonable adjustments' to facilitate access for disabled people. The audit process developed by Transport for London Street Management demonstrates good practice in this area (www.tfl.gov.uk);

- the obligation for schemes, so far as possible, to contribute to the quality of public space. A series of regional guides published by English Heritage in collaboration with the DfT provide useful guidance (www.english-heritage.org.uk).

12.8 VALUE MANAGEMENT

12.8.1 Value Management is a process that may be used to prioritise the competing needs of highway schemes, identified through condition and economic prioritisation. It provides a structured, consistent and quality approach for assessing the benefits of undertaking maintenance and the associated risks of not undertaking maintenance. The outcome should be a prioritised programme of schemes that will be entered into the HAMP. This process is summarised in Figure 4.

12.8.2 Before an authority may establish a Value Management regime, it will need to identify the frequency of review and the overall approach to be adopted. It is important that this takes into consideration the corporate and transport priorities within the authority and the overall context of the HAMP. For example, the regime should identify:

- Value Management frequency - it is possible that some activities would be performed on a continuous basis. However, it is anticipated that a Value Management review would be held annually in order to determine the programme of works to be included in the HAMP for the following years;

- prioritisation criteria – the criteria considered under Value Management to be used to prioritise needs. It is important that the prioritised needs should align with the levels of service and the volumes of work identified in the HAMP.

12.8.3 Value Management should be developed by suitably qualified and experienced staff who have a sound understanding of the organisation's maintenance requirements and an awareness of longer-term objectives and targets, such as those identified in the HAMP. The process should be transparent and as a starting point the prioritisation criteria should align with the following four categories:

- highway improvement – criteria in this category should cover programmed maintenance schemes that are compatible with planned highway improvements. They would also include the overall safety of the network;

- socio-economic and environmental – criteria in this category should cover the wider policy issues, including providing for disabled people, that cannot be readily quantified by automated prioritisation procedures e.g. local importance, impact on local communities and businesses, environmental impact, sustainability, considerations such as noise reducing surfacing and recycling of bituminous materials;

- value for money – criteria in this category should consider the value of the scheme in overall terms of whole life cost. Each proposed scheme should have an associated cost estimate. The use of more durable materials and the minimisation of future routine maintenance would contribute towards a more sustainable solution;

- network management – criteria in this category should consider the overall impact on the network of the proposed maintenance scheme in terms of the Traffic Management Act.

12.8.4 Each category is assigned a weighting to represent its importance in the delivery of the objectives of the authority and the context of the HAMP. While it is recognised that safety will be of primary importance, other issues should also be addressed; otherwise the process may focus solely on safety and fail to address

serviceability, sustainability and customer service. Clearly, assigning weights to the various criteria is not an easy task, particularly when it is evident that the preference on the criteria may be conflicting. A number of systems are available to establish preferences for a number of criteria, taking into account the views of interested stakeholders. One of these is the Analytic Hierarchy Process (AHP). The system should also provide robust justifiable scores.

12.8.5 Walsall Council have used the AHP methodology to prioritise a number of schemes identified using UKPMS and funded by Prudential Borrowing. A number of stakeholders were involved in workshops aimed at identifying the main objective of the investment 'to raise the profile of the Borough by investing the Prudential money wisely'. The use of the AHP allowed the stakeholders to balance their views, in the light of the overriding objective and through comparison of schemes and objectives to reach a priority listing that took into account the weight of all the views. The process demonstrated robust justification for the decisions made through the prioritisation.

12.8.6 The Value Management process is usually conducted in the form of a workshop with a number of interested parties from various departments within the authority. The process involves the assessment of the performance of each of the programmed maintenance schemes under the various criteria. The outcome of the Value Management process should be an outline programme prioritised on scores obtained from the process. The work volumes and cost estimates should align with the work volumes and the funding estimates in the HAMP. The process should also highlight the risks related to the programme.

12.8.7 The overall aim of the Value Management process is to ensure that maintenance schemes are assembled into programmes of work that align with the objectives of the authority and deliver value for money. Value of these schemes will be maximised by co-ordination with other highway improvement programmes and integrated transport schemes on related parts of the network, thus minimising disruption to users and maximising benefits to the community.

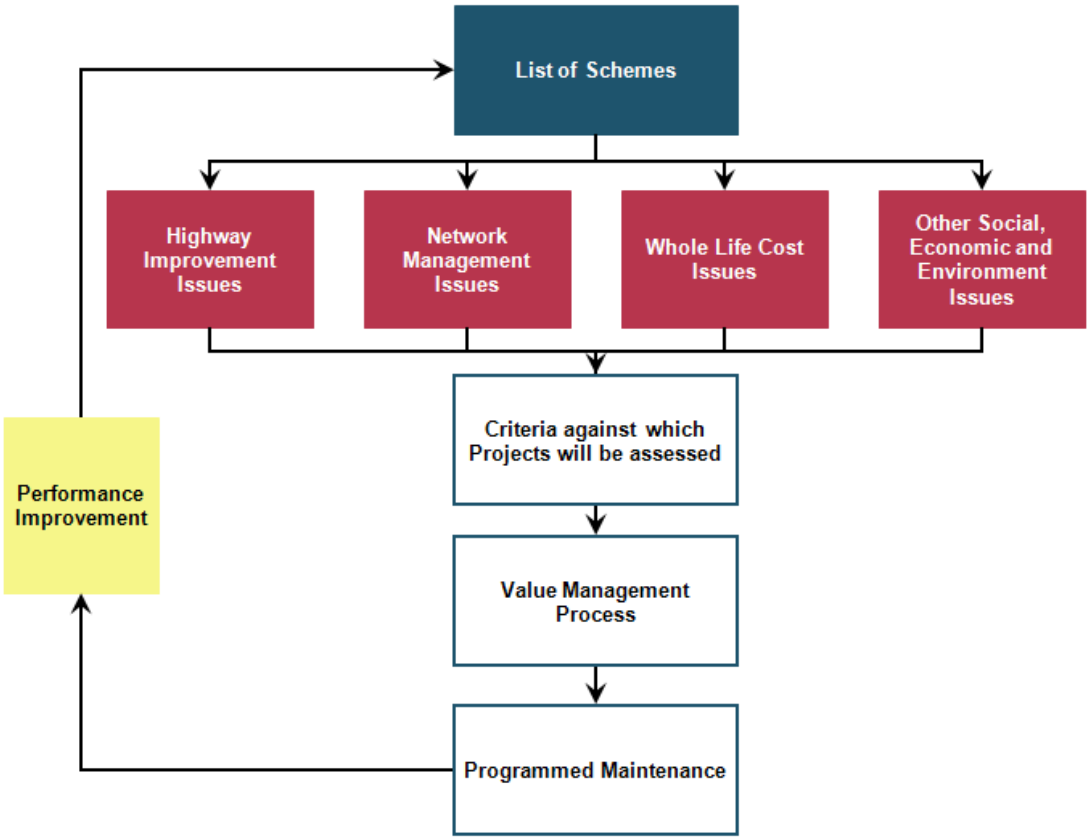


Figure 4 - The Value Management Process

12.9 VALUE ENGINEERING

12.9.1 Value Engineering is a refinement of the Value Management process. It is a second stage process that is conducted on an individual scheme, to optimise both the design and construction phases. In principle, it reduces the risk associated with unforeseen issues at the time of scheme development. Value Engineering also provides the authority with a further chance to explore potential opportunities for innovation. Key individuals from works teams and specialists from each discipline, for example pavement engineering, should be present during this process.

RECOMMENDATIONS FOR SECTION 12

R12.1 Defining Priorities

Priorities for highway maintenance activities should be based upon the objectives and outcomes for each maintenance category defined in the Highway Asset Management Plan, and in accordance with the principles of best value and the legal obligations of the authority. The process should be clear, transparent and consistently applied.

R12.2 Priorities for Programmed Maintenance

Initial priorities based on network condition for programmed maintenance should be established utilising the output of technical (and economic prioritisation)

processing from a UKPMS accredited Pavement Management System. This is provided for in UKPMS and will be enhanced to take account of ongoing research and developments.

R12.3 Value Management

Value Management should be applied to highway maintenance schemes in order to balance priorities and improve value for money. In particular it can be used to add value to Local Transport Plan priorities, making 'reasonable adjustments' to facilitate access for disabled people, required by the Disability Discrimination Act 1995, and contributing to the quality of public space.

R12.4 Programme Assembly

Maintenance schemes should be assembled into programmes of work to co-ordinate with other highway maintenance schemes, improvement schemes, and works by utilities and developers in co-operation with the authority's Traffic Manager, in order to minimise disruption to users and to meet the requirements of the Traffic Management Act 2004, where applicable.

R12.5 Extent of Programmed Maintenance

Programmes for all maintenance schemes should be an integral part of the Highway Asset Management Plan and reviewed at least yearly to ensure that they continue to meet the authority's safety, serviceability and sustainability objectives. Generally programmes should be drawn up over a rolling three year period.

R12.6 Consultation on Maintenance Programme

Consultation should be undertaken with the authority's Traffic Manager, adjoining authorities, other agencies, public transport operators and the local community on the highway maintenance programme.

Section 13
Winter Service

Section Amended
29 November 2011

Section 13 has been superseded with the revised Section below.

13.1 INTRODUCTION

Background

13.1.1 Although sometimes termed “Winter Maintenance”, the particular network management requirements during winter are not “maintenance”, in the traditional sense, but specialist operational services. The term “Winter Service” has been adopted by this Code.

13.1.2 Winter Service deals with regular, frequent and reasonably predictable occurrences like low temperatures, ice and snow, as well as with exceptional events. Whist the effects of climate change are likely to result in an increased frequency and intensity of severe winter events, these can be taken into account in Winter Service planning. Therefore Winter Service can and should be subject to the same regime of plan, deliver, review and improve as other aspects of the highway maintenance regime.

13.1.3 Policies and plans developed for Winter Service are likely to have relevance in emergency planning for dealing with extreme weather conditions including flooding, high winds and high temperature, as discussed in Section 14 of this Code. The incidences of such events may be affected by climate change. They are also likely to have some relevance to the wide range of non-weather related emergencies that could affect the highway network.

13.1.4 Although a very specialised area, Winter Service is a significant aspect of network management both financially and in terms of its perceived importance to users. It can also have significant environmental effects. The organisation of the service is likely to

have considerable implications for the overall procurement and management of other highway maintenance services. This Section of the Code should therefore be read in conjunction with other sections dealing with these issues and Appendix H.

Objectives

13.1.5 Winter Service can contribute significantly to each of the core objectives set out in this Code as described below:

Customer

- There are, in all parts of the UK, very considerable user needs and expectations and these can be a major influence on customer satisfaction through demonstrating an efficient, effective and proportionate response to winter conditions.

Safety

- Safety is a consideration for Winter Service, even though statutory obligations and users needs vary in different parts of the UK.

Serviceability

- Maintaining availability and reliability of the highway network is a key objective for Winter Service and one where user judgements of performance will be immediate rather than longer term.

Sustainability

- Low temperatures and the formation of ice can cause serious damage to the fabric of running surfaces and accelerated damage of the network. Effective Winter Service can contribute to a reduction in whole life costs and minimise damage to the environment.

Statutory Basis

13.1.6 The statutory basis for Winter Service varies in different parts of the UK. In England and Wales Section 41 (1A) of the Highways Act 1980 was modified on 31st October 2003, by Section 111 of the Railways and Transport Act 2003. The first part of Section 41 now reads:

"a) The authority who are for the time being the highway authority for a highway maintainable at the public expense are under a duty, subject to subsections (2) and (3) below, to maintain the highway.

b) (1) In particular, a highway authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice."

13.1.7 This is not an absolute duty, given the qualification of "reasonable practicability" but it does effectively overturn previous legal precedence, albeit not with retrospective affect. Section 150 of the Highways Act 1980 still imposes a duty upon authorities to remove any obstruction of the highway resulting from *"accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause"*.

13.1.8 In addition, the Traffic Management Act 2004 placed a network management duty on all local traffic authorities in England. It requires authorities to do all that is reasonably practicable to manage the network effectively to keep traffic moving. In meeting the duty, authorities should establish contingency plans for dealing promptly and effectively with unplanned events, such as unforeseen weather conditions, as far as is reasonably practicable.

13.1.9 Given the scale of financial and other resources involved in delivering the Winter Service it is not reasonable either to:

- provide the service on all parts of the Network;
- ensure running surfaces are kept free of ice or snow at all times, even on the treated parts of the network.

13.1.10 In Scotland statutory responsibilities are defined by Section 34 of the Roads (Scotland) Act 1984 which requires that "*a road authority shall take such steps as it considers reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads*".

13.1.11 In Northern Ireland, the Roads (NI) Order 1993 SI 1993/3160 (NI 15) provides, in Article 10, a duty for the Department of Regional Development to "*remove snow, soil etc which has fallen on a road*". Section 9 of the Order also enables the authority to "*take such action as it considers reasonable to prevent snow or ice interfering with the safe passage of persons and vehicles using the road*". However paragraph 7 of Article 110 provides protection from liability and states that "*Nothing in this Article operates to confer on any person a right of action in tort against the Department for failing to carry out any duty imposed on it under the Article*".

13.2 WINTER SERVICE POLICY

13.2.1 Authorities should formally approve and adopt policies and priorities for Winter Service, which are coherent with wider objectives for transport, integration, accessibility and network management, including strategies for public transport, walking and cycling. They should also take into account the wider strategic objectives of the authority. **(Recommendation 1)**

13.2.2 Issues for consideration in developing policy should include:

- treatment of facilities for public transport users;
- treatment of facilities for road users;
- treatment of facilities for walking and cycling;
- treatment of transport interchanges;
- treatment of promoted facilities;
- extent of priority for emergency services;
- extent of priority for key public services and critical infrastructure;
- extent of priority for vulnerable users;

- level of service resilience required;
- other local circumstances.

13.2.3 Authorities should develop service standards for Winter Service which define the Overall Winter Period, the Core Winter Period, the level of resilience and treatment networks.

13.2.4 These policies and service standards should be developed as far as reasonably possible with users and key stakeholders and should also be based on a risk assessment to define the scope of the service. The documents should be designed and drafted to be used by staff at all levels. Authorities should utilise the time outside the winter season to put these policies and plans in place.

13.3 RESILIENCE

13.3.1 Better planning will result in a more resilient Winter Service and reduce the risk in the delivery of the service during normal and severe winter conditions. It also has the potential to deliver the service in a more efficient way. This includes not only the management of salt stocks, but other resources such as fuel, plant and labour.

13.3.2 Winter service should be regarded as part of the authority's wider resilience planning. The same disciplines, systems and processes apply, bringing a degree of rigour and challenge to the preparation of plans for winter weather.

13.3.3 The first step towards providing a more resilient service is consideration of the threats and vulnerabilities of the service. This can be achieved through a detailed appraisal of the current situation based on plausible but stretching 'what-if' scenarios.

13.3.4 By considering these scenarios, potential areas for improvement in service resilience can be identified. These should be assessed, prioritised and mitigation measures considered. It is important when considering potential mitigation to think laterally, as this may identify more cost effective solutions.

13.3.5 An important part of resilience planning is to include a planned escalation procedure. Engagement with the authority's emergency planning department should be considered. The Winter Service Plan should be made available to the authority's emergency planning departments such that it can be integrated with other plans such as Business Continuity Plans, Evacuation Plans and Rest Centre Establishment Plans.

Minimum Winter Networks

13.3.6 As part of their contingency planning, authorities should define a minimum winter network. This resilience network may be a subset of their normal treatment network and should provide a minimum essential service to the public, including links to the strategic network, access to key facilities and other transport needs. It is important that there is continuity across boundaries. It is recognised that authorities will have difficulty in treating all bus routes. However, arrangements should be made to enable bus operators to run minimum services.

13.3.7 Issues to consider when defining a minimum winter network are:

- What is the key infrastructure access which should be maintained? To this end, the authority's emergency planning department should be consulted. Consideration should be given to a wide range of services, including

consideration for private infrastructure. For example, water treatment works may require chemical deliveries to ensure continuity of water supply but are unlikely to be on the primary treated road network.

- How will carriageways, cycle ways and footways be prioritised across the authority's network? Issues to be considered include treatment methods, resource requirements, type of network as a whole and alternative routes or modes of transport.

- How will the minimum winter network interface with other authorities? There is little point expending effort to keep a route open if it is snowbound in a neighbouring authority.

13.3.8 Treatment of the resilience network in practice should be considered, as the possibility of slower treatment speeds and potential congestion may create issues.

13.3.9 The trigger point and protocol for activating the minimum winter network should be agreed within the authority, documented and communicated as appropriate. In doing so agreement should be made with the emergency planning department and senior officers. The decision to activate the minimum winter network may also be made in conjunction with other authorities. The overall approach should be detailed within the Winter Service Plan.

Winter Resilience Standard

13.3.10 Authorities should consider, consult on and formally adopt local service standards for resilience of their winter service in terms of number of days continuous severe conditions salting on a defined Minimum Winter Network for the Overall Winter Period and for the Core Winter Period. **(Recommendation 2)**

13.3.11 A resilience benchmark of 12 days/48 runs should be adopted for full pre-season salt stockholding by 1 November for English local highway authorities. **(Recommendation 2a)**.

13.3.12 In considering how to apply the benchmark, authorities should review their history of usage and mutual aid or other arrangements to consider: a) whether there is a case for increasing capacity towards 48 runs if it is currently less than this, in addition to filling

the capacity they have; or b) at what level to stock – at or above the 48 runs level – where the capacity exists to do so.

13.3.13 Establishing a winter service resilience standard requires consideration of the number of days resilience to be adopted, definitions of the Overall Winter Period[1] and Core Winter Period[2], whether it should refer to the normally salted network or to a smaller locally determined Minimum Winter Network[3].

13.3.14 Delivery of the Winter Service relies on suitable resources being available, including salt, fuel and trained staff and operatives. Any one resource in short supply puts additional strain on service delivery.

13.3.15 It is suggested that at least 6 days resilience for salt and other resources, including equipment, drivers and fuel, would represent sensible good practice for determining the number of days' resilience during the Core Winter Period. This is based on a number of days' severe conditions plus replenishment time and taking into account weekends, and combinations of public holidays and weekends such as Christmas and the New Year.

13.3.16 This approach based on a reasonable number of days' resilience in the ability to deliver a defined winter service should ensure that highway authorities hold or have easy guaranteed access to sufficient salt, gritters and drivers and other essential resources to deal with severe winter weather conditions.

13.3.17 Some highway authorities may already have a good level of resilience, but if individual authorities decide they need to increase resources, they will need to consider the practical implications and a reasonable implementation period. Implications may include any new arrangements or facilities required and cost.

13.3.18 In developing their local service standards based on days' resilience, authorities should assess the risks that are faced in the delivery of the Winter Service. The assessment should cover all items of policy and management including:

- network for treatment;
- adjoining highway networks;
- salt management policies;
- operational resources (including equipment, salt stocks and fuel);
- access to Winter Service depots and salt storage areas;
- staff training;
- availability of operational staff.

[1] Overall Winter Period – Locally defined since the winter period may vary according to climatic conditions, but usually at least the beginning of October to end of April.

[2] Core Winter Period – Locally defined since the winter period may vary according to climatic conditions, but usually at least December to February inclusive.

[3] Minimum Winter Network – That part of the carriageway network normally treated in winter which provides a minimum essential service to the public, including strategic routes, access to key facilities and other transport needs.

13.3.19 An example of how authorities may express and apply their Winter Service resilience standard is included in Appendix H.

13.3.20 The Department for Transport has put in place a year- round salt stock monitoring system to ensure optimum resilience of salt supply, through a nationally severe winter. Authorities should provide to the Department for Transport the information required for this system in a timely manner.

13.4 CLIMATE CHANGE

13.4.1 It is now acknowledged that the world is experiencing a rapidly changing climate. It is generally accepted that although weather is likely to be milder and wetter in winter, there may be more occurrences of severe weather events.

13.4.2 The effects of climate change make it difficult for highway authorities to anticipate winter conditions from year to year. Wide variation and extreme events as a consequence of climate change needs to be taken into account in winter service planning. The events of the 2008/09 winter provide evidence of what can happen and are reviewed in detail in the UKRLG report Lessons from the Severe Weather February 2009. The report may be downloaded from the following website:

Website Amended
27 April 2012

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=7E330478-F948-42A3-93F8B3A4862AA655

13.4.3 In 2009/10 the UK was hit by the coldest and most extended winter for thirty years. An independent review has been carried out of the resilience of England's transport systems to severe winter weather. The final report has been published, making recommendations for improving transport systems' resilience to severe winter events. The UKRLG supports the recommendations of this report. The final report may be downloaded from the following website:

http://transportwinterresilience.independent.gov.uk/docs/final-report/

13.4.4 The Secretary of State for Transport responded to the final report. The response may be found in the following website:

Website Amended
27 April 2012

http://www.dft.gov.uk/news/statements/hammond-20101022/

13.4.5 The Transport Select Committee published a report in April 2011 entitled; Keeping the UK moving: The impact on transport of the winter weather in December 2010. The document can be downloaded from the following website:

http://www.publications.parliament.uk/pa/cm201012/cmselect/cmtran/794/79402.htm

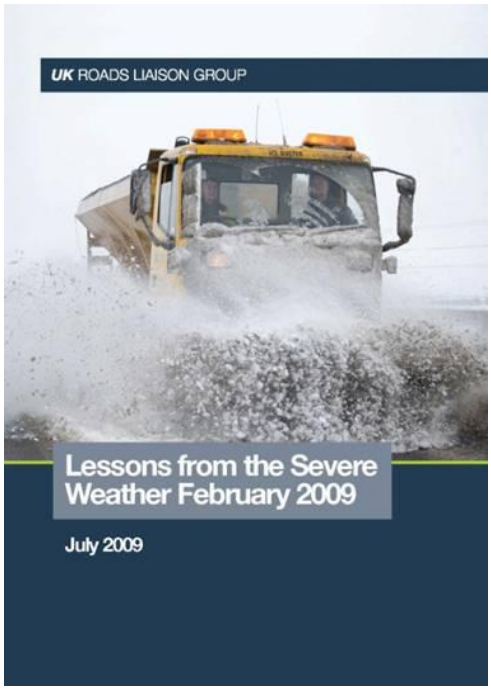
13.4.6 Authorities should review their approach to climate change and in particular their resilience to prolonged cold weather. **(Recommendation 3)**

13.4.7 Climate change is dealt with in more detail in Section 14.1.

13.5 CO-ORDINATION AND COLLABORATION

13.5.1 Authorities should consider whether collaborative arrangements such as shared services, lead authority arrangements, collaborative service procurement, and sharing depots and salt stock, would provide an effective and value for money approach to increasing winter service resilience. **(Recommendation 4)**

13.5.2 Co-ordination and co-operation between authorities in winter service planning including defining treatment routes, response, and treatment times is of crucial importance. This should be a formal process between the adjoining local authorities and with the authority responsible for the strategic network. The intention should be to negotiate effective service integration across administrative boundaries and to enable operation of the plant and vehicles required to achieve adequate resilience.



13.5.3 In these circumstances close liaison both with public transport operators and local authority transport co-ordinators is essential, at the annual review, on an ongoing basis throughout the season and on a continual basis in severe weather conditions. This is particularly important as, although changes to public transport routes and frequencies will be made throughout the season, it will not usually be practical or desirable for consequent changes to the treated network during the season. This may influence the nature and timing of changes to public transport routes.

13.5.4 The efficient operation of many essential services may be dependent upon ice or snow removal from key areas of private land, which is fundamentally the responsibility of land owners.

13.5.5 Authorities should determine critical areas and infrastructure in conjunction with key public services and other stakeholders and seek to ensure that appropriate winter treatment has been considered by the appropriate party. (**Recommendation 5)**

13.5.6 Authorities should explore the potential for sharing depots as this may provide opportunities for efficiencies. Other areas where collaboration should be considered

include decision support services for weather particularly where authorities have similar climatic conditions.

13.6 WINTER SERVICE PLANNING

13.6.1 Planning and preparation is fundamental to delivering a successful Winter Service. Careful planning in advance of the winter season will greatly assist in adequate resources and contingency arrangements being put in place by authorities to improve their overall resilience.

Communication

13.6.2 It is good practice to communicate effectively with the public, key public services, stakeholders and other highway authorities. However, communication within the authority is also critical. Preparation and planning of communication in advance will assist in the effective delivery of the service.

Setting Expectations

13.6.3 It is important to ensure that the public, elected members and senior management are engaged in the Winter Service. The Department for Transport (DfT) has produced a leaflet titled “Are You Ready for Winter?” with important information for councillors and senior officers about preparation for winter. Public leaflets, websites and briefing notes all contribute to setting expectations with a low associated cost and time requirement.

13.6.4 Clearly setting out what will and will not be done as part of the delivery of Winter Service can reduce the number of complaints and questions raised by the public and stakeholders. Improved communication and understanding may therefore improve time available for the Winter Service delivery team to focus on delivery of the service.

Collaboration and Liaison with Stakeholders

13.6.5 It is important to remember that members of public will travel across boundaries of several different authorities. It is therefore important that treatment regimes align across boundaries to provide a seamless service. Simple measures such as comparing treatment routes and decision making criteria between authorities will assist with this, especially within urban areas.

13.6.6 Authorities should ensure that there is appropriate consultation and communication with other highway authorities, key public services and other stakeholders to ensure improved service for the public. **(Recommendation 7)**

13.6.7 It is important to provide information directly to key stakeholders, including adjacent highway authorities, all emergency services, public transport operators, motoring organisations, the education authority, schools, their bus operators, and key local organisations. This information could include:

- Sharing Winter Service Plans;
- A non-technical summary of the Winter Service Plan;
- Maps of treatment routes;
- Operational decisions on a timely basis.

- Salt stock information via the Salt Portal

13.6.8 Liaison between highway authorities should be routine throughout the winter season. Communication of treatment decisions provides useful information that may inform future decision making, promotes seamless service and can potentially generate efficiency savings.

13.6.9 Collaboration with other authorities can be as simple as arranging an informal meeting to discuss the respective Winter Service policies and plans on an annual basis. Other topics could include resource availability, mutual aid or joint training and exercising.

13.6.10 It is good practice to liaise with the relevant trunk road and motorway operator (where appropriate) to confirm current route planning. This will minimise duplication of treatments where the two networks cross and avoid sections being missed at complex intersections.

13.6.11 There are many examples of good practice where authorities have worked together in preparation for the winter season. In London, for example, all highway authorities and other stakeholders have collaborated to produce a contingency plan, agree a resilience network, and put in place a strategic stockpile of salt.

Contact Information

13.6.12 Staff contact details and other stakeholders involved in the Winter Service need to be updated before the start of the winter season. A contact check is a simple and effective means of ensuring that staff can be contacted when required. The contact check also facilitates a refresh of communications with other authorities and stakeholders.

Media Information

13.6.13 Authorities should establish effective working arrangements with local press and broadcast media. This should enable the presentation of timely and accurate information and advice on network condition and use. Information could include travel information, network availability and risk of severe conditions such as snow and black ice. These arrangements should include in-season proactive media output to engage the public with the Winter Service. This is especially important during prolonged cold weather and is likely to involve television, radio and the internet. Local radio in particular considers this to be a most important aspect of their service to the community and it therefore provides the opportunity to build good working relationships over wider issues. Many authorities have specialist press and public relations personnel and it will be important to clarify and agree respective service and specialist responsibilities.

13.6.14 Whilst every severe weather event poses its own unique issues, the baseline media information required remains relatively constant. Statistics such as the number of spreaders, ploughs and salt stored are popular requests. The structure of messages to be relayed is generally similar.

13.6.15 Robust processes should be in place to ensure a rapid and accurate issue of media information is possible. It is suggested that pre-prepared media briefs are developed in advance of the winter season for use during times of severe weather.

13.6.16 It is important to define and agree key contacts with press and broadcast media and also establish a clear understanding of the most effective timings for information to be provided, in order to reach necessary audiences and broadcast schedules. It may be helpful to arrange joint workshops or training sessions to build understandings and

relationships. Advance compilation of commonly requested information will reduce the media workload during a severe weather event.

13.6.17 There may also be a need in more widespread and extreme conditions to provide information to the public using national press and broadcast. This may be undertaken either directly or by arrangement with local media, and arrangements should be discussed with them. It may also be possible to utilise variable message signs.

13.6.18 Where possible authorities should use their media relations staff to prepare generic statements and press releases for rapid issue at the onset of winter conditions. These can be pre-approved for use during periods of severe conditions, when both Winter Service delivery teams and the press team will be busy. Consequently authorities may identify the need to provide media training to winter staff. This will help to ensure that the right message is put across in the correct manner at all times.

13.6.19 When severe weather is forecast the media rapidly start requesting information and it is important that correct and accurate information is available to them. If information is not provided by an authority the media will attempt to source it from elsewhere, which may not be accurate.

13.6.20 Recent experience has shown that some individuals will take heed of advice issued to the public for or avoiding travelling during severe conditions. If sufficient advanced warning is provided, drivers will be able to change their plans.

Information for the Public

13.6.21 Authorities should ensure effective communication of information for the public before and during both normal and severe winter conditions. **(Recommendation 6)**

13.6.22 Authorities should make widely available for users and the community a non-technical summary of the Winter Service Plan, including plans of the treated network, together with guidance on safe use of the network. They should also establish arrangements for local radio and web based information.

13.6.23 Section 6 of this Code deals with arrangements for community involvement in highway maintenance and the importance of information and publicity. This provides opportunities and challenges, which should be positively addressed by authorities and provide an important opportunity to demonstrate understanding of users' needs, and a strong service commitment.

13.6.24 It is of crucial importance that policies and standards of Winter Service provided by authorities are widely available and understood by users and the community. As far as possible highway users should be made familiar with treatment routes, particularly in severe weather conditions. This will help in ensuring that expectations are realistic and consistent with the resources available as well as maintaining public safety.

13.6.25 Many authorities provide leaflets summarising policies and service standards, including maps showing routes treated, contact information and advice on safe network use. The leaflets should be reviewed annually and made available through the internet, libraries, information centres, schools and a wide range of outlets. Further details on the content and use of leaflets are included in Appendix H.

Public Self Help

13.6.26 Guidance to the public has been published by DfT on how they can assist their communities in clearing snow and ice without fear of litigation.

http://www.direct.gov.uk/en/Nl1/Newsroom/DG_191868

13.6.27 Many authorities have provided salt bins and shovels to parish councils and other stakeholders in order to help them keep local areas free of ice and snow. Ensuring suitable risk assessments and method statements are in existence will minimise the risk of accidents occurring.

13.6.28 Local volunteer groups may provide support to local communities and the vulnerable for clearing footways. This needs careful management to ensure the safety and welfare of all involved. This is an area that emergency planning departments are likely to have experience of, either directly or through involvement with Local Resilience Forums.

13.6.29 One means by which authorities can assist the local community in areas not on priority routes or at known trouble spots, including gradients and sharp bends is by the provision of public access salt bins. Where these are provided authorities should make arrangements for their replenishment as necessary and to ensure that they do not become unsightly or used for the unauthorised disposal of waste.

Winter Service Plan

13.6.30 It is important that the Winter Service Plan is designed to be used by staff at all levels and that those that require it have ready access to the document.

13.6.31 Authorities should formally approve, adopt, and publish, in consultation with users and key stakeholders, a Winter Service Plan based on the principles of this Code. **(Recommendation 8)**

13.6.32 Once the policy and plan documents are complete, it is important that those involved in delivering the Winter Service are aware of the current approach. Ideally, a briefing should take place at the start or early in the season to disseminate this information to staff involved in the delivery of the Winter Service. The briefing should also remind staff of the critical role they play in mitigating the impact of winter weather on the road network.

13.6.33 The Winter Service Plan should be reviewed annually in consultation with a wide range of stakeholders.

13.6.34 It is good practice to monitor compliance with the Winter Service Plan throughout the season. Simple audits on decisions made and short debriefs of snow events will achieve this. These audits should be regular and clearly documented to ensure maximum benefit can be achieved.

13.6.35 Suggested contents of the Winter Service Plan are detailed in Appendix H. The Plan should recognise the fundamental differences between the main components of Winter Service for carriageways, cycle routes, footways and any critical areas and infrastructure as follows:

- pre-treatment - “precautionary” salting;
- post-treatment - continuing salting following the formation of ice;
- clearance of ice and snow;
- dealing with continuous severe conditions.

Treatment Routes

13.6.36 Authorities should define treatment route plans for carriageways, cycle routes and footways for pre-treatment and snow conditions, based upon the general maintenance hierarchy, but adapted to take into account the factors identified by this Code. **(Recommendation 9)**

13.6.37 The treatment routes for Winter Service should take as a starting point the hierarchy developed for other maintenance purposes but this is likely to require extensive modification to consider:

- wider transport and other policy priorities referred to above;
- special requirements of carriageways, footways and cycle routes;
- safe and reliable access to emergency facilities including Fire and Rescue, Police, Ambulance Services and hospitals;
- other public services access needs and critical infrastructure where the maintenance of access may be critical;
- public transport routes and access to stations, bus garages and depots;
- safe and reliable access to main industrial and business centres of key importance to the local and regional economy;

- any significant variation between summer and winter traffic;
- accessibility dependencies of remote communities for example Scotland's island and peninsular communities;
- the special needs of disabled people or older people particularly where these can be effectively targeted;
- known problems, including significant gradients, exposed areas and other topological factors;
- climatic and thermal capacity differences within the area;
- co-ordination and co-operation with other authorities.

13.6.38 Consideration of these issues is likely to suggest differences in networks adopted for each element of Winter Service. Such decisions will usually not be clear cut. For example treatment of footways will differ from carriageways and for low traffic roads it may be difficult to justify high priority for service provision.

13.6.39 Risk assessments should be undertaken to establish which routes should be included in a programme of treatment during winter. In particular, the treatment of carriageways, footways and cycle routes must be considered taking account of risk to all highway users and consideration of the available resources.

13.6.40 Where the authority is actively promoting facilities, or there are clear trends of increasing use, a more proactive approach to Winter Service may send an important message.

13.6.41 Transport interchanges perform a key role in the delivery of integrated transport, which should be reflected in Winter Service policies and priorities. These include airports, rail and bus stations and the means of access to them whether by main routes for walking, cycling, public transport or car. Parts of the interchange may be subject to differing management regimes and it will be important to agree common standards and ensure effective co-ordination of resources.

13.6.42 It should be recognised that many authorities will have difficulty treating all bus routes as part of their precautionary salting routes. The treatment of bus routes should be

based on risk assessment of local circumstances such as service frequency and their importance to integrated transport services. It is important that treatment routes include the access roads to bus garages.

13.6.43 Similar considerations apply to school bus routes where, although authorities should endeavour to provide Winter Service support, there may be practical difficulties in wide spread treatment of such a diverse network.

13.6.44 In general salting should not be undertaken between the stop lines of level crossings, even when covered with snow. Before ploughing over a level crossing the driver must stop and telephone the signalman for permission to proceed and then inform the signalman when past the crossing. Snow blowers must not be used on level crossings.

13.6.45 Consideration should be given in certain circumstances for the temporary erection of snow fencing to reduce the effect of drifting snow. The legal powers to provide snow fences in England and Wales are contained in Section 102 of the Highways Act 1980. Where no agreement can be reached with the landowner, Sections 239, 240 and 250 of the Act provide for compulsory powers. The power to provide snow fences in Scotland is in Section 30 of the Roads (Scotland) Act 1984. There is no equivalent of these specific powers in Northern Ireland but Article 100 of the Roads Order, which deals with the acquisition of land, could be used in these circumstances.

13.6.46 In periods of especially severe weather in certain parts of the UK, temporary road closures may be necessary. Where roads are known to be particularly vulnerable consideration should be given to the installation of permanent flap down or variable message signs. These signs should be located well in advance of any anticipated obstruction and should be operated in conjunction with the Police. In determining the optimum location consideration should be given to the availability of alternative routes and, if necessary, holding areas. With manually operated signs, and in more remote areas, it is essential that the signs are easily accessible and can be quickly operated by authority or police to give timely information. Consideration should be given to the merits of remotely controlled matrix signing.

Contingency Planning

13.6.47 Winter Service procedures should be designed to provide a planned response during even exceptionally severe weather. Through careful planning it is possible to reduce the need for reactive response. It is important to ensure that the Winter Service Plan contains details of the escalation procedures, alternative resources and minimum winter (resilience) networks.

13.6.48 The delivery of a more resilient Winter Service should enable local communities, business, public transport and emergency services to function in more severe conditions prior to the need to implement contingency arrangements. Effective contingency planning is therefore a key element of delivering a more resilient service.

13.6.49 Authorities should prepare contingency Winter Service Plans for severe weather conditions which include possibilities such as salting a Minimum Winter Network. Authorities should seek agreement on plans in advance with other highway authorities and key public services such as hospitals and public transport providers. There should be a co-ordinated approach to implementing Minimum Winter Networks across adjacent highway authorities. **(Recommendation 10)**

13.6.50 When weather is sufficiently severe, a contingency plan should be activated. The success of this plan is dependent on advance planning and co-ordination, including treatment routes, resource needs, mutual aid and communications.

13.6.51 With improved resilience of Winter Service the normal response is likely to cope with more severe conditions before the need for escalation. Once escalated, the response will then be likely to mitigate the effects of more extreme conditions. Providing winter decision makers with well designed contingency arrangements allows them to escalate an issue before it becomes a significant threat to continuity of service and to have the tools available to best manage the situation.

13.6.52 When resilience measures and processes have been developed and incorporated into the Winter Service Plan, relevant staff and stakeholders will need to be trained. Resilience planning should be tested through exercises. This will resolve any potential problems in the approach prior to it being used operationally.

13.6.53 Local authorities, as Category 1 responders under the Civil Contingencies Act 2004, will already have emergency plans in place. Authorities should benefit from these plans in developing a more resilient approach to Winter Service. Business continuity planning with respect of severe conditions is also important to ensure that winter service can be delivered and other critical functions can be adequately supported.

13.6.54 As part of their contingency planning, authorities should define a Minimum Winter Network, see recommendation 2. This may be a subset of their normal treatment network and should provide a minimum essential service to the public, including links to the strategic network, access to key facilities and other transport needs. It is important that Minimum Winter Networks ensure continuity across boundaries. It is recognised that authorities will have difficulty in treating all bus routes as part of their minimum network. Minimum Winter Networks should however enable bus operators to run minimum services, as appropriate.

13.6.55 Resources such as salt, fuel, spreaders, depots and labour are finite. Plans therefore need to demonstrate how the service will be delivered if one or more of these resources is in short supply. Shortages of fuel, spreaders or operators may not coincide with severe weather.

13.6.56 Where practicable, authorities should make arrangements for obtaining reserve supplies of key resources to support their minimum resilience standard. This should include salt, fuel, power and labour.

13.6.57 Mutual aid is a pre-agreement between one or more organisations to assist each other, as far as practicable, to overcome disruptive challenges. Mutual aid between authorities is often used in the response to “wide” area emergencies, as the impact on the local authorities, emergency services and other resources can be overwhelmed. Sharing, e.g. depots and salt stocks, through mutual aid may be helpful. Where planning to do so authorities should make contingency arrangements in advance.

Mutual aid can be an informal or formal process having written agreements. Arrangements are usually between organisations that work closely together on a regular basis or as part of local resilience forums. Both approaches work well if they are flexible enough to change in response to the dynamics of a situation. Guidance on mutual aid may be found at:

http://www.cabinetoffice.gov.uk/resource-library/short-guide-local-authority-mutual-aid

13.6.58 Authorities should explore the potential for mutual aid in salt supply and other aspects of winter service and should make contingency arrangements in advance. **(Recommendation 11)**

13.6.59 During a salt shortage there may be various potential mechanisms to reduce salt consumption bearing in mind the issues discussed in Appendix H. Each has its own implications which the authority must carefully consider prior to implementation.

13.6.60 In 2009 CSS (now ADEPT) published advice for its members on how to help preserve salt stocks during periods of severe winter weather, in order to ensure that essential services can be maintained. The advice may be downloaded from the following website:

http://www.lga.gov.uk/lga/aio/1584225

13.6.61 During a severe weather event increased levels of communication are likely to be required. Communication during a 'crisis' is not simply about media output. Proactive internal communication and keeping the numerous stakeholders informed is also critical. It is important to ensure that good communication is achieved both with internal staff and external stakeholders. Media liaison is relatively straightforward task once suitable contacts are made. The use of authority websites is a good way to get accurate information to the public without reliance on the media.

13.7 WINTER SERVICE DELIVERY

Decisions and Management Information

13.7.1 Authorities should take full advantage of decision support systems and services to enable timely, efficient and accurate decision making. **(Recommendation 12)**

13.7.2 Decision support systems and management information are the basis of effective Winter Service delivery. More details are given in the *ICE Design and Practice Guide, Highway Winter Maintenance* published in 2000.

13.7.3 Systems will use current information and trends in conjunction with relevant software to extrapolate and display predicted conditions over a range of periods.

13.7.4 The decision support information will be used by the authority's designated Winter Service controller, or similar, together with local experience, and against the background of a range of pre-determined scenarios, in deciding the action to be taken. The decision should usually be delegated to a single person, although in larger authorities with varying climatic conditions the role may be delegated to two or more persons. Controllers will of course need to maintain close consultation with others both within and adjoining the authority and also those dealing with the strategic network.

13.7.5 Information to aid decision making is included in Appendix H.

13.7.6 The quality of decisions made by the controller will be the key factor in determining both the effectiveness of the Winter Service and also how it is perceived by users and the community. Instigating a decision check process ensures high quality decisions are acted upon and is good practice.

Information Recording and Monitoring

13.7.7 Authorities should continually monitor performance during service delivery and respond effectively to changing conditions or network incidents. **(Recommendation 13)**

13.7.8 Comprehensive and accurate records should be kept of the all Winter Service activity, including timing and nature of all decisions, the information on which they were based, and the nature and timing of all treatment. Note that time taken running dead mileage at end of salting run is not included in treatment time. It is preferable to record both the time at the end of actual salting and the time of return to depot. Where the dead mileage at the end of a salting run is significant this should be considered when planning for severe conditions as it will prevent rapid redeployment of resource.

13.7.9 Authorities should make use wherever possible of electronic vehicle location systems together with automatic recording of salt spreading. This will simplify and improve the accuracy of records as well as provide corroboration of service delivery in cases where failure to salt is alleged.

13.7.10 The condition of routes should be monitored following treatment in order to confirm that the treatment has been effective. If it has not been fully effective, contingency treatments should be considered to achieve the required condition. It should be noted that both active and passive road weather sensor systems require the presence of moisture to determine either the concentration of an anti-icing chemical on the road or the freezing point temperature of the solution present on the road sensor.

Resources

13.7.11 Winter Service requires numerous staff, a significant amount of plant and large volumes of consumables such as salt for de-icing and fuel. It is important that supplies and suppliers are planned and managed to ensure these resources are available when required. Sufficient trained and experienced staff are required for the delivery of an effective Winter Service. This includes winter managers, decision makers, supervisors, spreader drivers and other equipment operators.

13.7.12 Authorities provide Winter Service through combinations of their own resources and those of service providers contracted to them. There is a wide variety of approaches. Many highway authorities provide some of their own facilities with others provided by the private sector. In all cases, service providers' activities are governed by their contract with the highway authority.

13.7.13 In some authorities refuse collection, street cleansing and grounds maintenance services often provide support to the Winter Service, especially in times of prolonged ice and snow. Arrangements should be made and documented well before the commencement of the season.

13.7.14 Detailed route planning and for each aspect of Winter Service will need to be optimised to ensure economic, efficient and effective resource allocation. This will depend on:

- spreading vehicle characteristics and capacity;
- depot and salt location;
- Response times (the period between decisions being taken to begin treatment and vehicles leaving the depot. It is suggested that authorities should adopt a

target response time of no more than one hour. This should apply both within and outside normal working hours);

- Treatment times (the period between vehicles leaving the depot and the completion of treatment on all priority routes. Authorities should adopt target treatment times based on risk assessment of local circumstances that provide for the completion of pre-treatment before ice forming. They should however recognise however that treatment times might vary in different weather conditions).

- Turnaround times (the period between a vehicle completing salting on its route and being ready to recommence salting having reloaded at the depot)

13.7.15 A key factor in ensuring that response and treatment times are met once a decision has been taken to treat is the availability of appropriately trained personnel. Identifying the extent of resources needed under various scenarios and the potential source of these will be an important aspect of pre-season planning. This planning should cover the whole range of requirements and conditions likely to be encountered, including:

- Pre-season preparation;

- Precautionary treatment;

- Footway and cycle route treatment;

- Post treatment;

- Snow clearance;

- Continuous severe conditions;

- Post snow emergencies (flooding etc).

13.7.16 Planning of resources should cover the entire workforce involved in the Winter Service. It is particularly important not to overlook:

- the need for staff to be available throughout defined risk periods;

- the need for the treatment operations to be co-ordinated and supervised;

- resources and equipment for treating carriageways, footways and cycle routes;

- resources for dealing with vehicle breakdowns, problems with fuel supply and communications failure;

- resources for the storage, delivery and loading of salt.

13.7.17 In planning resources the following issues regarding personnel also need to be addressed:

- implications of Drivers' Hours Regulations;

- extent and nature of double manning and driver support;

- shift system arrangements;
- provision for holidays and sickness.

13.7.18 It is important that a realistic assessment of the resources required has been made to ensure the continued treatment of the Minimum Winter Network during exceptional conditions. Authorities in planning their resources should ensure that they are compatible with the wider resilience standards adopted by the authority.

13.7.19 Authorities often place reliance in times of prolonged ice and snow on temporary contracts with contractors, farmers and others to supplement resources for snow clearing. Arrangements should be documented and it is important to ensure that the necessary insurance cover is in place.

13.7.20 In rural areas, authorities should examine the potential for using local council snow wardens, who may have an effective role in gathering information and providing Winter Service Managers with details of specific local problems. If snow warden schemes are adopted clear terms of reference should be established.

Training and Development

13.7.21 Ensuring adequately trained and experienced staff is key to successful delivery of Winter Service.

13.7.22 To ensure appropriate level of competence, training and development needs of all personnel should be established and reviewed annually, including health and safety and appropriate vocational qualifications. Training should then be provided where appropriate before the Winter Service season. **(Recommendation 14)**

Training

13.7.23 Delivery of a successful Winter Service is dependent on the individual decisions made and actions taken by all those involved. These actions and individual decisions must be supported by adequate training of the staff and operatives involved.

13.7.24 To ensure appropriate level of competence, the training and development needs of all personnel should be established and reviewed annually, including health and safety and appropriate vocational qualifications. Training should then be provided where appropriate before the Winter Service season.

13.7.25 Issues where training is required are described below. This is not an exhaustive list and will largely be based on local circumstances:

- the content and operation of the Winter Service Plan;
- route familiarisation (as appropriate);
- driving in difficult and hazardous road conditions including duty of care to other road users;
- circumstances where special safety considerations apply;
- snow ploughing, in particular around rail level crossings, tramways, partially segregated areas,

- dealing with emergencies;
- dealing with post ice and snow emergencies especially flooding.

13.7.26 In addition to such specific training it will be necessary to ensure that all personnel are provided with information during operational periods on current network characteristics and constraints, including:

- nature and location of highway works, including statutory undertakers;
- temporary and permanent barriers;
- nature and location of any traffic diversions;
- nature and timing of any events likely to affect network use.

13.7.27 Authorities should prepare specific health and safety policies, guidance, and risk assessments with their service provider. These should be issued and discussed with all personnel, including temporary contractors, and should form the basis of further training as necessary.

13.7.28 Training provided to service delivery personnel should also include specific reference to the health and safety needs of users, including:

- avoidance of spraying pedestrians, cyclists and vehicles where practicable with salt or slush when salting or ploughing;
- avoidance of risks to pedestrians and cyclists when using vehicles in segregated or partially segregated areas and in treating footways;
- ploughing and manoeuvring in restricted circumstances;
- other road vehicles that may not be under proper control.

13.7.29 Authorities should consider both qualifications (e.g. City and Guilds) and practical experience training. Some authorities have found it useful for those personnel involved in Winter Service management and decisions to undertake training in familiarisation and interpretation of weather forecast information.

13.7.30 Authorities are encouraged to have a system to plan and record all winter service related training. This may form part of a wider training management system. This system can then be checked prior to winter to ensure any necessary refresher training is undertaken.

13.7.31 There are several groups of individuals that comprise an authority's resources to deliver the Winter Service. These individuals require training to fulfil their duties within an authority's Winter Service. These are listed below:

Winter Decision Maker and Manager

13.7.32 Currently there is no formal winter decision maker or winter manager qualification, however most authorities follow a similar approach. Road weather forecasting and systems training (such as for Road Weather Information Systems) are commonly used indicators of a decision maker's competence, combined with proven experience.

However, the appropriate experience required to deliver the service can only be gained 'on the job' over a number of years. Good practice suggests that novice decision makers should undergo an internal training programme. This should include briefings on the Winter Service Plan, meteorological training, experience of operational delivery and mentoring by more experienced staff. This should continue until their experience and competence is proven. It is essential that such training should be well documented to ensure that competence can be demonstrated. Weather forecast providers are able to provide training on meteorology and providers of weather sensors often provide training on how the weather affects the road surface. Exercises delivered via independent organisations can provide decision makers with experience of the management of severe conditions.

Drivers and Operators

13.7.33 Those operating spreading equipment are well served with vocational qualifications such as the City & Guild's 6159 modules. It is essential that any operative involved in the use or operation of any plant or machinery has received relevant formal training to do so. Where reserve drivers are available as part of an authority's contingency plans it is essential that they are trained to an equal standard of competence.

Winter Supervisors

13.7.34 Under City & Guilds 6159, there is a specific module for winter maintenance supervisors which ensures that the first tier of management is aware of their duties and sufficiently competent to fulfil them. It is essential that appropriate staff within an authority's organisation undergo this training.

Senior Management and other Key Stakeholders

13.7.35 Authorities may benefit in providing basic training to senior management and certain key stakeholders in delivery of Winter Service. This can be valuable in managing the expectations in delivering the service during both normal and severe winter conditions. A short training programme will provide a basic understanding of the Winter Service, its limitations and pressures. This may be delivered efficiently as an electronic package or briefing note to minimise staff time in the delivery of it to the multitude of stakeholders.

Training Plan and Records

13.7.36 Authorities are encouraged to ensure they have a system of formal training records. The purpose of the system is to record and monitor the training and competence of each individual involved in Winter Service. The system should use the data within it to help identify those people whose training requires refreshing and renewing. Where authorities contract out Winter Service they should require their suppliers to maintain similar records.

13.7.37 The system should comprise a development action plan for each individual and record progress in meeting that plan. This will enable training sessions to be targeted, planned and executed in a cost efficient manner.

13.7.38 Before commencement of the winter season training records should be checked to identify whether out of season training has occurred and individual training records have been updated. Additionally any mentoring schemes or similar experience-based learning should also be consulted to avoid any issues later in the season.

Route and Equipment Familiarisation

13.7.39 Relevant staff and operatives should undertake familiarisation training with winter arrangements, treatment routes and equipment. This is especially important for operational staff that may be new to the authority's Winter Service. Tool box talks and dry runs of treatment routes are useful approaches to deliver this training. Records of this training should be recorded on the training management system as described above.

Exercising

13.7.40 Planning and preparing for a winter season are essential activities, but often the measures implemented are only tested in a live situation. Exercising and testing aims to confirm that the plans and procedures are suitably robust to cope with conditions in a safe and non-consequence environment. It is recommended that authorities and relevant organisations should provide training and conduct periodic exercising to test plans for responding to severe weather events.

13.7.41 Authorities and relevant organisations should provide training and conduct periodic exercising to test plans for responding to severe weather events. **(Recommendation 15)**

13.7.42 The Civil Contingencies Act 2004 requires Category 1 responders to exercise their plans to validate and test them. Although winter planning does not necessarily fall into the plans that must be exercised it is clear from recent winter events that severe snowfall will result in the invoking of various other emergency plans via local and regional resilience fora.

13.7.43 It would be beneficial for authorities to build severe weather conditions into regional or local training exercises or to develop specific Winter Service exercises involving adjacent authorities and relevant partners. Such testing of plans and personnel associated with the Winter Service would ensure authorities are fully prepared. It would also assist with ensuring that resilience of Winter Service is addressed and communication networks developed and improved. Appendix H contains further guidance regarding the design and delivery of winter exercises.

13.7.44 *Case study*. The Highways Agency has been running Snow Desk adverse weather exercises for several years. The exercises are based on resilience guidelines using real networks, realistic scenarios and weather forecasts to ensure that effective and realistic assessments are achieved.

Plant and Vehicles

13.7.45 A range of vehicles, plant and equipment is used to deliver Winter Service. It is important that this equipment is well maintained, calibrated and reliable. This Code does not deal in detail with the equipment used for Winter Service, but refers to certain more strategic issues relating to procurement and sustainability.

13.7.46 In assessing the required plant and vehicles authorities should ensure that sufficient resources are available for the delivery of the Winter Service during severe and prolonged ice and snow. This should be compatible with the resilience standards adopted by the authority.

13.7.47 It is unlikely that, with the level of investment involved, authorities will be able to make frequent changes to the fleet, other than replacement or renewal. It is important

however, that opportunities are taken when overall service procurement changes are being contemplated to thoroughly review Winter Service and equipment procurement.

13.7.48 There have been significant advances in the equipment available on the market in recent years. Vehicles are now capable of delivering a range of treatment types and can have sophisticated technology. The procurement of such technology potentially allows a more targeted and effective approach to treatment of the road network and an improved audit trail of where treatments have been undertaken.

13.7.49 It is often extremely difficult and inefficient to remove significant depths of snow using only salt and therefore consideration should be given to the use of snow ploughs mounted on spreaders or other suitable vehicles. Snow ploughs are durable, require little maintenance and should therefore prove very cost effective. However, in urban areas there may be considerable difficulties in utilising snow ploughs and in this situation any consideration should be on a risk based approach.

13.7.50 It is also important to consider equipment requirements for dealing with footways and cycle routes. Specialist equipment, such as footway ploughs and footway salt spreaders may be necessary for this purpose.

13.7.51 The location of depots should be kept under review and specifically addressed when consideration is being given to procurement arrangements. It would be unlikely if all present depots from which authorities undertake Winter Services are ideally located, and significant financial and operational savings can often be achieved from re-location.

13.7.52 The environmental effects of highway maintenance depots and operations are dealt with in Section 15 of this Code, and these can be particularly significant in the case of the Winter Service, where operations will inevitably involve unusual hours of working. Every effort should be made to minimise the environmental intrusion of depots and so far as is practicable the effect of Winter Service operations.

13.7.53 A significant contribution to minimising environmental effects can be made by providing covered storage for all vehicles, equipment and materials, which can also reduce waste and maintenance problems.

13.7.54 Purchase and ownership of vehicles and equipment will also be a key issue for consideration in relation to the procurement of services. Private sector partners may be able to assist with financing arrangements and authorities will need to balance the financial advantages of this against the contractual and operational risks involved.

13.7.55 The need to ensure vehicles are correctly calibrated, well maintained and repaired quickly is essential to the delivery of the service. Whatever arrangements are used the response time, speed of repair, availability of spare parts, quality of repair and audit trail should be carefully established and documented.

Precautionary treatments

13.7.56 These are the application of de-icers to road surfaces before the onset of freezing conditions (i.e. frost, snow or freezing rain). The purpose of precautionary treatments is to prevent the formation of ice, or to weaken or prevent the bond of freezing rain or snow to road surfaces.

13.7.57 It is usually impractical to spread sufficient salt to melt freezing rain or more than a few millimetres of snow. Therefore, in advance of forecast snow or freezing rain, salt is spread to provide a debonding layer so that:

- snow is more readily removed by ploughing
- compacted snow and ice are more easily dispersed by traffic

13.7.58 It is very difficult to remove a layer of compacted snow or ice that is bonded to the road surface, so precautionary treatments are essential before heavy snowfall.

Salt and De-icing Materials

13.7.59 Rock salt is the prime material for dealing with ice and snow on roads but can have environmental consequences. It can adversely affect vegetation, pollute watercourses and leave a residue on footways. It can also damage the road structure, bridges and structures, utility apparatus and vehicles. However, used responsibly it can have minimal environmental impact. In the interests of sustainability therefore authorities should ensure that only the minimum of salt is used to deal with the prevailing conditions. Suggested rates of spread are given in Appendix H.

13.7.60 Appendix H lists a number of alternative materials that authorities could consider using in place of rock salt in particular circumstances. The costs of some of these are extremely high and particular materials also have some environmental consequences. They may prove, however, to be cost effective in specific locations, such as the treatment of footways, where the need for additional sweeping can be avoided, and bridges, where the damage caused by the use of salt can be avoided.

13.7.61 As rock salt requires the passage of traffic to improve effectiveness, it may be necessary to use brine in some cases for example some cycle routes.

Salt management

13.7.62 Salt is a finite resource and UK suppliers are constrained by mining operations amongst other factors as to how much may be produced and supplied. Supply can therefore be outstripped by demand during severe weather. It is therefore important to make optimum use of salt for de-icing and make every effort to store and use it efficiently, regardless of the weather conditions, in order to minimise consumption. In addition there can be significant financial benefits to be gained adopting such an approach.

13.7.63 Salt is consumed in significant quantities during the winter season, so even small percentage savings in salt use through accurate calibration of spreaders, considered decision making and appropriate treatments is important. These measures will help to minimise the overall consumption of salt on a national basis. Appendix H contains further information regarding spreader calibration. Ultimately, authorities should consider ways of reducing overall salt consumption while maintaining agreed levels of service on their network. Considerable savings can be made in the amount of salt used to treat carriageways if the salt is maintained in good condition and spreaders are correctly calibrated.

13.7.64 Many authorities award salt supply contracts to a single supplier on a call-off basis. Contracts are often awarded on a balance of quality and price, with price usually being the driving consideration. This approach has resulted in a price driven market where salt supply is often treated as a commodity purchase. Authorities carry the risk of being able to obtain the salt they require when they require it. Suppliers carry the risks involved in producing and stock piling salt before sale. Commodity purchase arrangements do not necessarily embrace the service relationships between authorities and their salt suppliers which should lead to improved reliability, and knowledge and

anticipation through good communications, and which are facilitated by contemporary procurement arrangements.

13.7.65 Authorities and salt suppliers should treat the supply of salt as a service rather than a simple commodity purchase. **(Recommendation 16)**

13.7.66 Authorities should place orders for summer restocking, and make arrangements for in-season restocking. It may be beneficial to consider the option of changing de-icing material to minimise consumption and improve resilience.

13.7.67 It has become common to restock at intervals during the winter season using salt management systems based upon predicted use of salt and delivery times. The salt shortage in winter 2008/09 demonstrated that it is difficult for salt supply arrangements to accommodate significantly increased short term demand. Authorities should therefore ensure sufficient resilience in their salt stocks.

13.7.68 Authorities should develop close working relationships with salt suppliers and ensure that initial salt quantities and reorder triggers are set to achieve their local resilience standard.

13.7.69 It may not be easy for some authorities to achieve an appropriate level of resilience through storing salt at their own depots. Salt suppliers may be able to hold dedicated stock at locations around the UK and authorities should consider whether such an approach is possible.

13.7.70 Communications and relationships with salt suppliers may be improved by the development of supplier user groups and authorities should consider participation is such groups.

13.7.71 The salt shortages in winter 2008/09, 2009/10 and 2010/11 prompted various local, regional and national salt stockpiling arrangements. This has significantly increased salt stockholding nationally and therefore added resilience. However it is important that Authorities do not routinely rely upon these stockpiles as they are intended only for use during sustained severe winter weather. The Department for Transport Salt Portal plays a key role in managing reserve stocks as it allows early visibility of potential salt supply issues and also enables continual assessment of current stockholding across England.

Salt storage

13.7.72 There are two principle reasons to ensure that salt is stored carefully and in accordance with the good practice described below, namely ensure a consistent product for spreading and to reduce losses due to leaching.

13.7.73 Moisture content can have a significant impact on spreader calibration with over or under spreading possible. Authorities may therefore achieve more consistent spreading of salt through maintaining a constant moisture content in the salt throughout the entire season. Appendix H contains further details regarding the moisture content of salt.

13.7.74 As part of pre-season preparation, authorities should review how their salt is stored in order to identify how greater efficiency may be attained in its use. This may include developing the business case for salt barns or covering open storage facilities. Moisture content of salt is a critical factor in determining spreading rates and distribution.

13.7.75 The correct storage of salt is essential to minimise environment damage and storage in salt barns helps to prevent leaching, eases handling, helps in maintaining low salt moisture content, and is strongly recommended where additives are used. Detailed advice is available on alternative types and construction methods available. Where open stockpiles are used these should be covered with sheeting, or spraying with bituminous emulsion which provide an effective alternative.

13.7.76 Both permanent and temporary salt storage areas should be sited and managed in accordance with requirements of the Local Planning Authority and the Environment Agency. In particular they should not be sited where they could cause damage to landscape or nature conservation or have the potential to pollute watercourses or groundwater. Authorities should be aware of the deterioration in the quality of salt stored for long periods and the need for effective stock rotation. Appendix H contains further details regarding salt storage options.

13.7.77 Where grit is used for treatment, for example in the more extreme conditions applying in Scotland, storage requirements may be less stringent and local advice should be sought.

13.7.78 As a means of enhancing local salt storage capacity, authorities and salt suppliers should jointly consider supplier owned salt stocks held on a short or long term basis in a number of widely distributed locations around the country. A joint approach may include agreements such as purchase of some or all stock by the end of a season or provision of land. **(Recommendation 17)**

Reserve Stockpiles

13.7.79 In addition to operational stock, local authorities and strategic road operators have created reserve stockpiles. These stockpiles can be categorised into three different types:

- Local reserves – held by a single authority for its own use during times of limited operational salt stocks;

- Regional reserves – held on a regional / consortium basis whereby reserve stocks have been made available for use by more than one authority;

- National reserves – stockpiles held across the UK for use by any authority during times of shortage. In England this is currently being delivered via the Highways Agency and is likely to have certain conditions of use. Transport Scotland and Transport for London have their own arrangements.

13.7.80 These stockpiles are not used during normal Winter Service but will be available if salt suppliers are unable to maintain operational stocks at an acceptable level. Release of salt should be subject to agreed protocols with the relevant operators. Authorities should put these arrangements in place before the start of the winter season.

13.7.81 Identifying the size, location and storage type of these stockpiles is important. Salt is a bulk commodity, but a reserve stockpile is still a significant investment. It should be stored in a location to allow convenient access to the area it serves and of course remain accessible during times of severe weather. The site should be secure to avoid trespass and theft of salt. Provision should be made in planning for loading facilities although there is unlikely to be a need for permanent on site plant.

13.7.82 Reserve stocks are unlikely to be barn stored. However they should be well covered to prevent leaching and deterioration of the salt. To avoid any gaps in planning any jointly held reserve stocks should have a salt stock management plan specific to that stockholding.

Salt Procurement

13.7.83 Authorities should seek a broad approach to salt supply, for example establishing framework contracts with more than one supplier. **(Recommendation 18)**

13.7.84 Ideally, the suppliers should be geographically separated to reduce the risk of them being impacted by the same high demand situation.

13.7.85 *Case Study*. Devon County Council has adopted a framework contract which specifies the supply of different types of salt, including rock and marine salt from different UK and overseas suppliers. The Council can specify the quantity of salt and has options for different salt for different purposes e.g. pre-wetting or normal salting.

13.7.86 Authorities should consider whether efficiency benefits can be obtained from collaborative salt procurement and should also consider ways to improve the balance of risk between salt suppliers and themselves, e.g. longer contracts, performance contracts with minimum guaranteed purchase and supply, and contracts that include supply of salt and investment in facilities. **(Recommendation 19)**

13.7.87 *Case study*. The Illinois Department of Transport performance contract adopts purchase arrangements based on a contracted range of supply between minimum and maximum levels. Illinois guarantees to purchase 80% of its estimated salt need and the supplier guarantees to supply up to 120% if required. This provides the State with security and the supplier with guaranteed business.

Post Snow Inspection and Maintenance

13.7.88 Immediately following the completion of snow clearance operations priority should be given to the clearance of gullies and offlets to ensure that melt water from snow on verges and island or central reservations can quickly drain away. However, it may be especially difficult to prevent melt water which is running across the carriageway from freezing and several applications of salt may be necessary.

13.7.89 It will also be necessary to inspect the network to ensure that any damage is dealt with either as a Category 1 defect or as programmed maintenance as appropriate. The inspection should be treated as a special safety inspection and deal with the items usually included. Special attention should be given to the routes treated and the following items:

- removal of accumulations of grit from running surfaces and drainage channels;
- inspection and clearance of all bridges, culverts and drainage systems liable to flooding;
- inspection for frost effects and any damage caused by Winter Service equipment;
- check and replenish salt stocks in depots and grit bins;
- inspect, clean, lubricate, check and repair all vehicles and plant.

13.7.90 In addition it will be important to debrief all personnel involved to ensure that their experience and observations are recorded. These should be used to inform the Annual Service Review and contribute to the process of continuous improvement. It will also be useful in a less formal way to invite observations from parish and town council snow wardens and others that may have also contributed to the operations.

13.8 REVIEW

13.8.1 All aspects of the Winter Service Plan, including service delivery arrangements, should be reviewed annually in consultation with key stakeholders to take account of changing circumstances. **(Recommendation 20)**

13.8.2 All vehicles, plant, fuel provision, equipment and maintenance arrangements should be checked annually and in accordance with manufacturers' requirements to ensure that any necessary action can be taken to ensure full operational service status prior to the Winter Service season. This should include checking the calibration of all de-icing equipment and spreaders.

13.8.3 Authorities should review the administrative and management arrangements for Winter Service annually. This should include the role of the private sector in delivering highway services, and the use of support services such as refuse collection, street cleansing and grounds maintenance services.

13.8.4 As part of the Annual Review authorities should consult with bus operators regarding changes to routes. In doing so and where practicable bus operators should be encouraged not to change routes throughout the winter season where there would be an effect on treatment routes.

13.8.5 The Annual Review should include an analysis on whether service delivery meets the Winter Service policy and plan. It should also include a review of the current thinking with regards to the impact of climate change. Service efficiency improvements such as route optimisation should also be considered.

13.8.6 Following any significant winter weather event, a formal review involving representatives from all levels of the management and delivery of Winter Service should be carried out. The review should specifically identify the successful elements of the service as well as potential improvements and actions to be taken. Where

applicable, other stakeholders should be involved. The review process should be documented to ensure all learning is captured, considered and actioned. This should feed into the Annual Review.

RECOMMENDATIONS FOR SECTION 13

R13.1 Authorities should formally approve and adopt policies and priorities for Winter Service, which are coherent with wider objectives for transport, integration, accessibility and network management, including strategies for public transport, walking and cycling. They should also take into account the wider strategic objectives of the authority.

R13.2 Authorities should consider, consult on and formally adopt local service standards for resilience of their winter service in terms of number of days continuous severe conditions salting on a defined Minimum Winter Network for the Overall Winter Period and for the Core Winter Period.

R13.2a A resilience benchmark of 12 days/48 runs should be adopted for full pre-season salt stockholding by 1 November for English local highway authorities.

R13.3 Authorities should review their approach to climate change and in particular their resilience to prolonged cold weather.

R13.4 Authorities should consider whether collaborative arrangements such as shared services, lead authority arrangements, collaborative service procurement, and sharing depots and salt stock, would provide an effective and value for money approach to increasing winter service resilience.

R13.5 Authorities should determine critical areas and infrastructure in conjunction with key public services and other stakeholders and seek to ensure that appropriate winter treatment has been considered by the appropriate party.

R13.6 Authorities should ensure effective communication of information for the public before and during both normal and severe winter conditions.

R13.7 Authorities should ensure that there is appropriate consultation and communication with other highway authorities, key public services and other stakeholders to ensure improved service for the public.

R13.8 Authorities should formally approve, adopt, and publish, in consultation with users and key stakeholders, a Winter Service Plan based on the principles of this Code.

R13.9 Authorities should define treatment route plans for carriageways, cycle routes and footways for pre-treatment and snow conditions, based upon the general maintenance hierarchy, but adapted to take into account the factors identified by this Code.

R13.10 Authorities should prepare contingency Winter Service Plans for severe weather conditions which include possibilities such as salting a Minimum Winter Network. Authorities should seek agreement on plans in advance with other highway authorities and key public services such as hospitals and public transport providers. There should be a co-ordinated approach to implementing Minimum Winter Networks across adjacent highway authorities.

R13.11 Authorities should explore the potential for mutual aid in salt supply and other aspects of winter service and should make contingency arrangements in advance.

R13.12 Authorities should take full advantage of decision support systems and services to enable timely, efficient and accurate decision making.

R13.13 Authorities should continually monitor performance during service delivery and respond effectively to changing conditions or network incidents.

R13.14 To ensure appropriate level of competence, training and development needs of all personnel should be established and reviewed annually, including health and safety and appropriate vocational qualifications. Training should then be provided where appropriate before the Winter Service season.

R13.15 Authorities and relevant organisations should provide training and conduct periodic exercising to test plans for responding to severe weather events.

R13.16 Authorities and salt suppliers should treat the supply of salt as a service rather than a simple commodity purchase.

R13.17 As a means of enhancing local salt storage capacity, authorities and salt suppliers should jointly consider supplier owned salt stocks held on a short or long term basis in a number of widely distributed locations around the country. A joint approach may include agreements such as purchase of some or all stock by the end of a season or provision of land.

R13.18 Authorities should seek a broad approach to salt supply, for example establishing framework contracts with more than one supplier.

R13.19 Authorities should consider whether efficiency benefits can be obtained from collaborative salt procurement and should also consider ways to improve the balance of risk between salt suppliers and themselves, e.g. longer contracts, performance contracts with minimum guaranteed purchase and supply, and contracts that include supply of salt and investment in facilities.

R13.20 All aspects of the Winter Service Plan, including service delivery arrangements, should be reviewed annually in consultation with key stakeholders to take account of changing circumstances.

Section 14
Weather and Other Emergencies

14.1 CLIMATE CHANGE

14.1.1 The report T*he Changing Climate: Impact on the Department for Transport* published in 2004 confirmed that the climate of the UK is changing. The last few years have provided examples of hot dry summers and warm wet winters, with episodes of intense rain, and increased incidence of flooding.

14.1.2 The report considered scenarios for 2020, 2050 and 2080. The climate change expected for 2020 is largely fixed, as it depends on the greenhouse gases already in the atmosphere. Scenarios for 2050 and 2080 are more dependent on future emissions. The key climate changes for the UK are summarised below:

- the climate will become warmer, with annual averages up by 2°C to 3.5°C by 2080;
- hot summers will become more frequent and very cold winters increasingly rare;
- winters will become wetter and summers may become drier. Overall, soils will become drier;
- snowfall amounts will decrease;
- heavier winter rain will become more frequent, 'extreme' rainfall which is presently experienced once every 2 years, will become 5% to 20% heavier by 2080;
- relative sea level will continue to rise by between 26-86 cm in the South East by 2080;
- extreme sea levels could occur up to 10-20 times more frequently than they do now by 2080;
- the evidence for increased storminess with climate change is uncertain.

14.1.3 The key implications for highway maintenance are:

- increased risks of flooding from rivers and sea;
- increased flooding from inadequate drainage;
- deterioration and damage to highway infrastructure from subsidence, heave and high temperatures;
- damage to bridges, signs and tall structures from increased wind speeds;

- increased road safety problems from adverse driving conditions and deterioration of infrastructure;

- effects on the management of trees, landscape and biodiversity.

14.1.4 During weather extremes the highway network may become restricted, with routes becoming unavailable, thus causing travel disruption. Highways also contain utility services such as water, gas, electricity, telecommunications, surface water and foul sewers, and under certain conditions the sub-soil below roads may change composition and cause movement, which is likely to damage these services. Because the loss of these services to homes and business is usually unacceptable, it may be vital that sections of the highway are shut off to allow emergency repairs, irrespective of the disruption to road traffic.

14.1.5 The principal recommendations of the report were:

- the Highways Agency (HA) should report to the DfT on which technical standards will need to be revised in the light of the climate change scenarios, identifying priorities for change, and setting out a 5 year programme of revisions;

- the UK Roads Liaison Group should work with the HA to provide initial guidance to authorities identifying the main issues for local roads and to outline options for taking climate change into account in planning maintenance and improvements.

The Cambridge Experience

Website Amended 27 April 2012

14.1.6 Cambridgeshire County Council commissioned a study to assess the potential financial implications of climate change for highway maintenance. The study focused on the impact of hotter and drier summers on summer maintenance costs and the impact of milder winters on winter maintenance costs. The study was based on the UK Climate Impact Programme (UKCIP), investigating climate change scenarios for the 2020s, 2050s and 2080s, and was undertaken using the UKCIP Costing Guidelines (http://www.ukcip.org.uk/costings/).

14.1.7 The summer of 2003 was exceptionally dry, and a large number of additional structural maintenance schemes were identified as being in need of urgent

attention as a result of the drought. The roads covered by these schemes were not part of the scheduled maintenance programme and the estimated cost of them was £3.5 million. A further £1.1 million was spent on emergency repairs of the highway due to the extent of the cracking and deformation, which without attention would have left the roads in a dangerous condition.

14.1.8 A consequence of the predicted drier and hotter summers is a particular issue for the Fens in Cambridgeshire, which are made up of peat-containing wetland. Subsidence due to the desiccation and shrinkage of the peat deposits will become more significant, if dry periods become more frequent.

14.1.9 The study concluded that there are substantial costs associated with road subsidence and surface damage, which will arise from the increase in frequency of hot and dry summers under the UKCIP climate scenarios, and cost savings in the winter road maintenance service as a result of milder winters. However, the total benefits of milder winters are outweighed by the increased summer costs, by ratios of between approximately 3 to 1 and 5 to 1, depending on whether the total costs being compared are undiscounted or in net present value terms.

New Paragraph
Added 13 August 2010

The Three Counties Alliance Partnership – Climate Change Adaptation Plan

14.1.10 The Three Counties (Derbyshire, Leicestershire and Nottinghamshire County Councils) carried out a project to assess the effect of climate change on their highways policies and standards. The project was undertaken against climate change predictions by the UK Climate Impacts Programme 2002 (UKCIP02), which leads towards the development of an adaptation plan using a risk and probability management approach. The project has provided a comprehensive, local risk and probability based assessment of the vulnerabilities to climate change, both now and in the future, and has identified the most effective adaptation responses in order to achieve Level 2 of National Indictor 188 for Local Authorities: Adapting to Climate Change. Further, an adaptation action plan has been developed by the Three Counties Alliance Partnership to address the biggest risks posed by climate change on their highway network, thereby achieving Level 3 of NI 188. An outline timescale has been agreed for implementation of this adaptation action plan which moves the 3CAP councils towards achieving Level 4 of NI188. The report *"The Effect of Climate Change on 3CAP's Highway Network Policies and Standards"* may be downloaded from the following website:

http://www.leics.gov.uk/climate_change_adaptations.pdf

New Paragraph
Added 13 August 2010

The Climate Change Act

14.1.11 The Climate Change Act 2008 empowered the government to set national targets for the year 2050 for the reduction of greenhouse gas emissions and to encourage energy users to meet the objectives of the Act, such as reducing such emissions or removing greenhouse gas from the atmosphere. The Climate Change Act may be downloaded from the following website:

http://www.opsi.gov.uk/acts/acts2008/ukpga_20080027_en_1

14.2 PLANNING FOR WEATHER EMERGENCIES

14.2.1 The highway maintenance industry needs to adapt to the climate change agenda. Much of this work, including the development of new and improved materials, methods of construction and procedures, will need to be done collectively, but local authorities can take some steps to prepare for increasing risk of emergencies.

14.2.2 Authorities should establish in consultation with others, including emergency services and relevant agencies, such as the Environment Agency (EA), operational plans and procedures to enable timely and effective action by the highway maintenance service to mitigate the effects of such weather emergencies, as they affect the highway network. There will also be other weather conditions, such as fog or heavy rain, which although possibly causing danger and operational difficulties, would not be considered as emergencies.

14.2.3 The content of operational plans and procedures should be based on those developed in respect of Winter Service and summarised in Appendix H, adapted to suit the particular risks and requirements for the weather situation in question. It will be essential to address specific health and safety issues relevant to each emergency.

14.2.4 Clearly weather forecast information is crucial and the Meteorological Office will issue severe weather warnings and flash messages to authorities, other emergency services and media. These are based on the following descriptions and conditions, other than for snow and ice. Motoring warnings will also be given when conditions are difficult but less severe than these described below.

Gales

Severe gales with gusts of 70 mph or more;

Severe gales - storms with gusts of over 80 mph.

Heavy Rain

Heavy rain expected to persist for at least 2 hours and to give at least 15 mm within a 3-hour period.

Fog

Thick Fog- visibility generally less than 200 metres; Dense Fog – visibility generally less than 40 metres.

14.3 FLOODING FROM RIVERS AND SEA

14.3.1 Recent experiences and consequences of flooding have increased considerably the importance placed by local communities on flood protection measures and the need for effective action by authorities in planning and responding to extreme weather conditions.

14.3.2 The EA and its equivalent within the Devolved Administrations will be the key agency in respect of flood emergencies, and authorities will need to work closely with them. The EA has established a system of flood warning procedures, together with audible warnings in certain areas:

- flood watch;
- flood warning;
- severe flood warning;
- all clear.

14.3.3 In planning for increased risk of flooding from rivers and sea, authorities should:

- undertake a risk assessment to determine vulnerable areas of the network;
- define alternative routes and progressively bring them up to necessary standards of maintenance and signing;
- install improved flood protection;
- prepare contingency plans in consultation with other authorities;
- ensure bridge openings and culverts are sufficient to deal with predicted levels of flooding.

14.3.4 The contribution of authorities in dealing with flood conditions will depend upon the circumstances but could include:

- signing and maintaining diversions;
- inspection, clearance and maintenance of drainage systems;
- provision and operation of land and water transport;
- provision and installation of sandbags and other protection;
- general support to emergency services.

14.4 FLOODING FROM INADEQUATE DRAINAGE

14.4.1 The Government recently concluded consultation on a new strategy for flood and coastal erosion risk management, *Making Space for Water*. The intentions include, amongst other things, the implementation of Integrated Urban Drainage Management. A range of bodies currently have responsibility for various aspects of drainage or sources of flooding, but there is currently no requirement to view the problem as a whole. Integrated urban drainage pilots are to be set up to determine the best way to tackle urban flooding in a joined-up manner.

14.4.2 The Government's first response to the consultation indicates that '*the role of the transport network will also be considered*', which implies that in some circumstances a broader role may be necessary. This will need to be taken into account in maintenance planning as the strategy develops (www.defra.gov.uk).

14.4.3 Given the relative predictability of areas susceptible to the risk of flooding, it should be possible to identify the location, scale and nature of such contributions and to include these in the operational plan. Records of drainage systems particularly susceptible to obstruction, and requiring more frequent maintenance, will also be important.

14.4.4 In planning for increased risk of flooding from inadequate drainage authorities should:

- undertake a risk assessment to identify sections of highway at greatest risk and/or the greatest consequences;
- consult with local drainage authority;
- implement targeted programme of improvement.

New Paragraph
Added 14 May 2009

14.4.5 Following flooding in June and July 2007, Sir Michael Pitt was asked by the Government to conduct an independent review of the flooding emergency that took place. The Pitt Review: Lessons Learnt from the 2007 Floods was published in June 2008 and it contains 92 recommendations, some of which are relevant to highway maintenance issues, with particular reference to a need to collate and manage the main flood risk management and drainage assets (over and underground), including a record of their ownership and condition. The report may be downloaded from the following website.

Website Amended
27 April 2012

http://webarchive.nationalarchives.gov.uk/20080906001345/cabinetoffice.gov.uk/thepittreview.aspx

New Paragraph
Added 13 August 2010

14.4.6 The Flood and Water Management Act received Royal Assent on 8th April 2010. The Act aims to improve both flood risk management and the way we manage our water resources. The Act creates clearer roles and responsibilities and instills a more risk-based approach. This includes a new lead role for local authorities in managing local flood risk (from surface water, ground water and ordinary watercourses) and a strategic overview role for all flood risk for the Environment Agency (EA). The Act may be downloaded from the following website:

Website Amended 27 April 2012

http://www.legislation.gov.uk/ukpga/2010/29/contents

14.5 SUBSIDENCE, HEAVE AND HIGH TEMPERATURES

14.5.1 The affect of high temperatures on running surfaces is likely to be the main consideration for the highway maintenance service and one that often needs attention. High temperatures can damage bituminous surfaces both by reducing skidding resistance and increasing susceptibility to rutting. Sanding of surfaces can mitigate the effects of the former but there is little that can be done to deal with the latter, other than in the design of the surfacing material. In very extreme conditions concrete roads can suffer acute damage as a result of expansion beyond design predictions resulting in 'pop outs' and may need complete reconstruction.

14.5.2 Although these issues are most effectively addressed through the design process, authorities should be aware from inventory, inspection and other information, the relative risks to parts of the network from excessive heat, and should establish priorities for treatment based on this assessment.

14.5.3 Increased dryness of soil is already causing problems with root growth of trees in the highway. Hammersmith and Fulham Council experienced considerable increase in subsidence claims in 2003-04 from £100,000 to £500,000. The Cambridgeshire study noted that an adaptation measure to avoid road subsidence and surface damage is tree felling. Trees remove moisture from the soil and if close to the road actually cause deformation of the road. Although this is not under consideration, it is an indication that radical measures may be necessary.

14.5.4 In planning for increased risk of damage due to subsidence, heave and high temperatures authorities should:

- undertake a risk assessment to identify potentially vulnerable sections of highway and structures, taking account of underlying soil type;
- commission a study to identify potential effects of climate change on highway maintenance budget similar to the Cambridgeshire initiative;
- change materials and methods over time to mitigate effects.

14.6 INCREASED WIND SPEEDS

14.6.1 The implications of high winds within an authority area are much less predictable, although weather information can help to assess the relative risk in parts of the UK. Authorities should, as part of highway inventory and inspection arrangements, know those parts of the network most at risk of obstruction due to fallen trees, but should identify specifically those more limited sections where any potential obstruction could have particularly serious consequences for safety or serviceability. These could include accesses to relatively isolated communities or emergency services, or heavily trafficked crucial network links.

14.6.2 This will not be a precise record providing the basis for an accurate Emergency Plan but it should enable a more efficient and timely response, than would otherwise have been the case. It may be appropriate to consider, with arboricultural advice, planned removal and more suitable replacement of trees, in some cases.

14.6.3 Weather warnings for high winds will provide the following advice on circumstances and likely damage:

50 mph gusts	Difficult driving conditions for high-sided vehicles, especially on exposed roads and bridges.
60 mph gusts	Difficult driving conditions. Unladen high-sided vehicles at risk of being overturned. Some damage to trees and falling branches.
70 mph gusts	Hazardous driving conditions. Unladen high-sided vehicles at risk of being overturned and motorists advised to drive with particular care. Damage to trees, falling branches with some being uprooted. Minor damage to some buildings, particularly to tiles, slates and chimneys.
80 mph gusts	Dangerous driving conditions. High-sided vehicles at risk of being overturned and motorists advised to avoid driving if possible. Considerable damage to trees with significant tree uprooting. Extensive minor damage, particularly to tiles, slates and chimneys, with some structural damage to chimneys.
90 mph gusts	Driving extremely dangerous. Widespread uprooting of trees. Widespread damage to buildings, with potential for severe structural damage. Public advised not to venture out of doors unless really necessary.

14.6.4 In planning for increased risk of damage from increased wind speeds local authorities should:

- undertake a risk assessment to identify structures at greatest risk and/or consequences;
- undertake structural appraisal and consider implications for strengthening or removal.

14.6.5 Clearly, advice from weather warnings will need to be applied by the highway maintenance service in order to safeguard the health and safety of employees, and this may limit the extent to which any direct assistance can be provided, until conditions have eased from over 70 mph gusts. The contribution of authorities in dealing with the consequences of high winds will then depend upon the circumstances but could include:

- signing and maintaining temporary closures and diversions;
- clearance of fallen and potentially dangerous trees;
- clearance and removal of debris;
- assistance with temporary support and repair of buildings;
- general support to emergency services.

14.7 OTHER HIGHWAY EMERGENCIES

14.7.1 There are a number of other potential emergency situations which could affect the highway, including those resulting from subsidence, landslip or collapsed walls and oil spills. Although the risk of some such occurrences can be reduced through a considered inspection regime, there are likely to be occasional random occurrences and contingency planning should be undertaken.

14.8 CIVIL EMERGENCIES

14.8.1 There is also a wide range of other civil emergencies in which the highway maintenance service may need to become involved. In such cases plans, procedures, and responsibilities will be defined in the authority's Civil Emergency Plan, maintained by the authority's designated Emergency Planning Officer, and related to more specific plans maintained by the Police and other emergency services. New legislation under the Civil Contingencies Act places new requirements on authorities for emergency planning.

RECOMMENDATIONS FOR SECTION 14

R14.1 Planning for Climate Change

Authorities should research the likely effects of climate change for the delivery of highway maintenance services, taking into account their geography, topography and geology. They should identify risks particular to the authority, and plan, so far as practicable, to mitigate them.

R14.2 Severe Weather Emergencies Plan

Authorities should establish, in consultation with others, including emergency services and relevant agencies, a Severe Weather Emergencies Plan, containing operational plans and procedures, to enable timely and effective action by the highway maintenance service to mitigate the effects on the highway network.

R14.3 Content of Operational Plans

The content of operational plans and procedures should be based on those developed in respect of Winter Services and summarised in Appendix H of this Code, adapted to suit the particular risks and requirements for the situation in question. It will be essential to address specific health and safety issues relevant to each emergency.

R14.4 Planning for Civil Emergencies

Authorities should ensure that the role and responsibilities of the highway maintenance service in responding to emergencies are defined in the Civil Emergency Plan, maintained by the authority's designated Emergency Planning Officer, that these are understood by all personnel involved, and that all necessary contingency planning is in place.

Section 15
Sustainable Highway Maintenance

15.1 SUSTAINABLE DEVELOPMENT POLICY

15.1.1 The UK sustainable development strategy is described in *Securing the Future* (DEFRA, Cmd 6467, 2005), which includes priority areas for shared action as:

- sustainable consumption and production;
- climate change and energy;
- natural resource protection and environmental enhancement;
- sustainable communities.

15.1.2 Local authorities and their partners, through Local Strategic Partnerships are pivotal to delivering sustainable communities and to provide focus. The Comprehensive Performance Assessment (CPA) process will seek to recognise and reward good performance on sustainable development. Future rounds of Beacon Council themes will include aspects of sustainable development at a local level.

15.1.3 Highway maintenance has a significant role to play, and impact to make, in the achievement of sustainable development. To ensure delivery of this objective authorities should develop a 'Policy for Sustainable Development in Highway Maintenance'. This policy should form the linkage between the strategic objectives of the authority at the highest level and the materials, practices and processes used in an ongoing way on the highway network.

15.1.4 Sustainable development for highway maintenance involves living within environmental limits whilst achieving a sustainable economy and is encapsulated as:

- social progress which recognises the needs of everyone;

- effective protection of environment;
- prudent use of natural resources;
- maintenance of high and stable levels of economic growth and employment.

15.1.5 These sectors form the basis of a structure within which highway maintenance can be quantified from a sustainable viewpoint.

15.2 QUALITY OF LIFE

15.2.1 The third core objective set out in Section 8 of this Code is to deliver network sustainability. This is further defined to embrace the economic, social and environmental components of sustainability as:

- minimising costs over time (whole life cost);
- maximising community value;
- maximising environmental contribution.

15.2.2 The whole life cost component is self explanatory, but community value and environmental contribution need some further explanation. These are based on the principle that highway maintenance should not be just about repairing and replacing things as they were but seeking to gain value, or environmental benefit from the scheme.

15.2.3 These benefits could include improving the quality of public space, improving community safety or reducing fear of crime. It could improve accessibility especially for disabled people. In summary, it could make a contribution to the quality of life for all or some of the public.

15.2.4 Not all maintenance works will be able to make a contribution and in other cases the contribution may be small. The cumulative effect of the maintenance programme over a number of years will however be significant.

15.2.5 In terms of practical application a checklist for sustainability is presented in Appendix K. This checklist is based upon the themes in *Building a Better Quality of Life* (DETR, 2000) and can be augmented with local or regional issues which flow from the authority's policy for sustainable development in highway maintenance.

15.2.6 The embedment of checklists into everyday practice, enables a structured approach to be taken for recording consideration of sustainability issues and actions taken as a consequence on a scheme by scheme basis. An example of this approach has been adopted by Durham County Council.

15.2.7 Sustainability is fundamental to Best Value Reviews of highway maintenance. A sustainability appraisal of the service can provide a crucial challenge to current practice and delivery arrangements, and open up new areas for consideration of continuous improvement. It should also stimulate innovation and creativity.

15.2.8 This is not to undervalue technical specification and guidance, which is the crucial starting point for consideration. Indeed the National Highway Sector Schemes,

referred to later in this section, were developed with the specific purpose of supporting continuous improvement and providing a consistent and reliable base for benchmarking.

15.3 MATERIALS, PRODUCTS AND TREATMENTS

15.3.1 In order to meet the core objectives of customer service, safety, serviceability and sustainability, materials, products and treatments used for highway maintenance will need to meet required standards for effectiveness and durability, but should also make a positive contribution to the public realm.

15.3.2 There are a wide range of technical specifications for materials, products and treatments for highway works. Some of these are obligatory, but many provide for significant discretion in their application to particular circumstances. This is important, for if too high a specification is set this will not only increase cost, but may reduce the potential for sustainability, for example by precluding the use of locally sourced materials.

15.3.3 English Heritage, in conjunction with the Department for Transport (DfT) is publishing a series of regional guides 'Streets for All', which are intended to provide guidance on the management of streets and public open spaces. The appearance of this 'public realm' is often the product of several different agencies, each with its own priorities. A co-ordinated approach can help provide an environment that is safe, enjoyable and appropriate to its surroundings.

15.3.4 The guides identify some of the common problems that can diminish the quality of public areas and explains how integrated townscape management can provide answers. The underlying principles are to reduce clutter, coordinate design and to reinforce local character, whilst maintaining safety. Separate chapters address ground surfaces, street furniture, traffic management and environmental improvements. The guides apply to new design and maintenance (www.helm.org.uk).

15.3.5 It is important that materials and treatments for any scheme are consistent with the character of the area and, for example, do not contribute to the 'urbanisation' of attractive rural areas. Conversely, in heavily trafficked urban areas materials should be of sufficient durability to avoid premature deterioration and consequent poor appearance. The presence of a speed limit should not be the automatic determinant for the application of 'urban' standards.

15.3.6 In the context of best value, the right balance of materials and treatments used in particular circumstances should not merely be a technical or financial issue. It should also be one of sustainability and a major consideration. The English Heritage/ DfT guidance suggests that where possible, authorities should set up a townscape 'Public Realm Management Team', responsible for overseeing an integrated approach to townscape management and ensuring that policies for the public realm are included in all development frameworks.

15.3.7 It is also suggested that authorities should identify a hierarchy of streets and spaces in order to prioritise the use of more expensive, natural materials. Each area should have a palette of materials appropriate to its location, which allows new and old work to relate to one another. This could be a subset of the maintenance hierarchies referred to in Section 8 of this Code.

New Paragraph
Added 14 May 2009

15.3.8 In June 2006 best practice guidelines were published for Negative Texture Surfaces (NTS), providing a methodology for site evaluation and material selection, to ensure that the right material is installed in the right site, together with a structural approach to the factors which may have a bearing on distress mechanisms. The report, titled *Best Practice Guidelines for Surfacing*, may be downloaded from the following website.

Website Amended
27 April 2012

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=5F3A1531-9879-40D0-9D699E0B0E0DC34C

15.4 TECHNICAL SPECIFICATIONS AND GUIDANCE

15.4.1 This Code is not intended to provide a comprehensive record of technical standards and guidance relevant to highway maintenance, although some of the more important ones are noted. Further information can be obtained from the current edition of the HA's Trunk Road Maintenance Manual (TRMM).

15.5 QUALITY MANAGEMENT AND SECTOR SCHEMES

15.5.1 Quality management systems comprising Quality Assurance, Environmental Management and Investors in People are all intended to encourage consistent management and organisational process. If correctly and flexibly applied they should support a culture of competence, consistency and enable innovation to flourish.

15.5.2 Highway maintenance operations should be subject to a quality assurance regime to facilitate continuous improvement, preferably based on the principles of ISO 9001 2000, which integrates systems of client and service provider. Other examples of measures to support performance improvement are summarised in Section 11.

15.5.3 The quantity and cost of maintenance products and materials is relatively easy to determine, but quality can be very variable. Simple compliance with quality management schemes has not provided the necessary confidence of consistent quality, and the HA, CSS and TAG, with the co-operation of various trade organisations, have developed a number of National Highway Sector Schemes (NHSS). These are intended to improve the consistency of the products certified under existing schemes and ensure that they satisfy all current purchaser requirements. Sector schemes are administered by the United Kingdom Sector Service (UKAS). Schemes are continually being added and updated and current details can be found at (www.ukas.org).

Website Amended
27 April 2012

15.5.4 The Highway Authorities Product Approval Scheme (HAPAS) provides a means for manufacturers and suppliers to obtain approval for the use of innovative and proprietary products, within an agreed performance criteria. Where NHSS or a

HAPAS scheme applies, only materials, products and services complying with the schemes will be accepted for compliance with the Specification for Highway Works (SHW). Current details can be found at (http://www.bbacerts.co.uk/hapas.aspx).

15.6 ENVIRONMENTAL MANAGEMENT

15.6.1 In pursuing the objective of network sustainability one of the key issues will be maximising the environmental contribution made by highway maintenance policy and practice. The establishment of an Environmental Management System to ISO 14000 should be a requirement and address the range of relevant issues affecting the environment including:

- noise;
- materials utilisation;
- waste management and recycling
- pollution control;
- nature conservation and biodiversity;
- environmental intrusion.

15.6.2 This Code cannot address all of these issues in detail but is intended both to stress the very considerable contribution that maintenance can make, and to highlight a number of key areas for consideration in the following paragraphs.

15.7 MAINTAINING FOR NOISE REDUCTION

15.7.1 Road traffic noise is a major environmental consideration, both for those living close to heavily used inter-urban highways and also within urban areas. Legislation is progressively seeking to reduce road noise from vehicles but noise from running surfaces can also be intrusive.

15.7.2 Where running surfaces are renewed or resurfaced the opportunity exists to mitigate the effects of traffic noise. Whenever major maintenance schemes of this type are being planned, authorities should evaluate the option of a lower noise alternative. In areas of limited development this may not be a cost-beneficial option, but where there would be significant benefit to the local community the low noise option should be carefully considered.

15.7.3 The new statutory duty to ‘secure the expeditious movement of traffic’ imposed by the Traffic Management Act 2004 could place greater emphasis on night working. New developments in materials and plant could facilitate night working and provide better value for money but close consultation with residents and Environmental Health Officers, particularly in urban areas, will be required.

15.8 MATERIALS UTILISATION

15.8.1 Highway maintenance activity consumes significant quantities of materials, and policies for materials purchasing and utilisation can make a very considerable contribution to the core objective of network sustainability. There is also increasing

scope for innovation, for example the use of recycled glass as aggregate, recycled plastic for footpath signs and lower energy materials.

15.8.2 Authorities should seek wherever practicable to maximise the use of:

- local materials wherever possible in order to minimise transport costs, support the local economy, and to maintain local character. This will be of particular importance in relation to the use of visible materials in local conservation areas;

- products made from recycled materials in order to develop and support local markets for these.

15.8.3 Sustainable purchasing and materials utilisation may have cost implications, and authorities will need to balance these against the environmental benefits achieved. They should also consider carefully whether some limited reduction in material specification might be acceptable in order to achieve a more sustainable outcome, without excessive cost. Cornwall County Council, for example, has accepted a small reduction in polished stone values of surfacing materials in order to avoid the environmental consequences of very significant transport requirements.

Website Amended
27 April 2012

15.8.4 The introduction of an aggregates levy in April 2002 further supports policies for sustainable purchasing and utilisation by adjusting the financial balance. The levy, currently £1.60/tonne applies to sand, gravel and crushed rock subject to commercial exploitation in the UK, including aggregate dredged from the seabed within UK territorial waters. Recycled and secondary aggregates are not subject to the tax (www.wrap.org.uk).

15.8.5 Authorities should seek to pursue collaborative purchasing in partnership with adjoining or other authorities. This is encouraged by the Gershon report and is being facilitated by the HA.

15.9 WASTE MANAGEMENT AND RECYCLING

Website Amended
27 April 2012

15.9.1 Similarly, the introduction of, and subsequent increases in, the landfill tax have encouraged the adoption of sustainable waste management policies and practices by all authorities. The landfill tax was introduced on 1 October 1996 as a tax on

waste disposal at landfill sites. There are currently two rates of tax (http://archive.defra.gov.uk/environment/waste/topics/index.htm):

- £2/tonne for inactive or inert waste listed in the Landfill Tax (Qualifying Material) Order 1996. These are wastes which do not give rise to gases and have no potential for polluting groundwater;

- £15/tonne applying to all other taxable waste after April 2004. The standard rate of tax will be increased by £3 per tonne from April 2005 and by at least £3 per tonne in subsequent years to a rate of £35 per tonne.

15.9.2 In addition authorities now have rigorous statutory indicators and targets relating to waste disposal and it is important that highway maintenance provides corporate support to these so far as practicable.

15.9.3 The Waste and Resources Action Programme (WRAP) is a major Government-funded programme established to promote resource efficiency. One of the initiatives under its Aggregates Programme has been the promotion of 'Recycled Roads', through a series of roadshows held across the country. Designed to raise awareness of recycled and secondary aggregates in road construction and maintenance, these events have also provided the opportunity to inform delegates about additional information resources available from WRAP, including *The Quality Protocol for Recycled Aggregates* and the comprehensive AggRegain website (www.aggregain.org.uk).

15.9.4 Authorities should seek wherever practicable to:

- retain and re-use materials on site, in order to avoid environmental implications of transport and disposal;

- maximise the value of the re-used material rather than utilise for low grade fill;

- make use of 'recycle in place' processes in appropriate situations;

- support recycled market development through the purchase of recycled products wherever possible;

- ensure that any material that cannot be re-used or recycled is disposed of to licensed sites in accordance with statutory requirements. This will include silt and other solids arising from gully emptying and cleansing of oil interceptors. Several authorities, including Perth and Kinross Council, have a system for using reed beds to treat gulley waste (www.pkc.gov.uk).

15.10 POLLUTION CONTROL

15.10.1 A number of maintenance operations have the potential to cause either noise, air or water pollution and will need to take particular account of statutory requirements. Advice from Environmental Health Departments and the EA should also be sought where necessary. Authorities will also wish to ensure that the wider best value principle requiring that services should be provided to 'meet the needs of users' and the 'community' is applied in such cases. This is consistent with the core objective of customer service.

15.10.2 In some cases, such as scarifying or major resurfacing, some environmental inconvenience to the community may be inevitable, but authorities should seek to mitigate this wherever practicable, for example by phasing and scheduling of works to avoid sensitive periods and potentially difficult weather conditions.

15.10.3 Storage areas for fuel and other materials, both in depots and on site, have the potential for pollution, and care should be taken in siting them. Permanent and temporary storage areas should be sited and managed in accordance with requirements of the Local Planning Authority and the EA. In particular, they should not be sited where they could cause damage to landscape or nature conservation, or have the potential to pollute watercourses or groundwater. Requirements for salt storage for Winter Service are dealt with in Section 13.

15.10.4 Authorities should ensure that arrangements are available on major sites having on site diesel storage to deal with diesel spills.

15.11 NATURE CONSERVATION AND BIODIVERSITY

15.11.1 Highway verges and the wider 'soft estate' both have implications for conservation and biodiversity. Specialist advice should be sought on the management of these areas, in order to achieve the correct balance between safety, amenity, nature conservation and value for money. Where landscape management plans, biodiversity action plans, or environmental databases exist they should be consulted before any work is carried out.

15.11.2 Certain named species and habitats are protected under UK and EC legislation and all highway maintenance works must comply with these requirements. Where designated sites are within or adjacent to the highway boundary, advice should be sought from English Nature, or equivalent bodies within the Devolved Administrations, or local wildlife trusts. Legislation requires that English Nature, or equivalent bodies within the Devolved Administrations, are informed where important habitats and species may be affected, such as the removal of trees used as bat roosts. This should be done well in advance of maintenance work to allow for seasonal factors.

Websites Amended
27 April 2012

15.11.3 The HA (http://www.highways.gov.uk/aboutus/723.aspx), Scottish Executive (http://www.scotland.gov.uk/Topics/Environment/Wildlife-Habitats/16118/BiodiversityStrategy) and the Northern Ireland Roads Service (www.roadsni.gov.uk) have biodiversity action plans in place and the Transport Directorate for Wales recently published its Trunk Road Estate Biodiversity Plan

2004-14.
http://wales.gov.uk/topics/transport/roads/environment/initiatives/trebap/?lang=en

Website Amended
27 April 2012

15.11.4 Staffordshire County Council has established specific policies for the management of highway verges (http://www.sstaffs.gov.uk/your_services/environmental_services/grounds_maintenance/verges.aspx) including the following:

- when undertaking any works to the highway, the likely effects on landscape and nature conservation will be taken into account. In particular, works in the vicinity of a Site of Special Scientific Interest (SSSI) and Grade 1 County Sites of Biological Importance (SBI) will be carried out in a manner that is not detrimental to the site. In all cases of doubt, the advice of the Head of Environmental Planning will be sought. Plans detailing the location of all such sites in the County are available from the Head of Environmental Planning.

- all verges will be maintained in an appropriate environmental manner, particularly in respect of nature conservation value. The maintenance approach will be based upon the following principles:

    - appropriate mowing required (depending on flora/fauna present);

    - no unnecessary inputs (herbicides etc.);

    - identified SSSIs, Grade 1 SBIs or other biologically rich verges will be managed with an appropriate regime;

- standards should be set to maintain a balance between the need to preserve road safety and the need to preserve the natural habitats which exist within roadside verges, in terms of both plant and wildlife. The need to maintain safe visibility for all categories of road user will be accorded priority where conflict arises;

- where suitable sites exist, consideration will be given to the establishment of 'roadside nature reserves';

- highway verges should be regarded as a 'Managed Habitat'. Certain lengths of verges may be set aside as conservation areas, and no routine cutting is to be carried out within these areas, which are normally defined by marker posts. Those areas of verge that are planted with bulbs, should be excluded from the first cut, in order to allow the foliage to die off completely;

- because rural verges are only cut to one swathe width, the remainder of the verge can serve as a wildlife haven. Such verges may, from time to time, need to be cut back to the full width to prevent excessive growth of brushwood or noxious weeds;

- where fine stands of wild flowers are present in the verge, the timing of cutting operations should be varied to allow the flowers to set seed. Varying the times of cutting from year to year will help nature conservation/biodiversity, since a greater number of plant species will then be given a chance to flower and seed

in at least some years. Such variations in the cutting regime *should not take place, where it would be detrimental to safety due to obstruction of visibility.*

Websites Amended 27 April 2012

15.11.5 West Sussex County Council have prepared a draft biodiversity action plan (www.biodiversitysussex.org/file_download/61/) for highway verges and Worcestershire County Council have some 40 roadside verge nature reserves, managed under contract by the Wildlife Trust (http://www.worcestershire.gov.uk/cms/ecology/local-sites-partnership/roadside-verge-nature-reserve.aspx).

15.11.6 In urban areas roadside trees have a particular landscape value, are often highly regarded by the community and should be carefully managed. Authorities should develop a policy for the installation, subsequent inspection and maintenance of highway trees. Care should be taken to avoid damage to trees during highway maintenance and improvement works and guidance for the planning, installing and maintenance of utility services in proximity to trees issued by NJUG should be followed (www.njug.demon.co.uk).

15.11.7 Care should be taken in Winter Service operations, particularly in salting footways, to avoid excessive amounts of salt being washed or swept into tree pits or piled around trees.

15.12 DEALING WITH NOXIOUS WEEDS

15.12.1 The control of injurious and noxious weeds is a statutory responsibility for authorities under the Weeds Act 1959 and the Wildlife and Countryside Act 1981. Where injurious weeds on highway land are a nuisance to adjacent landowners, it is advisable to work with the adjacent landowner to ensure that weed control measures are undertaken simultaneously to avoid recontamination across the highway boundary. The prescribed weeds are:

- ragwort;
- broad leaved dock;
- curled dock;
- creeping thistle;
- spear thistle.

15.12.2 Ragwort, in particular is extremely hard to eradicate and some authorities have bylaws to control it. The seed can survive 20 years in the soil before germinating and any root left behind when dug up will re-grow. It is also highly toxic to horses, cattle and sheep, causing progressive and irreversible liver damage. Although relatively unattractive to most grazing animals in its green state, it can be consumed when cut and mixed with other vegetation.

15.12.3 It is normally biennial and produces small rosettes in the spring and flowers in its second year from July onwards. Cutting is used by many local authorities for control to prevent the plant flowering and seeding, and two full cuts of the verge by the end of June every year for five years will inhibit seeding and spreading.

15.12.4 Ragwort can be only be completely eradicated by digging out before it flowers which in most cases will be impractical for authorities with large areas of verge, or by spraying an appropriate weed killer, usually in April to early June. On ungrazed land such as roadside verges, unselective weed killer use could also destroy many desirable wild species and labour intensive spot treatment may be preferable.

15.13 ENVIRONMENTAL INTRUSION

15.13.1 Depots and areas for materials storage will provide the most visible evidence of the extent of environmental awareness in the service. These facilities will need to meet the operational needs of the service, but every effort should be made to ensure that they are located, designed, maintained and operated to the highest practicable environmental standards.

15.13.2 In many cases these standards will be required as a condition of planning, but planning conditions are not able to address all operational issues and should therefore be taken as a minimum.

15.13.3 Poorly managed materials and temporary chipping storage areas can rapidly be adopted by others as illegal waste dumps for which authorities may become liable. In any event such poorly managed storage areas would clearly be incompatible with the core objective of sustainability.

15.13.4 Excessive and redundant signing 'clutter' can also contribute to environmental intrusion and adversely affect overall streetscape. Opportunities should be taken to remove or simplify redundant signing wherever possible in conjunction with planned maintenance works.

15.13.5 Guidance published by English Heritage in conjunction with DfT provides examples of authorities operating successful comprehensive programmes for removal of clutter, including Nottingham City Council whose 'Clutterbuster' programme seeks out and removes signs and other redundant street furniture, such as small lengths of unnecessary guardrail. Some 2,000 signs have been removed since 2003 based on clear policy guidance, including the preservation of historic street furniture. The English Heritage/DfT guidance concludes that a clutter removal programme can have fast and dramatic effects, and it is readily appreciated by the general public. It is a simple way to enhance public spaces and it can be justified financially by the consequent reduction in maintenance costs.

15.13.6 Similar circumstances apply in relation to street lighting and the provision of illuminated traffic signing, where considerations of possible 'light pollution' and energy utilisation apply. This is dealt with in detail by *Well-lit Highways – Code of Practice for Road Lighting Management*, but the availability of modern signing materials could avoid the need for illumination in some cases, and this could be addressed when maintenance or renewal is required. The Traffic Signs Regulations and General Directions 2002 removes the legal requirement for lighting of some traffic signs.

15.14 ENVIRONMENTAL CONSULTATION AND ASSESSMENT

15.14.1 The Government has issued guidance on Strategic Environmental Assessment for transport plans and programmes in England in accordance with the requirements of European Directive 2001/42/EC also known as the SEA Directive. The Directive was implemented in England through the *Environmental Assessment of Plans and Programmes Regulations 2004*.

15.14.2 The objective of the SEA Directive is 'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans, with a view to promoting sustainable development'. This environmental commitment is broadly consistent with Government policies and is reflected in other transport planning and appraisal guidance.

15.14.3 The SEA Directive applies to plans and programmes, and modifications to them, whose formal preparation began after 21 July 2004. It also applies to plans and programmes whose formal preparation began before that date, if they have not been adopted (or submitted to a legislative procedure leading to adoption) by 21 July 2006. Government guidance refers only to 'plans', but this should be taken to include all relevant plans or programmes regardless of their formal titles.

15.14.4 The guidance indicates that SEA will normally be required for new transport plans including the second round of Local Transport Plans and Local (Transport) Implementation Plans, and strategic aspects of highway maintenance and asset management should be covered by this process. (www.webtag.org.uk, www.odpm.gov.uk)

15.14.5 Environmental issues cover a very wide range, each of which is a specialist area and on which experience and best practice is continuing to develop. In these circumstances it will be difficult for highway maintenance managers to develop and retain the necessary level of expertise in all of these areas.

15.14.6 In every authority area there will be a wide range of local environmental and conservation groups having specialist interests. Although engagement with such local groups will present particular challenges to highway maintenance managers, including the management of differing points of view, perseverance is likely to bring benefits both in terms of advice and environmental competence and also through greater public understanding of highway maintenance problems.

15.14.7 Indeed such challenges to established highway maintenance policies and practice is a fundamental requirement for Best Value Reviews. It is also suggested that environmental advisors from the authority play a strong part in this process.

New Paragraph
Added 14 May 2009

15.15 CLIMATE CHANGE

15.15.1 The Department for Transport, recognising that climate change is having a considerable impact on the UK's highway network, commissioned a research project to investigate the implications of the changing climate for highway maintenance on different types of pavement. The report produced gives recommendations on how to reduce the risks associated with climate change by ensuring good construction and maintenance practice and using adaptive maintenance techniques. The report, which was published in June 2008 and contains case studies demonstrating the impact that the weather can have on highways, can be purchased from the following website.

http://www.tsoshop.co.uk

New Paragraph
Added 14 May 2009

15.15.2 Following three major landslides in August 2004, the Scottish Government commissioned a study into potential trends in climate change in Scotland and how these might affect the road network. The Scottish Rod Network Climate Change Study was subsequently published in June 2005 and presented a series of 28 recommendations for the design and operation of the road network. A further report, Progress On Recommendations, was published in October 2008 detailing how the recommendations made in the Climate Change Study have progressed in the intervening period. The progress report may be downloaded from:

http://www.transportscotland.gov.uk/road/climate-change-and-the-roads

New Paragraph
Added 14 May 2009

15.15.3 An associated study into the risk factors related to landslides and their potential effects on the trunk road network was also instigated at that time. The Scottish Road Network Landslides Study: Implementation report was published in March

2009. This is also available as a summary report. The main and summary reports can be downloaded from

http://www.transportscotland.gov.uk/road/climate-change-and-the-roads

New Paragraph
Added 14 May 2009

15.16 SUSTAINABILITY

15.16.1 It is recognised that highway maintenance and new construction has an important part to play in the sustainability debate. In response to this, the Department for Transport commissioned a research project to produce guidance for local authority highway and material engineers on the choice of sustainable materials and techniques for use in highway and footway maintenance, as well as new construction. "Sustainable Highways: A Short Guide" may be purchased from the following website.

http://www.tsoshop.co.uk

RECOMMENDATIONS FOR SECTION 15

R15.1 Policy for Sustainable Development

Authorities should prepare and adopt a policy for sustainable development in highway maintenance to forge the link between overarching council objectives and works undertaken on the network. This policy will provide a means of articulating in meaningful terms and applications, goals and aims of the highway maintenance service.

R15.2 Sustainable Highway Maintenance

Sustainability appraisals should be fundamental to Best Value Reviews of highway maintenance, as they can open up new ideas for continuous improvement and stimulate innovation and creativity.

R15.3 Maximising Environmental Contribution

Materials, products and treatments adopted for highway maintenance schemes should routinely be appraised for environmental contribution and for wider issues of sustainability. Authorities should consider undertaking an environmental assessment of their highway maintenance strategy and environmental audit of a sample of individual schemes in order to develop good practice.

R15.4 Application of Technical Standards

Authorities should generally apply approved technical standards for materials and processes, and ensure the provision of a quality testing, control and management regime consistent with the principles of continuous improvement. The development of the industry 'sector' schemes is particularly helpful in this context and these should be supported.

R15.5 Balancing Standards and Sustainability

Subject to risk assessment, authorities should encourage the relaxation of technical standards where this would bring significant benefits of sustainability.

R15.6 Consistency with Character

Authorities should ensure that materials, products and treatments for any scheme are consistent with the character of the area and, for example, do not contribute to the 'urbanisation' of attractive rural areas. Conversely, in heavily trafficked urban areas materials should be of sufficiently high quality to avoid premature deterioration and consequent poor appearance.

R15.7 Minimising Clutter

Authorities should take opportunities to remove or simplify redundant signing wherever possible in conjunction with planned maintenance works.

R15.8 Nature Conservation and Biodiversity

Highway verges, trees and landscaped areas should be managed with specialist advice, in accordance with the principles of a Biodiversity Action Plan to meet legal obligations, support conservation and add landscape value, with specialist advice where necessary.

R15.9 Depots and Materials Storage

Depots and storage areas for materials should be managed to mitigate visual intrusion and to avoid pollution, in accordance with legal and community obligations.

R15.10 Waste Management

Authorities should define and apply policies for the minimisation and sustainable management of waste arising from highway maintenance activities, including the encouragement of materials recycling.

R15.11 Purchasing

Authorities should define and apply policies for the sustainable purchasing of materials and services including encouragement to utilise products manufactured from recycled material.

Section 16
Procurement and Service Delivery

16.1 SCOPE OF PROCUREMENT AND SERVICE DELIVERY

16.1.1 This Code is not intended to deal with the statutory and procedural aspects of UK and European procurement legislation, and authorities will need to refer to this elsewhere. It is intended to provide general guidance on the procurement of highway maintenance services, within the context of best value and continuous improvement, and to review the developing options in this field. The Institution of Highways and Transportation (IHT) has also published a guide, developed by the Public Private Partnerships Programme (4Ps), on Procuring Local Authority Transport Schemes and Services (www.4ps.co.uk).

16.1.2 When pursuing innovative forms of procurement, it is particularly important to ensure that all procedures are designed and applied in accordance with the high standards of corporate governance.

16.2 PRINCIPLES OF PROCUREMENT

16.2.1 Arrangements for the procurement of highway maintenance have continued to evolve since the 2001 edition of the Code. At that time, procurement requirements were linked to the requirements of best value, in which an authority was required to '*Assess the competitiveness of its performance in exercising the function by reference to the exercise of the function, or similar functions, by other best value authorities and by commercial and other businesses, including organisations in the voluntary sector*'.

16.2.2 This is interpreted in DETR Circular 10/99 as the need to '*use fair and open competition wherever practicable as a means of securing efficient and effective services*'. However, the Government is committed to the delivery of high quality public services and the procurement process is an essential element in ensuring a cost effective and efficient service. It has therefore developed a policy agenda of freedoms and flexibilities as set down in the Local Government Act 2003, to encourage authorities to experiment with procurement and to take calculated risks to achieve better, more significant results, including cost savings and improved services.

16.2.3 As part of this policy development, initiatives such as the Strategic Partnering Taskforce, the development of the National Procurement Strategy for Local Government and the formation of Regional Centres of Procurement Excellence have been introduced to encourage authorities to look for alternative ways of delivering services that improve quality, provide better value for money and meet the needs of all local citizens.

16.2.4 Whatever procurement arrangements are adopted, it will be important to give careful consideration to the packaging of highway maintenance work relative to other highway and associated services, possibly in co-operation with other authorities. Best Value implies that physical or functional boundaries between authorities ought not to be a prime consideration and options could include:

- packaging highway maintenance with other network management activity and integrated transport schemes;
- packaging highway maintenance in central urban areas with cleansing and related services to provide an integrated 'street management' regime;
- joint contracts with adjoining authorities for specialist services, such as traffic signal maintenance or street lighting.

16.2.5 The provision of Winter Service and other weather and emergency response will be a key consideration in the packaging of highway maintenance work. The need to ensure provision of guaranteed levels of service in a range of conditions, to manage the consequences for other highway maintenance activity, and to ensure effective year round use of resources, will have implications for work packaging, irrespective of delivery arrangements.

16.3 EVOLVING PROCUREMENT AGENDA

16.3.1 The Report of the Construction Task Force *Rethinking Construction*, published in July 1998 (The Egan Report), set out a strategy for the re-invigoration of the UK construction industry incorporating a range of drivers for change and improvement, which also pointed the way to many of the subsequent best value themes:

- committed leadership;
- focus on the customer;
- integrated processes and teams;
- quality driven agenda;
- commitment to people.
- objective measures of performance;
- comparative performance data shared with clients and each other;
- independently measured 'scorecards' instead of simple benchmarking.
- annual reduction of 10% in construction cost and time;
- annual increase of 20% in predictability of completion time and budget;
- annual reduction of 20% in project defects on hand-over;
- annual reduction of 20% in number of reportable accidents;
- annual increase of 10% in value added per head;
- annual increase of 10% in turnover and profitability.

16.3.2 The Egan Report principles, with their emphasis on Core Values, Quality, Performance Management and Continuous Improvement, defined the agenda for much of the subsequent procurement activity, both on new highway construction and maintenance. These were embraced strongly in new procurement arrangements for the strategic highway network, particularly in England by the Highways Agency (HA) and in Scotland, which saw the transfer of network management and maintenance from local authorities to separate private sector Managing Agents and Contractors, operating over larger geographical areas. There has recently been a further trunk road review in Wales and new arrangements will start in April 2006.

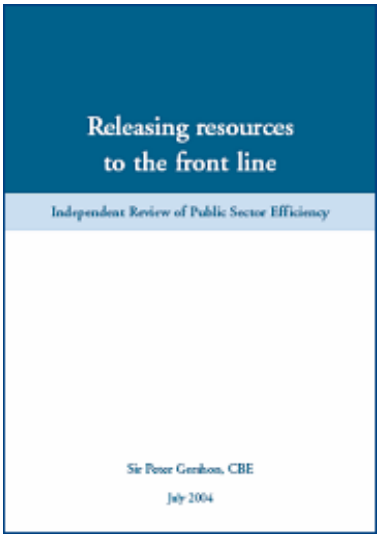
16.3.3 *Rethinking Construction* has been followed by *Accelerating Change*, a publication by the Strategic Forum for Construction, chaired by Sir John Egan. This document builds on and reaffirms the principles set out in *Rethinking Construction*, and seeks to tackle barriers to progress and accelerate the rate of change in the construction industry. It sets out a vision '*for the UK construction industry to realise maximum potential for all clients, end users and stakeholders through the consistent delivery of world class products and services*'. It also sets strategic targets for construction projects to be undertaken by integrated teams and supply chains, embracing the principles of *The Construction Clients Charter*.

16.3.4 The move towards partnership contracts has gathered pace, and a series of initiatives have taken place to support this. The Office of the Deputy Prime Minister (ODPM) established the Strategic Partnering Taskforce to support the development of Strategic Service-delivery Partnerships (SSPs). ASSP is a long term partnership between organisations that work collaboratively to achieve the authority's strategic aims for delivering services. It takes the principles embedded in the Egan Report and applies them to local authority services. Working collaboratively can assist capacity for continuous improvement and provide an additional mechanism for accountable performance. The Strategic Partnering Taskforce final report and the accompanying published guidance sets out how an SSP might be a procurement option worth considering.

16.3.5 *The National Procurement Strategy for Local Government*, published by the ODPM, sets out how central and local government, working together with partners from the public, private and voluntary sectors, intend to set about improving local government procurement. The most innovative authorities have found ways to deliver significantly better services at lower costs, by streamlining procurement, working in partnerships, redesigning the delivery of services, sharing office systems and pooling their buying power. The delivery of a highway maintenance service can be transformed by taking on board some of these ideas.

16.3.6 The Government has established nine new Regional Centres of Excellence for Procurement, that will give support and advice on procurement, and address issues such as capacity building, e-procurement, supplier management, project management and managing developing markets (www.odpm.gov.uk).

16.3.7 There are several emerging issues that will have an impact on procurement. The Government's Efficiency Review undertaken by Sir Peter Gershon, the new Capital Finance System incorporating prudential borrowing and resource accounting, and developments in the use of PFI, will all give opportunities for new developments in procurement. The project led by the HA, working with local authorities to improve collaborative purchasing, should also be influential. Further information on performance reporting associated with this is given in Section 11.



16.3.8 The way an authority procures its highway service delivery is also evolving, fuelled by Government encouragement, Best Value Reviews and Comprehensive Performance Assessment (CPA). New ways of working, new forms of procurement and the development of partnerships between public and private sector, are changing the face of highway maintenance service delivery. Early contractor involvement is also beneficial to improve 'buildability' and to develop cost effective solutions to highway maintenance problems.

16.3.9 There has been considerable development of the type of contract that might be used to procure highway maintenance service delivery. The New Engineering Contract has a range of options for consideration and includes Term Maintenance and Partnering options. The use of performance based end product specifications is another development, aimed at improving the quality and effectiveness of a service.

16.4 MAIN PROCUREMENT OPTIONS

16.4.1 The scope and diversity of authority arrangements for the procurement of highway maintenance services has evolved considerably over the past couple of years. There are many examples of arrangements that have been implemented to suit the needs of an authority. There is no right or wrong model and each authority will need to take account of its own specific drivers for change, as well as taking into consideration the national pressures and best practice elsewhere. It would be difficult for this Code to list them all in detail. There are, however, a number of broad categories and most involve some form of partnership:

- in-house DSO, market tested or won in competition in combination with private sector contracts for specialist work. Professional services all inhouse or with ad-hoc contract arrangement;
- all highway maintenance works contracted out. Professional services all in-house or with ad-hoc 'top-up' contract arrangement;
- all highway maintenance works contracted out and all professional services contracted out under separately contracted arrangements. With or without PFI;

- all highway maintenance works contracted out and all professional services contracted out in an integral contract with a single organisation, either through a joint venture arrangement or to one company. With or without PFI.

16.4.2 Bearing in mind that each of these options may also involve differing arrangements in respect of agencies or liaison with other authorities, and local circumstances for the packaging and financing of work, the scope for detailed variation is considerable. PFI has made good progress in the field of street lighting but the take up has been slower on other areas of highway maintenance. The Public Private Partnerships Programme (4Ps) has published guidance for this and other procurement options (www.4ps.co.uk).

16.4.3 A key issue for consideration, in relation to the procurement of highway maintenance services is the nature and scale of the 'client' role. Early models of professional services contracting out exhibited wide variations in this, with some authorities retaining a significant in-house capability and others only retaining a very low level in terms of both numbers and experience. With the newer procurement models involving more integrated and flexible partnering arrangements, this may be less of an issue, but will remain a key consideration in other cases. One significant issue to consider is transfer of risk, and determining where best a risk should lie under the new arrangements may well shape the scope and nature of a client organisation.

16.4.4 There are many examples of the way a highway maintenance service can be delivered, including:

- Northamptonshire County Council and recently Bedfordshire County Council - fully integrated partnership combining the traditional roles of the network manager, the consultant and the contractor in one organisation;

- Hertfordshire County Council and Norfolk County Council - strategic partnership involving separate consultant and contractor;

- Portsmouth City Council and Birmingham City Council - highway management PFI contract;

- Surrey County Council – partnership contract with two contractors benchmarking their performance;

- Nottinghamshire County Council and Leicestershire County Council - in-house service with 'top up' consultancy support.

New Paragraph
Added 14 May 2009

Paragraph Amended
7 May 2010

16.4.5 The Highway Efficiency Liaison Group (HELG) aims to support the whole highways industry in identifying and delivering improved and increasingly efficient highway services. In October 2009 HELG published the latest version of the Highways Efficiency Toolkit. The Toolkit describes an approach for measuring efficiencies in the delivery of the highway service and contains case studies and

examples on a number of issues, including procurement. More information on HELG and the Toolkit may be downloaded from the following website.

www.helg.org

16.5 DEVELOPMENT OF PARTNERING

16.5.1 Where Best Value Reviews, or increases in funding have indicated a need for authorities to consider private sector involvement in the delivery of highway services, there has been a tendency of authorities to pursue the newer procurement models, involving closer forms of partnership. These arrangements tend to be based on:

- commitment to shared culture, values and trust;
- joint management structures;
- shared Quality Management (QA, IIP, Environmental Management);
- performance management regime;
- agreed systems for shared risk and reward;
- flexible contract periods based on performance.
- open book accounting and financial systems integration;

16.5.2 Commitment to shared culture, values and trust is particularly important for authorities, and in order to achieve effective partnering it will be necessary for the chosen partner to:

- understand and share the beliefs and core values of the Council including their rationale and the importance of their contribution to the culture of the organisation;
- understand the nature and importance of the challenges within each of the corporate objectives, including the effects of interaction between them. Display imagination and creativity in addressing these challenges in partnership with the Council and other partners;
- understand the best value, CPA and performance improvement principles and process and assist the Council with its programme of Best Value Reviews;
- understand the importance of local democracy and actively support the Council in pursuit of its community leadership role;
- understand the particular needs of local communities, help them to articulate these and work creatively to facilitate their resolution. Appreciate that best value is founded upon services being responsive to those that use or are affected by them, rather than service providers, and provide strong employee leadership in pursuit of this aim;

- deploy high quality flexible, efficient and effective personnel and management processes in support not only of the services for which they are accountable, but also potentially to add value across a wide range of other service areas.

16.5.3 Such partnering arrangements should also incorporate all or some of the following:

- arrangements for private investment;
- arrangements to encourage and reward innovation;
- arrangements for integrated supply chain management;
- agreement on Contract Performance Indicators (KPIs).

16.5.4 The development of shared culture, values and trust, together with agreement to systems and Contract Performance Indicators, is likely to be assisted by the use of partnering workshops or similar facilitated sessions, both prior to the commencement of the contract and at intervals during its term.

16.5.5 Contract Performance Indicators are essential parameters for the management of the partnering arrangement and it is important that agreement on these is reached at the outset. Many authorities and their service partners now have experience in the development and use of performance indicators, and the numbers used vary from approximately 10 to 70. On balance, it is suggested that a smaller number of well thought out and relevant indicators are more likely to be appropriate.

16.5.6 The 2001 edition of the Code included a set of 10 indicators established by the National Benchmarking Group, for information and consideration by authorities. The number of authorities participating in the Group has increased with the result that the quality and usefulness of the data has improved.

16.6 INTER-AUTHORITY COLLABORATION

16.6.1 It is important that Best Value Reviews include consideration of existing agency arrangements between authorities for the management and delivery of highway maintenance and related services. The circumstances in which these arrangements were established are likely to have changed since their introduction and also the relevance of the boundaries on which they are based.

16.6.2 Original agency arrangements are likely to have been founded on the need to sustain local DSO service delivery. With best value, the emphasis may be better placed on ensuring effective higher level co-ordination arrangements between authorities, than through conventional agency arrangements at the commissioning or service delivery level.

16.6.3 Where agency arrangements exist between authorities, these should be based on similar principles to those that would apply to partnering arrangements. In particular, a commitment to shared culture, values and trust, open book accounting, financial systems integration and agreed KPIs. The use of partnering workshops in achieving these is also equally relevant.

16.6.4 It will also be important to consider the potential for inter-authority liaison in service procurement, for example:

- sharing contract documentation and processes;
- sharing in-house resources to ease peaks and troughs;
- collaborative purchasing of goods and services;
- joint contracts with contractors or consultants.

16.6.5 The emphasis on collaboration between authorities has increased considerably since the 2001 edition of this Code. There is now a strong presumption by Government in favour of collaboration with a number of initiatives in progress. These include:

- the Regional Centres of Excellence;
- the HA project with local authorities to explore opportunities for collaborative purchasing;
- Regional Transport Partnerships in Scotland and other emerging regional arrangements elsewhere;
- the 'Maintaining Scotland's Roads' report which recommends that Councils should consider whether their road maintenance service could be improved by entering into consortia arrangements to achieve economies of scale in road maintenance.

New Paragraph
Added 24 May 2013

16.6.6 The Highways Maintenance Efficiency Programme has produced a Local Highway Authorities Collaborative Alliance Toolkit that outlines how collaboration between authorities has achieved efficiency savings through:

- entering into contracting or professional services frameworks;
- achieving greater buying power in procurement activities for services or commodities;
- standardising within their area either for specifications or services, sharing services; and
- developing LEAN processes and the up-skilling of local authority staff.

The Toolkit may be downloaded from the following website:

http://www.dft.gov.uk/hmep/docs/colab/120824-LHA-collaborative-alliance-toolkit-v1-full.pdf

New Paragraph
Added 13 August 2013

16.6.7 The Highways Maintenance Efficiency Programme has developed a suite of Standard Contract Documents based on current good practice. These give practitioners advice and more flexible tools for their procurement, with a view to achieving greater standardisation. The documents provide a complete range by which to procure a term maintenance contract: These documents may be downloaded from the following website:

http://www.dft.gov.uk/hmep/efficiency/standard-form-of-contract.php

New Paragraph
Added 13 August 2013

16.6.8 The Highways Maintenance Efficiency Programme has published a suite of standard specifications and details which have been developed to address the areas where authorities spend most of their highway maintenance budgets. These include:

- Series 500 – Drainage & service Ducts
- Series 700 – Road Pavements – general
- Series 900 – Road pavements – Bituminous bound materials
- Series 1100 – Footways and paved areas
- Series 1300 – Road Lighting
- Series 1700 – Structural concrete
- Series 1800 – Structural steelwork
- Winter Maintenance

The documents build on the latest specifications from within the sector, including those supplied by local highway authorities that have recently tendered or are about to go to market, as well as those from existing collaborative arrangements in the Midlands Highways Alliance, South East 7 and London. Further information may be downloaded from the following website:

http://www.dft.gov.uk/hmep/efficiency/standard-spec.php

16.7 FOCUSING ON THE USER AND COMMUNITY

16.7.1 It is important that in establishing and managing all forms of procurement and service delivery arrangements a clear focus is maintained on the needs of the user. Not only will this assist the specification and definition of works, but it will also aid the resolution of differences should these occur. This approach is consistent with the core objective of customer service.

16.7.2 The incorporation of such measures as Charter Mark and the Considerate Contractor Scheme into contract performance regimes may help to maintain this focus.

16.7.3 Procuring large long term contracts can, in certain circumstances, have implications for the local economy and in such circumstances it may be appropriate to specify that the contractor should retain a percentage of local suppliers and subcontractors.

RECOMMENDATIONS FOR SECTION 16

R16.1 Best Value Procurement

Procurement of highway maintenance services should be based on the principles of best value, in accordance with standing orders of the authority, to facilitate creativity in service delivery and finance by potential service providers.

R16.2 Performance Based Contracts

Contracts for the provision of highway maintenance services should be performance based so far as practicable, and should be framed so as to facilitate continuous improvement.

R16.3 Procurement Options

Authorities should assess a range of procurement options for the delivery of highway maintenance services. The principle of continuous improvement is more likely to be achieved through longer term performance based partnerships than through relatively short term conventional contracts.

R16.4 Inclusion of Related Functions

In assessing options for the scope and content of highway maintenance contracts, authorities should consider the extent to which they should include other related highway construction and management functions.

R16.5 Contract Flexibility

In the light of the significant developments in highway management procurement currently taking place, contracts should, so far as practicable, provide for flexibility to incorporate emerging practice. Such contracts should be reviewable over perhaps a 5 year period.

R16.6 Inter-Authority Collaboration

Authorities should consider the extent of potential benefits from collaboration with other authorities.

R16.7 Agency Arrangements

Where an authority has agreed agency arrangements with other authorities to undertake aspects of highway maintenance on behalf of the authority, the strategy should set out the agreed management accountabilities and financial arrangements.

R16.8 Local Economy

Authorities should assess the implications of long term integrated contracts for the local economy, and should consider specifying a proportion of local suppliers or subcontractors where appropriate.

Section 17
Financial Management

17.1 FINANCING OF HIGHWAY MAINTENANCE

17.1.1 There are significant differences in both capital and revenue funding arrangements within the UK between the various Devolved Administrations. These are not set out in detail in this Code, as they are subject to regular revision, and reference should be made to relevant Government advice.

17.1.2 There are however a number of common principles and potential sources of funding as follows:

- dedicated capital funding provided, such as the second round of Local Transport Plans (LTP) in England, either directly or indirectly by Government and delivered by means of Grants and either Basic or Special Credit Approvals;

- challenge capital funding, targeted at specified transport themes or objectives, which may have direct or indirect relevance to highway maintenance. Examples include Safer Cities Project;

- challenge capital funding for wider strategic themes or objectives, which may have direct or indirect relevance to highway maintenance. Examples include Single Regeneration Budget and Capital Challenge;

- Private Finance Initiative (PFI) credits, this is a developing area and most relevant examples have so far been based on street lighting. However, Portsmouth City Council has successfully developed and procured a highway maintenance contract based on this principle. Birmingham City Council is also pursuing a similar approach;

- capital and/or revenue funding from private sector service providers, negotiated during contract award process;

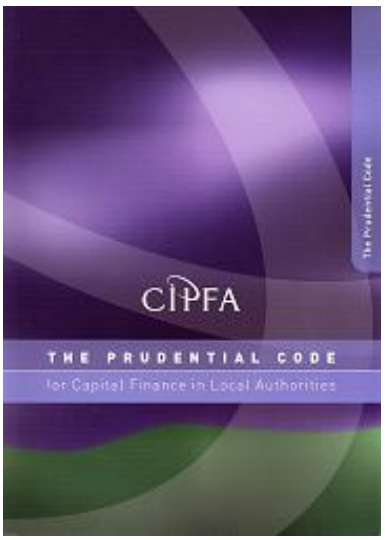
- capital and/or revenue funding from private developers, secured as a requirement for planning approval;

- capital or revenue local commercial sponsorship, the most common example of this is maintenance of landscaped areas, in particular on roundabouts;

- revenue funding from a combination of local council tax, business rate and Government revenue support. This is provided for all local services for use largely at the discretion of authorities, but with the background of Formula Spending Share (FSS) for principal services, including highway maintenance, with which authorities are expected to demonstrate reasonable levels of compliance;

- the Prudential Code provides new opportunities of capital finance for local authorities. It allows authorities to develop their own programmes for capital investment in fixed assets that are central to the delivery of

- their services, within a clear framework that ensures capital investment plans are affordable, prudent and sustainable.



17.1.3 The pursuit of best value requires that authorities should review all of these potential sources of finance to ensure that they are maximising the benefit of these. Although the sums involved in some cases, for example, in local sponsorship, may not be large, they can help build local pride and support for the service.

17.1.4 It will be particularly important to ensure that maximum benefit is obtained for highway maintenance from contributions in respect of new development. Although such contributions will be primarily to provide new or improved integrated transport infrastructure, to mitigate the effects of the development, there may be a need to modify or bring forward maintenance works, which could be incorporated into the agreement. Unusual maintenance requirements following adoption may also be reflected in commuted sums.

17.2 FINANCIAL PLANNING

17.2.1 The Highway Asset Management Plan (HAMP) should present the investment required in the maintenance of the highway assets to maintain the core objectives of safety, serviceability and sustainability of the asset, and the new objective of customer service. It should also align with the authority's bid for capital funds and hence provide a tool to assist in the financial planning of maintenance.

17.2.2 The core objective of sustainability in this Code includes, amongst other things, a requirement to minimise cost over time, focussing on whole life rather than the short term costs. This pre-supposes, of course, that authorities have sufficient financial flexibility to move beyond reactive maintenance for network safety, and clearly circumstances will vary between authorities.

17.2.3 Focussing on whole life costs implies the consideration of the highway network as an asset, having a defined financial value and requiring an asset management regime in order to:

- optimise use;
- maintain value;
- demonstrate good stewardship.

17.2.4 In England these principles are consistent with the requirements of value for money in the LTP, as well as the establishment of a Single Capital Pot, and unified assessment of asset investment priorities.

17.2.5 In England, authorities should follow two key principles of value for money when preparing and delivering their LTP:

- to provide the best possible value for money, maintenance work must be carried out in good time. It is essential that authorities do not allow the total costs of maintenance to escalate by allowing assets to deteriorate to the extent that routine maintenance is no longer possible. Similarly, authorities should aim to ensure that maintenance works are not carried out more frequently than necessary;
- authorities should consider carefully the future maintenance requirements of proposed new infrastructure before including it in their LTP bid. It may be that the whole life cost of a capital scheme will be such that the transport need that it is designed to address could be more efficiently met through less capital intensive, or even revenue funded interventions.

17.2.6 Authorities may have insufficient funding to deliver proper asset management and therefore are unable to turn a reactive service into a more pre-planned proactive regime based on the principles of asset management. Some authorities have sought funding to remove maintenance backlog through the PFI credit system. In such circumstances, future maintenance of the network needs to be determined based on identified levels of service and the development of a capital programme based on whole life costs.

17.2.7 Funding through the Prudential Code is based on a soundly formulated capital programme that must be driven by the desire to provide high quality, value for money public services. As a consequence, the Code explicitly recognises that in making its decisions to make capital investment, the authority must have explicit regard to:

- option appraisal;
- asset management planning;
- strategic planning for the authority;
- achievability of the forward plan.

17.2.8 It is therefore crucially important that authorities establish an asset management regime to secure different sources of capital funding. The HAMP should be produced following the development of the asset management regime. It should provide a robust justification for investment in the maintenance of assets needed, to ensure the delivery of safety, serviceability and sustainability of the network within the context of customer service. The consequences of any shortfall in

funding should be properly represented to aid decision making by the funding bodies.

17.3 WHOLE OF GOVERNMENT ACCOUNTS

17.3.1 Following the introduction of Resource Accounting and Budgeting (RAB) to all Government departments from 2001-02, Whole of Government Accounts (WGA) is due to cover the whole of the public sector from 2006-07. The objectives of WGA are to promote greater accountability, transparency and improved stewardship of public finance.

17.3.2 WGA presents a comprehensive picture of the public finances prepared on a basis comparable with that of the private sector. This will provide useful information for fiscal policy making and planning and management of public finances and services. WGA is intended to improve the Government's accountability to Parliament and taxpayers, and forms an important element of the Modernising Government agenda.

17.3.3 WGA builds on the Prudential System for local government finance and the Resource Accounting procedures for central government. WGA uses accruals accounting methods in line with Generally Accepted Accounting Practice (GAAP).

17.3.4 In order to enable the compilation of WGA, it is important that all government bodies produce the accounts on a consistent basis. It is recognised that there are some differences in the guidance currently available to authorities and central government departments for accounting, and these are likely to converge over the coming years.

17.3.5 It should also be recognised that highways form only part of the highway infrastructure and other services are also managed by an authority. The accounting principles and practices should be consistent across all the operations of an authority and should be agreed with its auditors.

Resource Accounting and Budgeting

17.3.6 The process for financial planning is critical to the management of highway maintenance, as it forms the basis for securing the necessary funds, and ensures that the available funding is appropriately targeted and effectively spent for the maintenance and upgrade of highway assets.

17.3.7 Resource accounts are intended to represent the full cost of ownership and use of assets in delivering transport services to the public. For this reason, the financial statements prepared should aim to provide a systematic link between services delivered and resources consumed in the accounting period. They should be prepared to incorporate:

- reliability – the information contained can be depended upon for the stated purpose; it is free from deliberate or systematic bias; it is free from material error; and it has taken a prudent approach in dealing with uncertainty;

- comparability – the information provided can be compared with similar information about the organisation for previous accounting periods and with other similar organisations. It depends on consistency and adequate disclosure;

- materiality – all information is included that might be expected to have an influence on the purpose for which the financial statements are used.

Materiality depends on the size and nature of the item considered and should be judged on the circumstances of the case.

17.4 ASSET VALUATION

17.4.1 Asset valuation is the calculation of the current monetary value of an organisation's assets. The valuation of an authority's highways assets is a key requirement of WGA and an important component of public sector financial management.

17.4.2 The purpose of asset valuation is to produce a monetary value of the highway assets to be included in an authority's balance sheet. It also provides a measure of depreciation of the highway asset, which represents the consumption of the asset in delivering services to the public. Asset valuation is important for demonstrating stewardship of public assets.

17.4.3 Highways are largely publicly owned and have not been sold on the open market. These assets are not used primarily for the purpose of revenue generation. Hence, the method to be adopted for the calculation of the value of the highway asset should not be based on market value or revenue stream.

17.4.4 HM Treasury's *Resource Accounting Manual* (RAM) contains the requirements for valuation, which, in line with the requirements of *Financial Reporting Standard 15 Tangible Fixed Assets* (FRS 15), recommends that highway infrastructure assets are valued on the basis of the Depreciated Replacement Cost. This is taken as the current replacement cost depreciated to reflect the overall condition of the highway network.

17.4.5 The procedure to be followed for the valuation of highway assets is described in detail in the CSS Guidance Document *Asset Valuation of Highway Infrastructure Assets*. A summary of this is given below.

17.4.6 It is important to recognise that the calculated asset value represents only the monetary value, or capital value of the assets, and not the service provided or the worth of the assets to society.

17.4.7 The process for the valuation of the highway assets is based in 6 main steps as described below and summarised in Figure 5:

- establish the principles, basis and rules for valuation;
- compile an Asset Register that provides the base data required for calculating asset values for each individual asset owned by an authority;
- produce initial values for the assets. This includes developing appropriate unit rates and calculating Gross Replacement Costs;
- calculate the consumption of the assets. This includes calculating the depreciation of the assets and the impairment loss;
- calculate Depreciated Replacement Cost;

- prepare the valuation report.

17.4.8 Impairment is defined as the unexpected deterioration in condition and/or performance, for example due to accidental damage, and is recognised as a temporary drop in asset value.

17.4.9 Highway assets should be subject to full revaluation once every 5 years. In between revaluations, the valuations can be adjusted using appropriate price indices.

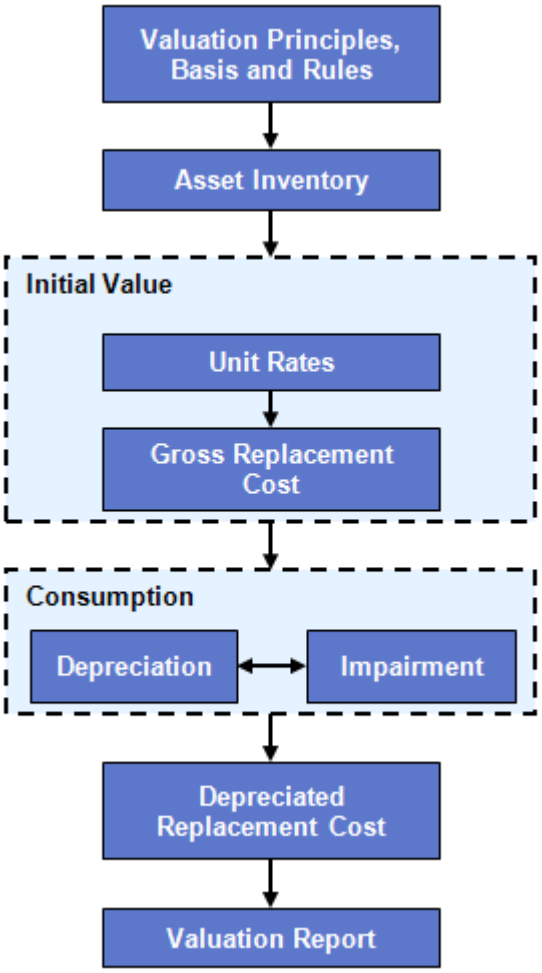


Figure 5 – Asset Valuation Steps

17.4.10 Renewals Accounting is the recommended approach for calculating the depreciation of the asset value. Under this approach, the level of annual expenditure, identified in the HAMP to maintain the operating capacity of the network, is treated as the depreciation for that period and is deducted from the current asset value. The actual annual expenditure is capitalised and added to the asset.

17.4.11 The strategic network has been valued in England by the HA and also in Scotland, Wales, and Northern Ireland by the respective authorities. In Northern Ireland the process is also carried out for local roads.

17.5 BUDGETARY CONTROL

17.5.1 Good budgetary control procedures based on high standards of corporate governance are essential to sound financial management. This section deals with the most important elements of budgetary control, and provides advice on the achievement of good financial management.

17.5.2 Major elements of budgetary control include regular reviews of the following:

- possible problems in under or overspend when comparing actual expenditure transactions to budget;
- possible need to redefine objectives against budget provision;
- possible need to delegate specific areas of larger budgets, enabling greater control;
- possible need to adjust budgets in the light of performance monitoring.

17.5.3 By acting on the following principles, a budget holder can help to ensure that activities carried out during the year are in line with agreed objectives:

- familiarisation with the relevant financial regulations and procurement standards of the authority;
- recording of commitments to ensure that an accurate picture of expenditure is available at all times. Hard commitments are defined as irreversible spending decisions, such as orders raised. Soft commitments are those that could be stopped if necessary;
- reviewing transactions to ensure that nothing has been charged that was not expected. Replacing the commitments for the preceding month with the actual expenditure and then reviewing future commitments in the light of experience;
- using financial reports and information supplied corporately by the authority to compare regularly budget allocation to actual expenditure. At the end of the month, budget holders should receive a report of the total spending against each code to date;
- identifying possible over and under spending sufficiently early to enable corrective action to be taken.

17.5.4 This corrective action could include:

- using journal transfers to move income and expenditure from incorrect budget heads where applicable;
- using virements to move a budget from one head to another, where possible overspending on one budget head might be compensated for by expected underspends on another;
- delegating budgetary responsibilities for specific budgets to personnel spending against those codes;

- ensuring budgets are re-profiled where necessary, in order to realign total budget to proposed actual spend.

17.6 BUDGETING PRINCIPLES

17.6.1 Budgeting principles for highway maintenance should provide the necessary level of flexibility in order to deliver value for money. They should be set out based on the following considerations and principles:

- that integration of scheme planning and programming, within the context of asset management, is likely to require greater flexibility than has previously been the case;
- the differing life expectancies of various treatments and the future implications of these for the balance of capital and revenue funding;
- the seasonal and weather sensitive nature of many treatments and the service as a whole;
- the uncertainties in prediction of out-turn costs for Winter Services and the need for year-end flexibility;
- the increasing trend in weather emergencies and the need to make provision for these and other emergencies.

17.6.2 The budget for highway maintenance should be drawn up over a rolling three year period and included as part of the HAMP, which should enable schemes to be developed on the basis of objective information and also to be adjusted in nature and programming, to add value to other transport and wider policy objectives.

17.6.3 Effective budget monitoring arrangements are, of course, crucial to the delivery of best value. Where services are procured through forms of Public Private Partnership, budget monitoring will form a key aspect of contract management. Many of the new forms of partnership being adopted by authorities are incorporating Open Book Accounting and also the provision of joint electronic data transfer systems for invoicing and payment. Such systems can make an important contribution to efficiency and are, of course, equally relevant to inhouse service delivery arrangements.

RECOMMENDATIONS FOR SECTION 17

R17.1 Financial Information and Planning

Strategies for highway maintenance contained in the Highway Asset Management Plan and the Local Transport Plan should be supported by clear financial planning and information management arrangements, based on high standards of corporate governance.

R17.2 Sources of Finance

Financial planning arrangements should consider the scope for introducing new sources of finance, for example through PFI, Prudential Code and developers' contributions.

R17.3 Budget Preparation

The preparation of budgets for highway maintenance should reflect the *Code of Practice on Local Authority Accounting in the UK* and be based on a rolling three year period consistent with the Highway Asset Management Plan.

R17.4 Financial Accountability

Systems for financial management should recognise the need for the delegation of financial accountability to be consistent with delivering high standards of customer responsiveness.

R17.5 Accounting Flexibility

Arrangements should be established for carry over of expenditure at year end, which recognise the sensitivity of highway maintenance works to variable weather conditions, particularly in the pre-year end period.

R17.6 Weather Sensitivity

Consideration should be given to special financial arrangements, including the use of reserves to deal with extended periods of unexpected weather, the frequency of which is expected to increase.

R17.7 Budgetary Control

Standards and procedures for budgetary control should be established, consistent with the principles of this Code. Systems should preferably enable easy and electronic data exchange between client and major service providers.

R17.8 Asset Valuation

Authorities should prepare for the introduction of Whole of Government Accounts in 2006/7. This will result in the need for valuation of highway assets. Guidance is given in the CSS document *Asset Valuation of Highway Infrastructure Assets*.

Section 18
Monitoring, Review and Reporting

18.1 IMPORTANCE OF MONITORING, REVIEW AND REPORTING

18.1.1 The establishment of regular and structured monitoring is a key requirement of any management regime and a fundamental principle of continuous improvement. It is, however, especially important in the case of highway maintenance for a number of reasons:

- the character and use of the network is subject to constant change, some of which is reasonably predictable and some of which is not;
- legal interpretations of statutory responsibilities for safety have established the presence of effective monitoring, review and reporting systems as a critical factor in determining liability;
- key policy and performance improvement processes including Comprehensive Performance Assessment (CPA), Best Value Performance Plans, and Local Transport Plans require regular monitoring and reporting, including progress on performance indicators and targets;
- technical research on processes and practices for condition assessment is rapidly evolving and advice on best practice will need to take account of this. Information from Best Value Reviews will also inform this process;
- technical research on materials and treatments, especially from the point of view of sustainability, is also rapidly evolving and will need to be taken into account;
- new forms of partnership for service delivery incorporating Contract Performance Indicators will require monitoring for contract compliance.

18.2 CATEGORIES OF REVIEW

18.2.1 Each of these requirements for monitoring, review and reporting may require a different approach and timetable and may involve:

- continuous monitoring;
- programmed reviews;
- Best Value Reviews;
- ad hoc reviews.

18.2.2 Continuous monitoring will be essential for safety and certain operational purposes, including those required by the Traffic Management Act 2004. Systems will need to provide regular updating on such matters as:

- planned (and un-planned) highway obstructions and all potential disruptions, including works by the authority and third parties;
- results of safety and other inspections, including nature and time of planned and actual response, including no response;
- results of service requests and complaints from users and the community, including nature and time of planned and actual response, including nil returns;
- changes in traffic flow, composition and network distribution;
- road traffic accidents and incidents, including damage only incidents where available, both from police records and other sources, and any damage to the highway;
- weather information.

18.2.3 The regularity with which the above information is updated will largely depend on the practicalities of information collection and processing, together with the defined inspection frequencies. Authorities are encouraged to make the most effective use of ICT in establishing efficient and effective systems based on an understanding of the relative risks involved, and to apply these with absolute consistency.

18.2.4 Less frequent but programmed reviews will also be necessary for other purposes in order to:

- analyse trends in network character and use, and consider possible changes to hierarchy, inspection regime and standards;
- analyse trends in network accidents, incidents, service requests and complaints, and consider possible changes to hierarchy, inspection regime and standards;
- analyse the quality and effectiveness of continuous monitoring systems and consider how these might be improved;
- monitor co-ordination of work programmes and priorities and consider any changes necessary to take advantage of opportunities arising;
- review annually all relevant aspects of Winter Service and consider any changes necessary;
- review all information relating to the delivery of statutory indicators and local PIs.

18.2.5 The frequency of these reviews will depend upon local circumstances, but should usually take place annually. They should also wherever possible be undertaken jointly between client and service provider, whether in-house or private sector partner. They should be separate from, but consistent with, more frequent meetings between the parties, for contract management purposes and monitoring of contract PIs.

18.2.6 Best Value Reviews provide the opportunity for in depth analysis of all aspects of service policy and delivery including, crucially, the extent to which these are meeting the requirements of strategic or corporate objectives and those of other stakeholders. It will be important also to ensure that opportunity is taken for highway maintenance to contribute to Best Value Reviews of other related services, both of the principal authority and others.

18.2.7 Ad hoc reviews will also be necessary from time to time in the light of changes in funding regimes and to take account of technical developments.

18.3 SHARED BEST PRACTICE

18.3.1 It is important that the outcomes of all reviews, whether continuous, programmed, best value or ad hoc, are shared with all those whom they effect, but also more widely where they have the potential to contribute to shared best practice.

18.3.2 Section 11 of this Code provides examples of benchmarking networks and similar groups where this is being pursued, but there is much more scope for this to be more widely effective. Since the 2001 edition of this Code there has been a considerable increase in opportunities for sharing best practice, including information from the Improvement and Development Agency (IDeA, www.idea-knowledge.gov.uk) and others.

18.4 MONITORING AND REVIEW OF CODE OF PRACTICE

18.4.1 All of the principles of monitoring and review outlined in this section apply to this Code. The guidance that it provides will undoubtedly be affected by current and future developments in policy and practice.

18.4.2 It is therefore intended to take full advantage of new technology by providing on-line updating of the Code. The structure has been designed to facilitate this and it is intended to introduce the on-line updating service during the year following the launch of the Code.

RECOMMENDATIONS FOR SECTION 18

R18.1 Risk Management Approach

Arrangements should be made for frequent and regular monitoring of overall network management performance, including effectiveness of inspection, information systems and response arrangements, and changes introduced where necessary to ensure that personal and financial risks both to users and the authority are managed effectively.

R18.2 Monitoring of Indicators, Targets and Outcomes

Arrangements should be made for monitoring of core objectives and outcomes, including statutory and other key indicators of network condition and performance, and changes introduced where necessary to ensure that progress towards targets is maintained.

R18.3 Monitoring of Procurement Regime

Arrangements should be made for monitoring the performance of procurement arrangements and the extent to which these are contributing to the pursuit of continuous improvement, and changes introduced where necessary to ensure that the necessary progress is maintained.

R18.4 Enhancing Benchmarking Information

Arrangements should be made to share ongoing monitoring and benchmarking information with others in the interests of the wider best value agenda.

R18.5 Monitoring Research and Developments

Arrangements should be made to ensure that the results of ongoing research are monitored and incorporated into highway maintenance practice, where desirable, and with respect to local circumstances.

Appendix A
Glossary of Terms

ABBREVIATIONS

AHP	Analytical Hierarchy Process
API	Area Performance Indicator
BOAT	Byway Open to All Traffic
BVPI	Best Value Performance Indicator
BVPP	Best Value Performance Plan
CAT	Capability Assessment Toolkit
CCT	Compulsory Competitive Tendering
CIPFA	Chartered Institute of Public Finance and Accountancy
CPA	Comprehensive Performance Assessment
CRM	Customer Relations Management
CSC	Characteristic SCRIM Coefficient
CSS	County Surveyors Society
CVI	Coarse Visual Inspection
DCD	Data Capture Device
DfT	Department for Transport
DRD	Department for Regional Development
DRR	Designated Recreational Routes
DRMB	Design Manual for Roads and Bridges
DSO	Direct Service Organisation (also DLO)
DVI	Detailed Visual Inspection
EA	Environment Agency
FSS	Formula Spending Share

FWD	Falling Weight Deflectometer
GAAP	Generally Accepted Accounting Practice
GPR	Ground Penetrating Radar
HA	Highways Agency
HAMP	Highway Asset Management Plan
HAPAS	Highway Authorities Product Approval Scheme
HAPMS	Highways Agency Pavement Management System
HMMS	Highway Maintenance Management System
ICE	Institution of Civil Engineers
ICT	Information Communications Technology
IDeA	Improvement and Development Agency
IHIE	Institute of Highway Incorporated Engineers
IHT	Institution of Highways and Transportation
KPI	Key Performance Indicator
LDT	Long Distance Trails
LPI	Local Performance Indicator
LPSA	Local Public Service Agreements
LTP	Local Transport Plan (Second Round)
MAC	Managing Agent Contractor
MSSC	Mean Summer SCRIM Coefficient
M4i	Movement for Innovation
NHBVBC	National Highways Best Value Benchmarking Club
NHSS	National Highways Sector Scheme
NIRS	Northern Ireland Roads Service
NRMCS	National Road Maintenance Condition Survey
NRSWA	New Roads and Street Works Act
NSG	National Street Gazetteer

NVQ National Vocational Qualification

ODPM Office of the Deputy Prime Minister

PFI Private Finance Initiative

PPP Public Private Partnership

PROW Public Rights of Way

PSA Public Service Agreement

RAB Resource Accounting and Budgeting

RAUC Roadworks and Utilities Companies

ROWIP Right of Way Improvement Plan

RSG Revenue Support Grant

RUPP Road Used as Public Path

SCANNER Surface Condition Assessment for the National Network of Roads

SCRIM Sideway-force Coefficient Routine Investigation Machine

SE Scottish Executive

SIL System Intervention Level

SNVQ Scottish National Vocational Qualification

SRMCS Scottish Road Maintenance Condition Survey

SUD Sustainable Urban Drainage

TAG Technical Advisors Group

TAMP Transport Asset Management Plan

TfL Transport for London

TRACS Traffic Speed Condition Survey

TRMM Trunk Roads Maintenance Manual (also Routine and Winter Maintenance Code)

TMA Traffic Management Act 2004

TTS TRACS Type Survey (see SCANNER)

UKCIP UK Climate Impact Programme

UKPMS United Kingdom Pavement Management System

WAG	Welsh Assembly Government
WATO	Welsh Association of Technical Officers
WGA	Whole of Government Accounts
4Ps	Public Private Partnership Programme

MAIN DEFINITIONS

Asset Management	A strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of infrastructure, to meet the needs of current and future customers.
Asset Register	An inventory of the highway, including all related elements and furniture.
Authority	All forms of national and local authority having responsibility for road maintenance.
Automatic Pass	The automatic processing of data within UKPMS according to defined Rules and Parameters, without manual intervention.
Backlog	The work needed to arrest deterioration and restore the network to a pre-defined condition, which is then maintained at a steady state.
Benchmark	A parameter of data, process or function used for comparison.
Best Value	Ensuring that services are responsive to the needs of citizens, not the convenience of service providers. Securing continuous improvement having regard to a combination of economy, efficiency and effectiveness.
Carriageway	The part of the highway laid out for use by motor vehicles.
Commuted Sum	Payment made by the provider of highway infrastructure on transfer to an authority to cover future maintenance liabilities and costs.
Complaint	Communication alleging failure to respond adequately to service or information request.
Cycle Route	Collective term for all segregated facilities laid out specifically for cycles.
Footpath	Off road un-surfaced Public Right of Way for pedestrian use.
Footway	Collective term for all segregated facilities laid out for use by pedestrians.
Highway	Collective term for publicly maintained facilities laid out for all types of user, and includes for the purpose of this Code, roads and streets.

Highway Asset Management Plan	A plan for management, preservation and enhancement of the highway asset base to deliver prescribed levels of service and meet the needs of current and future customers.
Highway Improvement Plan	This plan sets out the proposed improvements to the network necessary to meet performance targets, such as safety and congestion, and is set in the overall context of local transport planning requirements.
Highway Maintenance Plan	A plan that sets out the operational requirements to maintain the network and identifies the resource requirements to deliver the maintenance service.
Highway Register	Register of public highways maintained by authorities, mainly for the purpose of Land Charge Searches.
Housing Footway	Unadopted footways, mainly serving housing development, maintained by authorities under other than highway powers.
Investigatory Level	The standard of asset condition below which the need for treatment should be considered.
Maintenance Type	The nature of planned maintenance response, for example reactive, routine or programmed.
Maintenance Category	The nature of maintenance work undertaken, for example, cleansing, patching, resurfacing etc.
Network Management Plan	A plan that sets out how the network should be managed to meet the requirements of the Traffic Management Act and improve co-ordination between stakeholders in delivering works programmes.
Performance Indicator	The measure of performance to be used in exercising a function. Can be categorised in varying levels of importance, for example ‘statutory’ ‘key’, ‘core’, ‘local’ etc.
Pavement	Collective term for all running surfaces.
Resource Accounting and Budgeting	An accounting procedure adopted by central government in 2001 that aims to provide a systematic link between an organisation’s objectives, resources consumed and outcomes delivered.

Public Right of Way	A way over which the public have a right to pass and re-pass. By convention excludes roads normally used by motor vehicles.
Road	See highway.
Rules and Parameters	Common standards applied by UKPMS to derive condition indices and treatments.
Running Surface	Collective term for all hardened surfaces within the highway.
Safety Inspection	Inspections to identify all defects likely to create danger or serious inconvenience to users or the wider community.
Service Inspection	Inspections to identify all defects likely to compromise serviceability.
Service Request	Communication seeking information, inspection or maintenance activity.
Single Capital Pot	Amalgamation of capital funding for authority services, and removal of ring-fencing.
Soft Estate	Highway land, usually behind the verge not surfaced or maintained for use or convenience of vehicular traffic.
Structural Condition Index	A number in the range 0 to 100 which defines the relative condition of the highway. Higher numbers reflect increasing deterioration.
System Intervention Level	The standard of asset condition at which UKPMS automatically applies a treatment.
Transport Asset Management Plan	A plan that is referenced in the second round of Local Transport Plans (see also Highway Asset Management Plan).
Value Management	Management of highway schemes and programmes to optimise added value to the community and ensure value for money is delivered.
Value Engineering	Management of highway schemes and programmes to optimise engineering cost-benefit.
Whole of Government Accounting	A central government initiative to produce a comprehensive set of accounts from 2006/2007 for the whole of the public sector, covering central government and local government

	departments.
Winter Service	Collective term for all specialist winter operations. Also called Winter Maintenance.

Appendix B
Parameters for Defect Definitions

B1 POTENTIALLY DANGEROUS DEFICIENCY

B1.1 Section 9 of this Code defines the purpose of safety inspections as being designed to identify those defects likely to create danger or serious inconvenience to users of the network or the wider community, and therefore requiring immediate or urgent attention.

B1.2 Category 1 defects are defined as those that require prompt attention because they represent an immediate or imminent hazard or because there is a risk of short-term structural deterioration.

B1.3 In England the original BVPI 105 required authorities to record and monitor the '*Total number of reported incidents of dangerous damage to roads and pavements repaired or made safe within 24 hours from the time that the authority first became aware of the damage, as a percentage of such incidents*'. This indicator is now discontinued as a statutory indicator, but it is recommended that authorities continue to monitor performance of response to Category 1 defects as a local performance indicator. Appendix F includes this referenced as SA2.

B1.4 Also in England one of the Highways Agency's (HA) fourteen Area Performance Indicators, API 2, requires the reporting of response to Category 1 defects. The Northern Ireland Roads Service also has a business target of repairing serious surface defects in roads and footways.

B1.5 It will still be necessary however for those undertaking inspections, or responding to reported incidents to judge whether any individual observed or reported defect should be recorded as Category 1 and the consequent urgent action put in hand. Each and every such decision could be critical to the safety of users and may also potentially be subject to legal scrutiny in the event of an accident occurring at or near to the site, and complete and accurate records will be essential.

B1.6 Each authority should therefore provide clear guidance and training to employees in the conduct of safety inspections. This should include a check list of items to be inspected, recognition of the degree of deficiency defining Category 1 defects, and the application of risk management in determining the speed and nature of response appropriate to the site in question. An example of the recommended risk management approach is given in Section 9 of this Code. The use of photographs, both for training and on-site comparison is encouraged.

B2 SUGGESTED ITEMS FOR INSPECTION

B2.1 This following section is a suggested schedule of deficiencies to be identified during safety inspections. It is not exhaustive and is provided as a check list only. It should be modified to suit local circumstances. The term running surface applies to carriageway, footway or cycle route. The schedule is as follows:

- debris, spillage or contamination on running surface or hard shoulder;
- displaced road studs lying on running surface; • overhead wires damaged or unstable;
- damaged and exposed electrical wiring;
- embankments and cuttings apparently unstable;
- trees with loose branches or apparently unstable;
- signs, signals or lighting damaged, defective, missing or unstable;
- road markings and studs missing, misleading or badly worn;
- signs, signals or lighting dirty or obscured;
- sight-lines obscured by trees, unauthorised signs and other obstructions;
- safety fencing, parapet fencing, handrail, and other barriers missing or defective;
- abrupt level differences in the running surface;
- potholes, cracks or gaps in the running surface;
- crowning, depression and rutting in the running surface;
- edge deterioration of the running surface;
- kerbing, edging or channel defects;
- rocking or otherwise unstable footpath or cycleway surfaces;
- apparently slippery running surface;
- ironwork (gully lids, manholes etc) broken or missing;
- gullies, drains or grips blocked or defective;
- standing water, water discharging onto or overflowing across the running surface.

B3 DEFICIENCY AND RISK

B3.1 Whether these defects should be treated as Category 1 in particular circumstances and the nature and speed of response will depend, amongst other things, upon the assessed risk posed by:

- the depth, surface area or other degree of deficiency of the defect or obstruction;
- the volume, characteristics and speed of traffic;

- the location of the defect relative to highway features such as junctions and bends;
- the location of the defect relative to the positioning of users, especially vulnerable users, such as in traffic lanes or wheel tracks;
- the nature of interaction with other defects;
- forecast weather conditions, especially potential for freezing of surface water.

B3.2 The weight given to each of these parameters should be based on risk assessment and should be informed by a risk register. Authorities should develop a risk register for highway safety inspections, generally following a common set of principles, adjusted for local circumstances. The proposed approach is described in Section 9. A similar approach has been adopted by Westminster Council.

B3.3 Some examples of the comprehensive list of investigatory levels for safety defects adopted by Westminster Council are set out in Table B1 below. Where these investigatory levels are not met, the nature and response time of any action is determined by the risk assessment process described in Section 9.

Table B1 – Examples of Defects

Item	Defect	Investigatory Level
Carriageway	pothole/spalling	20mm depth
	crowning	50mm (area as NRSWA Code of Practice)
	depression	50mm (area 2m^2)
	rutting	20mm
	gap/crack	20mm depth (20mm wide)
	sunken ironwork	20mm level difference
Pedestrian Crossing	trip/pothole	15mm depth
Footway	trip/pothole	15mm depth
	rocking slab/block	15mm vertical movement
	open joint	20mm width x 200mm length (min depth 20mm)
	tree root damage	15mm trip
	sunken ironwork	15mm level difference
	defective coal plates/ basement lights etc	15mm trip
Kerbing	dislodged	50mm horizontally
	loose/rocking	15mm vertically
	missing	yes/no
Ironwork	level difference within framework	15mm

B3.4 An example of the risk levels, default standards and responses adopted by Perth and Kinross Council is provided below:

Defects presenting an immediate and critical hazard to road users. Immediate make safe or repair. Such defects will include:

- major debris or spillage;
- critically unstable wires, trees or structures;
- exposed live electrical wiring;
- carriageway collapse or comparable severe surface defect with very high probability of loss of control;
- isolated standing water of a depth and location with very high probability of loss of control;
- missing or seriously defective ironwork with very high probability of injury to user;
- footway or cycleway collapse or comparable severe surface defect with very high probability of injury to user.

Defects presenting an urgent or imminent hazard or risk of rapid structural deterioration. Make safe or repair within 24 hrs. This will be interpreted as the same working day for defects notified before noon and the end of the following working day for later notifications. Such defects will include:

- rapid deterioration in unstable wires, trees and structures;
- seriously damaged or defective traffic signals;
- missing, dirty or obscured Stop or Give Way signs;
- missing, dirty or obscured Stop and Give Way markings;
- missing, dirty, obscured or ‘red light out’ traffic signals;
- missing or seriously defective ironwork;
- missing or seriously damaged safety or pedestrian fencing;
- pothole, trench or other abrupt carriageway level difference exceeding 40mm in all road categories of a size and location likely to cause loss of control;
- edge deterioration with abrupt level difference at carriageway edge exceeding 100mm in all road categories, of a size and location likely to cause loss of control;
- pothole, trench or other abrupt level difference exceeding 20mm in cycleway categories A and B, of a size and location likely to cause injury to users;

- trip or other abrupt level difference in footway or kerb exceeding 20mm in all footway categories, of a size and location likely to cause injury to users, but excluding such level differences between adjoining kerbs;

- gap wider and deeper than 15 mm in all footway categories of a size and location likely to cause injury to users.

Defects presenting a moderate level of hazard or risk of structural deterioration. Repair within 7 days. Such defects will include:

- missing, dirty or obscured warning signs;

- isolated standing water;

- pothole, trench or other abrupt carriageway level difference exceeding 40mm in all road categories in any location;

- edge deterioration with abrupt level difference at carriageway edge exceeding 100mm in all road categories in any location;

- pothole, trench or other abrupt level difference exceeding 20mm in cycleway categories A and B in any location;

- trip or other abrupt level difference in footway or kerb exceeding 20mm in all footway categories in any location, but excluding such level differences between adjoining kerbs;

- gap wider and deeper than 15mm in all footway categories in any location.

B3.5 The Northern Ireland Roads Service has adopted business plan targets for 2004/05:

- to repair or make safe, by the end of the day following the day of detection, at least 90% of serious road surface defects:

    - 50-100 mm deep on heavily trafficked urban roads and footways;

    - over 100 mm deep on all roads and footways (except lightly trafficked rural roads);

- to repair or make safe within 5 working days of detection, at least 90% of defects:

    - between 20 and 50 mm deep on heavily trafficked roads and footways;

    - between 50 and 100 mm deep on all roads and footways except heavily trafficked urban roads and footways and lightly trafficked rural roads;

    - over 100 mm deep on lightly trafficked rural roads.

Appendix C

Highway Risk and Liability Claims Summary of Task Group Report

Addition to Appendix
15 December 2009

Website Amended
27 April 2012

An update to the Highway Risk and Liability Claims was published in June 2009 and can be downloaded from:

http://www.ukroadsliaisongroup.org/en/utilities/document-summary.cfm?docid=3A9E12B3-EC43-4A5C-B7FCF77E38E6DB72

Comment Added
27 May 2011

Section 4.3 of the 2009 version of the Highways Risk and Liability Claims has been updated. The updated Section may be downloaded from:

Website Amended
27 April 2012

http://theihe.org/knowledge-network/uploads/HighwayRiskandLiabilityGuide4.3HighwayInspectorTrainingUpdate%20_Feb2011.pdf

C1 INTRODUCTION

C1.1 This appendix is a short summary of a more comprehensive report by the Roads and Highways Liability Claims Task Group to be published in Autumn 2005. The report, which is backed by extensive web based information and references, is based on the Kindred Associations Guidance on Highway Liability Claims, first published in 1995 and revised in 1998.

Purpose of the Report

C1.2 The report aims to provide local authority engineers, transport planners, landscape architects, elected Members, insurers, risk managers and anyone else with responsibility for providing and maintaining the roads infrastructure, an overview of the current position on highways liability arising from maintenance, including latest philosophy and views on best practice and legislation.

C1.3 The report sets out the ground rules for good practice and prepares the foundation for a national claims trend and performance indicator database. Sharing highway

related claims information will help participating authorities to monitor their performance against others and national trends.

C1.4 All UK highway authorities are encouraged to support the national highways claims initiative which is commended as good practice by this Code.

Using the Report

C1.5 Although the task group has taken every care in the preparation of the report, neither the authors nor their organisations can accept any legal liability for its contents, which do not necessarily reflect the views of the sponsoring organisations. Where possible, this document refers to legislative practice in England, Wales, Scotland and Northern Ireland. Where specific reference is made to case law the implications of the legislation in force must be checked. The information is provided in good faith and on the condition that users will employ their own judgement in implementing any of the examples or suggestions contained in the guide.

Who Produced the Guide?

C1.6 In November 2003 the UK Roads Board formed a sub-group whose task was to provide a best practice document for authorities to assist in their handling of highway liability claims. In parallel, the Institution of Civil Engineers (ICE) tasked a working party of their Municipal Group to investigate similar issues to update earlier work on highways liability undertaken jointly between the CSS and TAG. To avoid duplication of effort and to provide a common approach a decision was made for the two groups to work together. It was also decided that those involved in similar initiatives, the Association of Public Services Excellence (APSE), the Association of British Insurers (ABI) and the Association of Local Authority Risk Managers (ALARM) should also be invited onto the group.

C1.7 Members of the Task Group are recorded in the Acknowledgements at the end of this Code.

C2 BACKGROUND TO HIGHWAY CLAIMS

C2.1 There are around 5 million incidents on the highway each year. Research suggests that around 75% of accidents are caused solely by driver error. The condition of the road is a contributory factor in less that a fifth of accidents. Of these, only a fraction lead to a claim against the highway authority. Around 95% of these claims are thought to be due to maintenance defects, and around 5% due to design defects.

C2.2 Over the past 15 years, highways liability claims have become a major concern. The number of claims received annually by authorities has nearly doubled over the past 10 years, and public liability insurance increased by 40% in just one year 2003/2004. Authorities are thought to spend between £100-£500 million in managing highway liability claims or potentially up to 20% of the total funds spent on local authority highway maintenance. These funds would be better spent on providing a public service.

C2.3 Factors that are increasing claims and the cost of claims include:

- media coverage – e.g. TV documentaries;
- high profile advertising, featuring media personalities;
- growth of no-win-no-fee companies;
- conditional fee arrangements (legal aid resources have not been transferred);
- open government and the Freedom of Information Act;
- new types of claim being made – e.g. loss of face;
- maintenance backlog on local roads and footways leading to more successful claims being made;
- changing public expectation on the level of awards being made;
- fraudulent claims;
- court costs in general have increased far more rapidly than the general rate of inflation.

C3 AN INTRODUCTION TO THE LAW ON HIGHWAY LIABILITY

Duties, Powers and Responsibilities

C3.1 The law on highways has its roots in the Saxon era and possibly earlier. A substantial body of common law has built up over this period. One High Court judge was moved to remark that 'Highways Law is a complex and artificial body of knowledge through which commonsense is not always a sure guide.'

Statutory Duties

C3.2 The highway authority is under a duty to:

- maintain the highway - the courts have interpreted 'maintain' as 'repair', and the 'highway' as the 'fabric of the highway';
- remove snow and ice and also 'to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow and ice' (Railways and Transport Safety Act 2003);
- secure the 'expeditious' movement of traffic (in England);
- improve road safety – this is a general duty and cannot be used in a private action by an individual.

These duties are balanced by responsibilities of road users to take the road as they find it.

Statutory Powers

C3.3 An authority may be liable for the consequences of exercising a statutory power,

but it is rare that any liability will arise from a decision not to exercise a statutory power.

Other Areas of Relevant Law and Potential Liability

C3.4 Other areas of relevant law and potential liability include:

- Common Law Duty of Care (www.swarb.co.uk) - a duty of care may exceptionally be established where a local authority has failed to exercise a statutory power (see Stovin v Wise);

- occupier's liability - on sites where a contractor has exclusive possession, lane rental, or where a contractor closes off a footway, there is potential for occupiers' liability;

- corporate manslaughter (www.cps.gov.uk) - may be proven where 'a corporation, through the controlling mind of one of its agents, commits an act which fulfils the prerequisites of the crime of manslaughter'. Currently a single individual has to be identified as the controlling mind for a charge of corporate killing to be brought. In consequence, larger organisations have been virtually immune from prosecution. However, this situation is liable to change. The Government is committed to widen liability for corporate manslaughter, and are committed to bringing forward legislation.

Website Amended
27 April 2012

- Article 8 Human Rights Act 1998 (http://www.legislation.gov.uk/) – right to respect for private and family life. This is a new area where there has been little litigation on which to draw conclusions.

Proving Reasonableness

C3.5 The authority or its agent will need to demonstrate that its actions or decisions were reasonable. Examples include:

- inspection or repair policies were in accordance with national guidelines, or were based on rational consideration of local circumstances;

- judgement was made by an adequately trained and qualified individual.

C3.6 There will need to be robust evidence, or an audit trail that can convince a court that a decision or an action took place at the time and in the manner in which the authority claim. Examples include:

- minutes of policy decisions, and the steps by which the decision was taken, and the reasons;

- records of condition e.g. the state of the highway, trees, furniture;

- records of decisions not to act over a marginal defect – these can be important if a claimant subsequently makes a claim;

- records of actions – when the repair took place etc.

If an authority is unable to provide sufficiently strong evidence, its defence will be impaired.

Statute of Limitations

C3.7 A claimant must make the claim:

- in the case of injuries – within three years from the date of the accident, from being first aware of the injury, from reaching the age of 18, or the date of competency;

- in the case of damage - within six years.

Statutory Defence – Condition of the Highway

C3.8 By virtue of Section 58 of the Highways Act 1980 (England and Wales) or Section 1 of the Roads Scotland Act 1984, if an authority can prove that it had in place adequate policies and procedures to maintain the highway, and the policies and procedures were being performed, and there was no prior knowledge of 'the defect' before the incident date, a claim can be repudiated.

C3.9 In defending an action, the authority will need to establish that it has acted reasonably, by the production of adequate documentation and evidence:

- policies and standards: conformity with standards recommended by this Code of Practice and other national standards can be used as evidence of reasonable actions. Local authorities which wish to depart from the Code should formally record the deliberation process over the departure. Authorities should publish the standards they are working to (see above);

- a robust inspection and recording system to demonstrate that the policies have been carried out will require a robust system, operated by appropriately trained and qualified inspectors.

Examples of Main Causes of Highway Liability Claims

C3.10 This section is based on current case law. It lists potential outcomes. For definitive information, readers should consult the source judgements, and where appropriate take legal advice. The authority must cater for the 'normal run of drivers' (Rider v Rider). Drivers have responsibilities also. The 'overriding imperative is that those who drive on the public highways do so in a manner and at a speed which is safe having regard to such matters as the nature of the road, the weather conditions and the traffic conditions. Drivers are first and foremost themselves responsible for their own safety' (Lord Scott at paragraph 76, (Gorringe v Calderdale).

Table C1 – Main Causes of Claims		
Cause	**Potential Consequences**	**How an authority could become liable**
Trips/Rocking Slabs	Damage to clothing, sprained ankles, broken wrists, arms. In rare cases death can result. In an elderly person complications can be serious.	Inadequate frequency of inspection. Inappropriate intervention level bearing in mind potential danger. Inaction.
Potholes	Damage to tyres, wheels, tracking, suspension. Rarely loss of control, and serious or fatal injury. Risk to cyclists or motorcyclists is potentially higher than to vehicle users.	Risk also applies to pedestrians walking in or crossing the road. Inadequate frequency of inspection. Inappropriate intervention level bearing in mind potential danger and use. Inaction.
Poor surface friction	Skidding, serious injuries or fatalities owing to extreme deceleration from high speeds or crushing owing to sideways impact.	Failure to act in the face of history of accidents. Inadequate frequency of inspection. Inappropriate intervention level.
Aquaplaning	Aquaplaning occurs at speeds above 40 mph. Serious injuries or fatalities owing to extreme deceleration from high speeds or crushing owing to sideways impact.	Failure to act in the face of knowledge about drainage problems. Responsibility will be apportioned by courts – e.g. motorist going too fast for conditions, or having worn tyres.

Table C2 – Less Frequent Causes of Highway Liability Claims		
Cause	**Potential Consequences**	**How an authority could become liable**
Unsigned sharp bend	Skidding off bend. Serious injuries or fatalities owing to high speeds, potential for crush injuries owing to sideways impact, e.g. with tree or street furniture.	Vast majority of bends are obvious. Driver holds responsibility.
Unexpected hazard in a road, e.g. debris, plant materials		Liability depends on frequency of inspection, and promptness of action once danger reported. Motorist shares responsibility for keeping lookout for obstructions.
Obliterated markings at road junction	Serious injuries or fatalities owing to high speeds, potential for crush injuries owing to sideways impact.	Potential for motorist to be entrapped into danger which could lead to the authority being held partly responsible.
Worn out sign warning of obvious hazard		Gorringe ruling – implies authority is not liable where the danger is obvious.
Defect in design – motorist entrapped into danger		Motorist bears responsibility for own safety. Courts will apportion responsibility. Claimant will have to establish that they were entrapped into danger.

Liability Claims Associated with Highway Trees

C3.11 There are three issues of liability associated with highway trees:

- damage to buildings arising from subsidence linked to trees and tree-roots;
- damage or injury caused by falling trees and branches;
- damage or injury caused by tree root damage to highway surfaces.

C3.12 This report does not seek to provide guidance on either of these areas. Extensive information on the management of risk of damage to structures from highway trees was contained in 'Highways Liability Claims – The Issues' first published in 1997. The focus was on damage to property from tree roots. This information is available on the web but has not been updated. The report did not cover risks imposed to people or property from falling trees or branches, though this is recognised as an issue of some concern.

C3.13 Risks from falling trees and branches is a difficult and uncharted area. Trees are obviously of considerable value to both urban and rural environments. A risk avoidance strategy of felling any tree in the vicinity of a highway or Public Right of Way would be a nonsense. Issues that authorities need to be aware of include:

- potential liability from damage caused by dangerous trees on private land next to the highway, and whether highways tree inspections should attempt to identify such trees and then notify the owners;
- stress placed on trees by drought, tree-root damage from cable laying or new diseases such as 'Sudden Oak Death'.

C3.14 Further information on management of the risks associated with trees within and adjoining the highway is provided in Sections 9 and 10 of this Code.

C4 CLAIMS MANAGEMENT RECOMMENDATIONS FOR HIGHWAYS RISK AND AUTHORITIES

Linking with Wider Policies

C4.1 The primary responsibilities of an authority include:

- to provide a public service;
- to protect the individual citizen; and in so doing
- to use the authority's resources efficiently, guarding against fraudulent and unreasonable claims.

C4.2 The highways service should be considered in the wider context, including the objectives identified in the Local Community Plan, and the power to promote or improve economic, social or environmental well-being. It would be counter productive if the authority introduced policies or practices which, while minimising

claims payments, led to a worsening of the overall service it provided to the community.

C4.3 If an authority has established and followed reasonable policies for highway maintenance and management, then it can expect to be able to defend itself against actions for highways liability claims, as well as being satisfied that it is serving the wider interests of its community. Following such policies may in the longer term provide a defence against claims of corporate manslaughter.

Establishing Reasonable Policies, Practices and Expenditure Levels

C4.4 Authorities should aim to maximise the value to society of public expenditure on highways in terms of cost, social welfare and sustainability:

- establish highways maintenance policies, processes and funding levels that maximise value of the highways asset to society;
- use a risk assessment and management approach in establishing the policies and expenditure priorities;
- identify areas offering greatest return;
- allocate expenditure accordingly.

C4.5 Issues to consider in establishing reasonableness include:

- best practice guidance – including this report;
- inter-generational equity – authorities should not permit their network to deteriorate and in so doing transfer maintenance costs on to future generations or administrations. Over recent decades there has been a systematic under-spend on road maintenance which has resulted in the present generation inheriting a highways maintenance backlog measured in £billions;
- comparable marginal social rate of return on public expenditure – the authority should spend a sufficient amount on highways maintenance such that the community obtains a return that compares with other areas of authority expenditure. This may include equivalence in predicted rates of risk to the public. The advent of corporate manslaughter legislation may make this an important consideration: it might be difficult to defend a case where an authority decided to under-fund highways maintenance, in the face of evidence that higher levels of funding were fully justified and represented a beneficial use of public funds in comparison with other areas of expenditure;
- basis of decisions on principle, rather than short term or local political expediency;
- Resource Accounting and Budgeting;
- Whole Government Accounting;
- extent of public consultation undertaken in determining policies;

- public expectations and information provided to the public about the safe use of the highway.

Protecting the Authority against Fraud and Exaggerated Claims

C4.6 Fraud arises by individuals or companies making claims that are:

- exaggerated;
- not in the circumstances alleged;
- fictitious.

Surveys suggest that 1 in 7 individuals have no qualms about making fraudulent insurance claims, and that 55% of claims are opportunistic and exaggerated. Authorities owe a duty to the community to protect public funds from fraudulent claimants, and should establish systems that can identify and resist fraudulent claims.

Managing Fraudulent Claims

C4.7 Authorities should ensure there are robust systems to establish statutory defence (inspection, recording, training etc).

C4.8 Authorities should provide public information on:

- how to report defects;
- how to report fraudulent claimants;
- successful convictions of fraudulent claimants, publicising this through the local media.

C4.9 Authorities should encourage pro-active claims handling by interviewing claimants, preferably at the accident location, and reviewing contemporary records and reports.

C4.10 Authorities should share data to enable cross referencing of claims and claimants. For highway trip claims the availability of good computer records allows cross-referencing by claimants and witnesses to see if there is any common feature that might cause a suspicion of fraud. In the past it has often been too easy for a claimant to find a pavement defect and then construct a highways liability claim around it.

C4.11 Authorities should share information outside the authority to enable cross referencing:

- with other authorities;
- with other insurance organisations.

Policies on Inspection, Repair and Maintenance

C4.12 Authorities should adopt policies on inspection, frequencies, intervention levels and response times that are consistent with:

- this Code;
- a rational consideration of local needs and circumstances;
- a risk management approach.

C4.13 Policies should be decided on using the authority's standard decision making processes, and be openly adopted.

Inspection and Maintenance Systems

C4.14 Authorities should introduce an auditable highway inspection and maintenance system that:

- meets criteria of reasonableness (refer to this Code);
- comprehensively identifies risk on the highway and utilises all publicly available information on highways risk;
- includes reports from the public;
- reports on accidents e.g. from police, and potentially hospitals, and insurance companies;
- records claims;
- provides robust evidence for use in court;
- presents management information in a form that can be used to improve the management of the highways network, identifying areas in need of action, and assisting in prioritisation of expenditure.

Claims Recording Systems

C4.15 Authorities should adopt an auditable, standardised claims processing and recording system which:

- guards against fraud;
- provides robust evidence for use in court;
- allows monitoring and analysis of claims patterns and trends.

Active Analysis and Use of Information

C4.16 Authorities should ensure the system is capable of being analysed and can produce useful information to help management of the highway. The system should be able to provide answers to the following questions:

- what are the current trends in claims numbers?
- what are the trends in payments?
- what are the most common types of incident?
- are there hot spots or clusters where incidents keep occurring?
- is there any link with the condition of the road or a type of surfacing or a highways feature?
- has a claimant made a previous claim?
- easy breakdown of data by the cause of the claim, the size of claim, the site of claim.

C4.17 Authorities should link to the national highways liability claims survey and record information in a way that is compatible with the recommended system. This will help to provide robust data against which an individual authority may compare their local claims rates with national trends and identify problems or areas for improvement.

C4.18 Authorities should act on the information contained in the system and:

- target high claims areas for maintenance and increased inspection frequencies, and if necessary, maintenance;
- once a decision is taken to carry out works, do so expeditiously;
- share the information with others – see below;
- failure to act may expose the local authority to liability.

Highway Incident and Claims Recording

C4.19 Authorities should adopt policies and systems for handling claims that:

- institute a quick and efficient system for handling complaints and providing appropriate redress, without recourse to law;
- authorities should offer an alternative dispute resolution procedure as standard, to individuals wishing to pursue highway liability claims;
- ensure an audit trail is kept, including notes of telephone conversations, with corroborative evidence;
- arrange a site visit with every claimant if possible;
- allow authority staff to negotiate the settlement of claims below £500 in value. Small claims can be expensive to administer;
- identify potentially large claims which should be reported to senior staff at the earliest opportunity.

Local and National Information Sharing

C4.20 Authorities should adopt a standardised claim form and computer based format for recording the minimum claims data requirements, to establish a national highway claims survey and monitoring system.

C4.21 Authorities should share information with other authorities, to enable comparison and assessment of risks.

C4.22 In the longer term, authorities' systems should link to police accident reporting systems, hospital accident records and insurance company accident records to establish full picture of risk on the network.

Training

C4.23 Authorities should ensure staff are adequately trained and appropriately qualified to perform their tasks, sufficient to satisfy a court of law. For example, all staff carrying out safety inspections or processing claims should undergo training, such as the City and Guilds, NVQ or other recognised in-house or commercially available scheme. Appropriate examples can be provided by ICE, APSE or one of the other organisations which contributed to the Task Group report.

Keeping Records

C4.24 Authorities should ensure that regularly updated printouts of computer based records are kept in the office. It is suggested that these are kept for at least 6 years.

Public Information

C4.25 Authorities should publicise successful prosecutions against fraudulent claimants. They should consider producing a leaflet setting out people's rights in terms of the use of the highway and a leaflet for claimants setting out highway related claims procedures, a highway authority's statutory duties, standard defence and explanation of the claims process.

Longer-Term Recommendations

C4.26 The following actions are recommended for the longer term:

- a national database should be established for highway incidents, and to obtain data on non-injury accidents to enable identification of problem sites and sections of highways;
- authorities should offer an alternative dispute resolution procedure as standard, to individuals wishing to pursue highway liability claims;
- authorities should standardise their recording and reporting arrangements. The system used in Wales could be considered;
- a national database on highways claims should be considered;

- continuing research should be undertaken into the causes of highway incidents, and how to avoid them. The research should be used to provide evidence based standards and practices that are regularly updated as technologies and patterns of highway use change.

Appendix D
United Kingdom Pavement Management System

D1 WHAT IS UKPMS?

D1.1 The United Kingdom Pavement Management System (UKPMS) is the national standard for management systems for the assessment of local road network conditions and for the planning of investment and maintenance on paved areas of roads, kerbs, footways and cycle routes on local roads within the UK. Systems that have been fully accredited to the UKPMS standard have successfully demonstrated a wide range of highway maintenance management functionality, including:

- location and referencing of highways, including footways and cycle routes;
- recording of an inventory of maintainable assets within the highway;
- recording of condition data collected from various visual and machine surveys and allowing different survey types to be processed together;
- projection of future condition based on historic deterioration, and on engineering models of deterioration for given construction types and pavement life profiles;
- selection of options and requirements for remedial works;
- costing of potential works;
- management of budgets;
- analysis of budgetary and maintenance needs for highway networks;
- prioritisation of potential works on a condition basis;
- prioritisation of potential schemes of work using econometric principles.

D1.2 As of April 2005, the following five commercially available pavement management systems are fully UKPMS accredited.

Table D1 – Accredited UKPMS Systems	
Developer	**System**
Exor	Highways
FaberMaunsell	MARCHpms
Southbank Systems	Confirm
Symology	Insight
WDM	WDMpms

Website Amended
27 April 2012

D1.3 More detail about UKPMS can be found on the UKPMS website at (http://www.pcis.org.uk/index.php?p=25/42/0).

D1.4 In addition to the core UKPMS-functionality described above, each of the five UKPMS accredited pavement management systems offers additional functionality or is designed to meet the particular needs of a specific type of user. Authorities are therefore recommended to select a system that closest matches their own particular needs. The UKPMS approach gives users confidence by guaranteeing that whichever system is chosen will fully meet the core UKPMS functionality.

D1.5 The primary use of UKPMS is to assist authorities in the planning of structural maintenance on the local road network through the systematic collection and analysis of condition data. This is recommended as good practice and is a vital component of an effective asset management regime. UKPMS supports local authorities' current asset management objectives by providing facilities to:

- identify lengths of paved asset in need of maintenance, including treatment options and costs;
- prioritise maintenance schemes to give best value for money;
- identify network trends;
- appraise options at a scheme and budget level;
- process data over nominated scheme lengths;
- develop forward work programmes;
- predicting future budget need;
- define local indicators related to condition and performance of roads and footways.

D1.6 There are many examples of authorities that make full use of UKPMS to support the management of their highway assets. Specific examples of current best practice can be found from the UKPMS Support Contractor by e-mailing

(support@ukpms.com).

D1.7 The other area where UKPMS plays a vital part is in supporting the best value regime. Because the UKPMS approach ensures consistency between the different pavement management systems operated by different local authorities, the DfT made it a requirement for UKPMS to be used for the production of Best Value Performance Indicators relating to the condition of local roads and footways.

Current UKPMS Developments

D1.8 In addition to providing general support to UKPMS users and developers, the UKPMS Support Contractor is currently undertaking a programme of development tasks to enhance both the functionality and management of UKPMS. This includes:

- developing functionality related to condition projection and economic prioritisation to ensure that UKPMS is able to support asset management;
- producing a new definitive UKPMS User Manual to provide users with a single reference document and to enable them to get full value from their pavement management systems;
- an Annual Health Check to ensure ongoing comparability of UKPMS accredited systems. The Annual Health Check provides ongoing routine assurance that UKPMS systems continue to meet UKPMS requirements including the current rule set and BVPI definitions and will supplement rather than replace the UKPMS Comparability Tests;
- ensuring that UKPMS is ready to load and process data collected by the new SCANNER surveys;
- ensuring that UKPMS can provide information about asset condition to support Asset Valuation.

D1.9 The ongoing development programme is under the auspices of the UK Roads Board and overseen by the UKPMS Steering Group which represents the interests of local authority users, system suppliers, survey contractors and the DfT.

D2 STRATEGY FOR THE FUTURE OF UKPMS

D2.1 The specification for UKPMS dates back to the early 1990s. It is timely to review the role of UKPMS and the strategic direction that future development and implementation should take. A UKPMS Strategic Development Study has just been completed, its objectives were to recommend:

- the approach, procedures and systems by which paved areas of highways should be managed nationally and by local authorities in the year 2010 and beyond;
- the steps required, and by whom they should be undertaken to move from the present position of managing paved areas to that recommended;
- the likely cost of moving towards the recommended approach.

D2.2 The study investigated the ways in which the current approach to managing pavements using UKPMS could be improved to obtain the benefits for which UKPMS was originally developed, to improve the quality of decision-making, and to provide systems that are more robust, easy-to-use and which enable change to be managed easily and in a controlled way. Operations at both the national and local levels were investigated and, in particular, the following options considered:

- UKPMS to continue to be a tool used primarily at local level for the following purposes:
    - producing performance indicators and other statistics to be used nationally for monitoring, budget award, or other purposes;
    - assisting with the local management of paved areas, including assistance with treatment selection, prioritisation, production of trend information, and to support the move towards asset management and asset valuation;
- pavement management systems to be used separately at national and local level:
    - a ‘national’ system would be run centrally, using high-level input data provided locally, to produce performance indicators and other national statistics for monitoring, budget award, or other purposes;
    - local authorities would use systems to meet more closely their own defined purposes, which could be existing UKPMS systems or other suppliers’ systems with similar aims, including carrying out pavement management as part of a broader approach to highway asset management.

D2.3 The study investigated the ways in which the current approach to managing pavements using UKPMS could be improved to obtain the benefits for which UKPMS was originally developed, to improve the quality of decision-making, and to provide systems that are more robust, easy-to-use and which enable change to be managed.

D2.4 Recognising that the basic system design of UKPMS was produced over ten years ago, the study team also reviewed whether a fundamental update of the system is necessary to reflect more closely present needs and technology.

D2.5 The study team also identified the steps required to move from the current position to that recommended. Risks were identified, and the steps designed to minimise these. Responsibilities for action were also identified.

D2.6 The study team also provided cost estimates for each of the options and identified, as far as practicable, the likely financial benefits and implications for each. Other benefits and implications of the options were also identified.

D2.7 The findings have been documented in a report to be presented to the UK Roads Board and the UK Roads Liaison Group. A final decision on the chosen strategy as of July 2005 is in the process of evaluation with a final decision expected in September 2005.

Appendix E
Pavement Condition Assessment Regimes

E1 PRACTICE IN PAVEMENT CONDITION ASSESSMENT

E1.1 Since the last edition of the Code, there have been considerable developments in the type, cost and availability of the surveys and techniques available to authorities for the assessment of pavement condition. This appendix outlines a framework within which a highway authority can apply assessment techniques to meet particular local needs and capabilities. Three examples of optional assessment regimes are then given to illustrate the application of the framework.

E1.2 The UK Roads Board has instituted a process of developing automated road condition surveys to replace visual surveys, initially for the purposes of reporting BVPI, with the intention of replacing visual surveys in NRMCS and of supporting local maintenance management strategies. As part of this development the UK Roads Board has instituted an extensive programme of research and development to extend the capabilities of automated road conditions surveys and to make them more relevant on minor local roads.

E1.3 In Scotland, where trend condition data from NRMCS was not available, all 32 authorities took the decision in 2002, to form a consortium to carry out an automated annual machine based condition survey (SRMCS) of all of the road network, in the belief that this offered significant long term benefits of objectivity and reproducibility compared with CVI and other visual surveys. The information and experience gained from these surveys has been made available to the UK Roads Board and DfT, with the aim of developing a standard survey methodology and condition index which will be applicable throughout the UK.

E1.4 In specifying a condition assessment regime, and in making a case for instituting a particular survey or assessment, it is important to note that data are not usually collected only to support a single information need. Opportunities should be taken to gain maximum value from the data by utilising it in a number of ways.

E1.5 The new automated road condition surveys have been developed from the Highways Agency's TRAffic-speed Condition Surveys (TRACS), initially under the name TRACS Type Surveys (TTS) and from April 2005 as SCANNER (Surface Condition Assessment for the National NEtwork of Roads) Surveys. TTS was the only acceptable method for reporting BVPI 96, the condition of principal roads in 2004/05. SCANNER will be the only acceptable method for reporting BVPI 223, the condition of principal roads, and BVPI 224a, the condition of other classified roads in 2005/06. It is intended that SCANNER will become the only acceptable method for reporting BVPI 224b, the condition of unclassified roads in 2007/08. The extent of surveys required for BVPI purposes will be specified and may change from year to year.

E1.6 In Scotland, the TTS surveys, which were introduced on principal roads in 2002/03 together with sample surveys on other roads, were extended from 2003/04 to cover all categories on an annual basis. The information collected has been used to compute a road condition performance indicator for each road class and for the network as a whole. This reflects the proportion of the network which requires further investigation in terms of maintenance need, having breached the investigatory threshold of at least one of the defined parameters. At present these include rutting, texture depth and longitudinal profile. While cracking information is collected, this is not yet included within the statutory PI.

E1.7 In order to facilitate the interpretation of the results, the information has also been represented graphically using a 'traffic light system' of red, amber and green. Red being the areas where maintenance was most likely to be required, having breached the threshold at the upper level, amber where the investigatory levels had been breached at the lower level and green where the condition was deemed to be satisfactory.

E1.8 The SRMCS data has also been used by local authorities to prioritise maintenance need and to allocate budgets. This use of the survey information was endorsed by Audit Scotland in their report on highway maintenance in 2004, as a means of developing a more systematic approach to road maintenance, linked to the implementation of highway asset management plans.

E1.9 In Northern Ireland Deflectograph and SCRIM remain the primary tools for identifying pavement condition at the network level on motorway, trunk and non-trunk 'A' class roads. Other roads are surveyed using a CVI. Condition information from Deflectograph and CVI is used to determine depreciation of the network as part of the calculation of the asset value. Roads Service plans to introduce SCANNER type surveys on its principal and sub-principal road network at the earliest opportunity.

E1.10 In Wales Deflectograph is used for principal roads to determine the Programme for Improvement PIs. CVIs are still used for the non-principal network. It is the intention to introduce SCANNER surveys in Wales as soon as practical.

E1.11 Condition assessment can support, but need not be limited to, the following activities:

At Scheme or Project Level:

- to inform decisions on what, where and how to treat defects;
- to develop options for scheme designs and subsequent detailed designs;
- to provide an audit on the decisions taken by maintenance engineers in the choice, timing and priority of treatments;
- to target more detailed assessments;
- to determine whether treatments and reinstatements have been carried out to an appropriate standard;

- to identify locations where functional or safety-related pavement characteristics do not meet a defined local or national standard (such as skid resistance, ride quality).

At Authority Network Level:

- to provide a network level performance indicator such as BVPI in England;
- to determine an appropriate level of budget for maintenance within an authority to meet the levels of service as part of the HAMP;
- to determine physical characteristics of road pavements;
- to develop and monitor local performance indicators as part of the HAMP;
- to support the production of forward programmes of work as part of the HAMP;
- to enable sub-authority benchmarking (e.g. between agents or areas).

At Regional, National and International Level

- to monitor condition of the national road network such as SRMCS/NRMCS;
- to assess maintenance need at the national level such as determination of backlog;
- to assess functional performance of the national road network;
- to support inter-authority comparison;
- to determine funding at national level;
- to support international benchmarking;
- to support highway condition and maintenance-related research and development.

E1.12 The first step in determining the data requirements and the associated survey requirements is to review the information needs for each part of the network, in particular to determine how they vary by feature (carriageway, footway and cycle route etc) by environment and by road class, or by levels within the hierarchy.

E1.13 In practice, however, a number of additional considerations come into play when determining the regime:

- availability of funding within the authority for assessment purposes;
- physical constraints (for example, the geometry on parts of the road network, particularly the unclassified network may make the use of certain machine surveys impractical);
- pavement construction (for example, Deflectograph surveys are of very limited value on rigid construction pavements);

- availability of resources and machinery, at the appropriate time to undertake surveys and to process data.

E1.14 The timing of surveys and techniques may be constrained by weather and seasonal factors. SCRIM surveys are generally intended to be carried out between May and September. Outside these months the results may not be representative.

E1.15 Deflectograph surveys are limited by temperature and usually operate between March – mid June and mid September – end November for Category 1 surveys.

E1.16 SCANNER surveys have no temperature limits but are restricted by wet road surfaces and therefore lower productivity should be assumed in the winter months.

E1.17 When the information needs have been established for each part of the network under consideration, and constraints on the application of surveys identified, then the required assessment regime can be defined.

E1.18 With the introduction of SCANNER surveys, authorities should give consideration to maximising the potential of the range of data that will be generated from these surveys, which may be used in combination with tools such as GIS to provide detailed information related to the serviceability of the pavement.

E1.19 In Scotland, pavement condition has been assessed against a set of investigatory levels developed for SRMCS but based on those in the DMRB.

Table E1 –SRMCS Investigatory levels

Parameter	Amber Threshold	Red Threshold	Applicable Road Class
Rut Depth	11mm	20mm	All roads
Longitudinal profile 3m Variance	4mm	10mm	‘A’ and ‘B’ roads
	7mm	17mm	Urban ‘C’ and U/c roads
	15mm	25mm	Rural ‘C’ and U/c roads
Texture	0.6mm		
Cracking	0.5%	2%	All roads

Note: cracking information not yet incorporated within the reported statutory performance indicator in Scotland.

E1.20 While the appropriateness of the above investigatory levels to the Scottish network was verified by site inspections undertaken on sample sections of road, it is recognised that these will require to be reviewed in the light of experience. However, one of the criteria established at the outset of the SRMCS was that the data should be backward compatible, allowing the PI to be recalculated should the component parts or the threshold values be altered over time.

E2 MINIMUM SURVEY REGIME

E2.1 The minimum survey regime may vary between England and the Devolved Administrations.

E2.2 In England it is suggested that the starting point should be the 'minimum' regime that will support requirements for BVPI and provide for participation in the NRMCS. The following should be noted in preparation of the minimum survey regime:

- the requirements for BVPI reporting are likely to change from year to year;
- inventory data is not required;
- full cross-section position recording is only for SCANNER, to record rut, transverse and longitudinal profile, texture and cracking;
- DVI surveys required for Category 1(a), 1 and 2 footways at a level of 50% per year.

E2.3 In Scotland under SRMCS, the initial annual survey objectives are set as:

- 100% of A roads (in one direction);
- 50% of B & C roads;
- 25% of unclassified roads.

E2.4 In practice however, owing to the low levels of productivity achieved on unclassified roads, particularly urban residential cul-de-sacs, the proportion of the unclassified network surveyed was closer to 15% in 03/04 and 04/05. This is however in excess of the sample size currently used for NRMCS, and while not strictly a random sample, was considered to provide reliable statistical information on the condition of both the urban and rural unclassified networks within each authority.

E2.5 CVI will gradually be replaced by SCANNER as machine surveys are rolled out across the whole network. The intention is that:

- principal roads will be surveyed 100% in both directions over a two-year period;
- B roads will be surveyed 100% in one direction each year giving data in both directions no more than two years old;
- C roads will be surveyed at 50% in one direction each year giving 100% coverage in one direction with data no more than two years old;
- for 2005/6 the C roads will be limited to 10% or 50kms which ever is the greater. This is to both obtain a statistical sample and assist the survey contractors;
- unclassified roads, present indications are that machine surveys will commence in 2007/8.

E3 ENHANCED SURVEY REGIME

E3.1 Authorities, including those of the Devolved Administrations, may establish data requirements, over and above this minimum regime to support their own maintenance and management of the local road network. At this stage, the focus is on network level functionality consistent with surveys that are supported by UKPMS. Use of the variety of survey techniques supported by UKPMS will enable a fuller assessment of the pavement condition to be made. This will enable budgetary need and preliminary treatment options to be prepared for more detailed consideration by maintenance engineers. It will also be the first step to preparing a programme of maintenance needs as part of the HAMP.

E3.2 The following should be noted in preparation of the enhanced survey regime:

- the requirements for BVPI reporting are likely to change from year to year;
- inventory data is collected to provide more accurate calculation of areas, rating of defects and derivation of cost estimates;
- CVI surveys or other visual surveys may be chosen to provide additional information on the local road network. In the case of principal road carriageways, this is in addition to the TTS survey. Authorities may choose to do this as a means of maintaining consistency with the view to developing deterioration relationships;
- guidelines for SCRIM surveys are now complicated with the introduction of the single annual survey. Reference should be made to Section 9.

E3.3 This enhanced regime better supports the following activities at a local level:

- consequences of historic funding and policies are monitored by tracking changes in network condition;
- once treatments have been formulated, priorities are established on a condition and economic basis, after which the value management process may be used to rank schemes for the purpose of prioritisation;
- maintenance management plans aimed at reducing accidents.

E4 FURTHER ENHANCED SURVEY REGIME TO SUPPORT SCHEME LEVEL

E4.1 An enhanced survey regime may be adopted at a scheme or project level to determine more accurately the cause of deterioration. Funds invested in the enhanced regime may provide a more accurate assessment of the pavement for determining options for treatment, thus potentially providing value for money, when compared to the previous two regimes. Such a regime would also provide more support towards a HAMP. Authorities must consider the potential benefits of this enhanced regime on a scheme-by-scheme basis.

E4.2 Although not mandatory in England, Deflectograph surveys to assess the structural condition of the highway are still recommended by CSS for the principal road network and specific roads highlighted by SCANNER. The reasoning for the surveys is outlined in Section 9, together with the need for other survey tools, FWD, GPR, coring and trial pitting to provide useful data to refine the design.

E4.3 Note that scheme level surveys only collect data required over and above the network level data previously collected.

E4.4 This regime is designed to support the detailed assessment of treatment options at a scheme level. Condition data together with economic projection may be used as part of a value management process to justify programmes included in the HAMP, which will ultimately substantiate bids for funding of maintenance schemes. It will also allow future audit of treatment decisions.

Appendix F
A Framework for Performance Indicators

F1 INTRODUCTION

F1.1 This appendix sets out recommended performance indicators for local authority highway maintenance services. It combines relevant statutory indicators, supplemented by suggested local indicators, to provide a recommended minimum framework of measures, against which the performance of the service should be judged.

F1.2 The suggested framework takes into account work by CSS on performance improvement, together with experience of the various benchmarking groups in England, Scotland, Wales and Northern Ireland. The statutory indicators quoted are for England, as these provide a wider base on which to build supplementary local indicators, but the framework should be relatively easy to transpose for all parts of the UK.

F1.3 The recommended performance indicators, other than the statutory indicators, are not mandatory on authorities. Local circumstances may require authorities to adopt modified or new indicators. Some consistency is however important for continuously improving comparison.

F1.4 Some of the original indicators from the 2001 edition of the Code have been retained, possibly with a change of reference number and a number of new ones added in the light of experience.

F2 INDICATORS FOR ASSET MANAGEMENT

F2.1 Section 11 describes how performance measures for highway maintenance should integrate with a wider performance framework for asset management, including the operational and improvement aspects. It redefined the core objectives, including a new objective of customer service as:

- customer service;
- network safety;
- network serviceability;
- network sustainability.

F2.2 Table 7 in Section 11 defines the contribution of the different service aspects as:

- Prime – making a major contribution to the objective and performance management-essential;

- Main Support - making a significant contribution to the objective and performance measurement-desirable;
- Support – making a moderate contribution to the objective and performance measurement-useful;
- Contributor – making some contribution but performance measurement-unlikely to be productive.

F2.3 Table F1 is taken as the starting point for the performance indicator framework for highway maintenance. Where highway maintenance is a 'prime' contributor to an objective, it is crucial to provide an indicator of performance. Conversely, where highway maintenance is merely a 'contributor', a performance indicator is of limited use.

F3 INDICATORS FOR HIGHWAY MAINTENANCE

F3.1 Table F1 sets out a recommended framework of indicators relevant to each of the core objectives. For convenience, the colour coding is the same as that used for the tables in Section 11. Where the highway maintenance contribution is **prime** the indicator is in red, where highway maintenance is a **main support function** the indicator is in blue. The support and contributor categories are in black.

Table F1 – Performance Indicators

OBJECTIVE	Ref.	PERFORMANCE MEASURE Short Description	COMMENT
Customer Service			
Delivering satisfaction	CS1	• % net satisfaction with service	Recommended local indicator
Providing effective consultation and information	CS2	• % net satisfaction with consultation and information	Recommended local indicator
Providing efficient enquiry and complaints management	CS3	• % service requests, complaints and claims 'closed out' within policy timescales	Recommended local indicator
Safety			
Complying with statutory obligations	SA1	• % safety inspections completed on time	Recommended local indicator
	SA2	• % Category 1 defects repaired on time	Recommended local indicator
Meeting users needs for safety	SA3	• % principal roads SCRIM surveyed in current year at or below investigatory level	Recommended local indicator
	SA4	• % third party claims repudiation rate over three years	Recommended local indicator

Continued

Table F1 – Performance Indicators continued			
OBJECTIVE	**Ref.**	**PERFORMANCE MEASURE** **Short Description**	**COMMENT**
Serviceability			
Ensuring availability	SE1	• No. of days temporary traffic control or road closures on traffic sensitive streets caused by local authority roadworks	BVPI 100. (May need revision in the light of TMA 2004)
	SE2	• % occasions precautionary salting routes completed before formation of ice	Recommended local indicator
	SE3	• % of total length of public rights of way that are easy to use	BVPI 178
Achieving integrity	SE4	• % pedestrian crossings equipped with facilities for disabled people	BVPI 165
Maintaining reliability	SE5	• % of schemes value managed	Recommended local indicator
	SE6	• % works completed within published dates	Recommended local indicator
Enhancing condition	SE7	• % of principal road network where maintenance should be considered	BVPI 223
	SE8	• % of non principal classified network where maintenance should be considered	BVPI 224a
	SE9	• % of non principal unclassified network where maintenance should be considered	BVPI 224b
	SE10	• % of the Category 1,1a and 2 footway network where maintenance should be considered	BVPI 187
	SE11	• % of the Category A and B cycle route network where maintenance should be considered	Optional local indicator

Continued

Table F1 – Performance Indicators continued			
OBJECTIVE	**Ref.**	**PERFORMANCE MEASURE** **Short Description**	**COMMENT**
Sustainability			
Minimising costs over time	SU1	• % Asset preservation	Recommended local indicator
	SU2	• Annual reactive maintenance expenditure as % planned maintenance	Recommended local indicator
	SU3	• Annual highway related claim costs as % planned maintenance	Recommended local indicator
	SU4	• % programmed schemes subject to maintainability audit	Recommended local indicator
Maximising value to community	SU5	• % programmed schemes subject to sustainability audit	Recommended local indicator
Maximising environmental contribution	SU6	• % highway works by tonnage undertaken with recycled and secondary aggregates	Recommended local indicator
	SU7	• Average % score across all amenity categories	Optional local indicator. Based on Highways Agency Area Performance Indicator (API 4)

F4 FURTHER DETAILS OF THE INDICATORS

F4.1 The following section provides further information and rationale for each of the recommended local indicators. For statutory indicators, full details are available from (www.odpm.gov.uk). Where aspects of the performance measures are described as 'to be determined locally' it would be good practice to consult users and communities about these.

F4.2 Where required, performance targets should be set for statutory indicators. It is good practice to set targets for local indicators provided that sufficient comparative data is available.

Customer Service

CS1 *% Net satisfaction with service (previously SE4)*

- Based on the results of local public opinion surveys;
- net satisfaction is the difference between those who are satisfied (very or fairly) and those who are dissatisfied (very or fairly);
- professional advice recommended on survey method, sample size, and frequency;
- difficult for respondents to distinguish between highway maintenance and other works including those by other service providers and it may be necessary to include whole highway service;

- alternatively sample 'post-completion' surveys of highway maintenance works will provide a very specific relevant measure of customer perceptions.

CS2 % Net satisfaction with consultation and Information

- Based on results of local public opinion surveys;
- net satisfaction is the difference between those who are satisfied (very or fairly) and those who are dissatisfied (very or fairly);
- professional advice recommended on survey method, sample size, and frequency;
- may be related to consultation on highway maintenance policy overall but more likely related to sample of highway maintenance schemes.

CS3 % Service requests and complaints 'closed out' within policy timescales

- Timescales to be locally defined but responses to routine correspondence good practice is usually 10 working days;
- separate indicators should be identified for service requests and complaints;
- indicators need to be consistent with authority corporate requirements;
- indicator to be calculated annually.

Network Safety

SA1 %Safety inspections completed on time (previously SA1)

- Inspection frequencies to be based on the recommendations of this Code or local frequencies determined by risk assessment;
- extent of any flexibility for 'on time' to be specified locally and to be 'caught' up within one cycle;
- needs to be supplemented by inspection 'quality' training and monitoring;
- indicator to be calculated annually.

SA2 %Category 1 Defects repaired on time

- Repair times should be based on the recommendations of this Code or local times determined by risk assessment. Category 1 defects should be corrected or made safe at the time of the inspection, if reasonably practicable. If it is not possible to correct or make safe the defect at the time of inspection, repairs of a permanent or temporary nature should be carried out as soon as possible and in any case within a period of 24 hours. Permanent repair should be carried out within 28 days.
- separate indicators may be defined for making safe, temporary repair and permanent repair;

- indicator to be calculated annually.

SA3 % Principal roads SCRIM surveyed in current year at or below Investigatory Level (previously SA2)

- Method and programme of testing to be determined locally taking account of advice from this Code;
- investigatory levels to be set locally but in accordance with HD 28/04. They should be reviewed every three years or as a result of risk assessment;
- changes in investigatory levels and consequential changes in the indicator should be reported to assist comparison.

SA4 % Third party claims repudiation rate over three years (previously SA5)

- Details to be checked and completed;
- procedure for dealing with claims needs to be clearly defined;
- provisional three-year figure estimates may be required as some claims can take many years to resolve;
- actual repudiation rates should be calculated when the figures are available for earlier year;
- information to be recorded and compared based on financial year.

Network Serviceability

SE1 Number of days temporary traffic control or road closures on traffic sensitive streets caused by local authority roadworks

- Methodology in accordance with BVPI 100;
- may be updated to accord with indicators for Traffic Management Act 2004.

SE2 % Occasions precautionary salting routes completed before formation of ice (previously SE5)

- The percentage is calculated from the total number of precautionary salting treatments over the winter period;
- the winter period may vary according to climatic conditions and from year to year;
- if icy conditions apply after failure to salt this should be included in the calculation;
- separate indicators may be defined for carriageways, cycle routes and footways.

SE3 % Total length of public Rights of Way that are easy to use

- Methodology in accordance with BVPI 178.

SE4 % Pedestrian crossings equipped with facilities for disabled people

- Methodology in accordance with BVPI 165.

SE5 % Schemes value managed

- The percentage is calculated from the number of maintenance schemes that have been value managed out of the total number of maintenance schemes delivered by the authority.

SE6 % Works completed within published dates

- Scale and nature of schemes monitored to be determined locally but should be based on those schemes for which a programme is published;
- the number of schemes included should be quoted in reporting to assist comparison;
- definition of 'completed' to be determined locally;
- extent of flexibility to be determined locally.

SE7 % of Principal road network where maintenance should be considered

- Methodology in accordance with BVPI 223.

SE8 % of Non-Principal classified road network where maintenance should be considered

- Methodology in accordance with BVPI 224a.

SE9 % of Non-Principal unclassified road network where maintenance should be considered

- Methodology in accordance with BVPI 224b.

SE10 % of the Category 1,1a and 2 footway network where maintenance should be considered

- Methodology in accordance with BVPI 187.

SE11 % of the category A and B cycle route network where maintenance should be considered

- Optional indicator for those authorities with relatively long lengths of cycle route;
- methodology to be developed locally, based on BVPI 187 at present but may be adopted BVPI at some stage in the future.

Network Sustainability

SU1 % Asset preservation

- This measure comprises the following three sub-measures:
    - accumulated asset consumption – measures the proportion of the gross asset value that has been consumed to date;
    - In-year asset consumption – measures the proportion of the asset value consumed during the accounting period;
    - In-year asset renewal – measures the proportion of asset value restored/ renewed during the accounting period;
- further details of these measures are given in the Guidance Document for Highway Infrastructure Valuation.

SU2 Annual reactive maintenance expenditure as % planned maintenance

- Common definitions of reactive and planned maintenance are necessary to assist comparison and should be based on this Code;
- reactive maintenance comprises the repair of Category 1 defects and non-safety actionable Category 2 defects executed under a planned programme;
- planned maintenance incorporates resurfacing, reconditioning and surface dressing schemes undertaken under annually approved programmes. Surface dressing costs should include associated pre-patching.

SU3 Annual highway-related claim costs as % planned maintenance

- Indicator devised by Roads and Highway Liability Claims Task Group in association with the Welsh Association of Technical Officers (WATO);
- common definitions of planned structural maintenance are necessary to assist comparison;
- planned structural maintenance incorporates resurfacing, reconditioning and surface dressing schemes undertaken under annually approved programmes. Surface dressing costs should include associated pre-patching.

SU4 % Programmed schemes subject to maintainability audit

- Number and scale of significant schemes to be determined locally. The criteria for selection and base number should be reported to assist comparison;
- items in maintainability audit to be determined locally taking into account this Code.

SU5 % Programmed schemes subject to sustainability audit

- Number and scale of significant schemes to be determined locally. The criteria for selection and base number should be reported to assist comparison;
- items in sustainability audit to be determined locally taking into account this Code.

SU6 % Highway works by tonnage undertaken with recycled and secondary aggregates

- Base tonnage of highway works to be determined locally, but criteria for inclusion should be reported to assist comparison.

SU7 Average % score across all amenity categories

- May be used as contract management indicator;
- methodology based on HA Area Performance Indicator API 4;
- scope of indicator and sample size to be determined locally;
- amenity categories to be determined locally but should preferably be based on the 10 specified categories:
    - litter and debris (shared function in two tier authorities);
    - grass cutting swath and visibility splays;
    - grass cutting at obstructions;
    - weed growth in verges and reservations;
    - weed growth in gullies and drains;
    - visibility of signs;
    - cleanliness of signs;
    - sweeping of channels (shared function in two tier authorities);
    - encroachment of vegetation;
    - illegal signs and obstruction.

Appendix G
Contract Performance Indicators for Maintenance Procurement

G1 INTRODUCTION

G1.1 The 2001 edition of the Code included an appendix of suggested contract performance indicators based on those adopted by the then recently formed 'Five Counties Initiative'. This has since become well established as the National Highways Best Value Benchmarking Club (NHBVBC), with many more members. This appendix provides a summary of the indicators used by the benchmarking club.

G1.2 Partnering contracts in their various forms have continued to evolve and, as the partnerships have developed, the indicators used to manage the contract and manage the service have moved closer together. This appendix also provides examples of contract performance indicators from Northamptonshire County Council's partnership contract.

G2 THE NATIONAL HIGHWAYS BEST VALUE BENCHMARKING CLUB

G2.1 The NHBVBC comprises local authorities, DSOs and private sector contractors and provides a medium for exchanging performance data within the highway maintenance sector. It has established a set of Key Performance Indicators (KPIs) to measure term contracts, monitoring both the client and the contractor.

G2.2 The club incorporates the Highway Design and Highway Works Best Value Benchmarking Clubs and has over 75 members covering the whole of the UK. The Highway Works Club was initiated by the authorities of Dorset, Hampshire, Oxfordshire, Wiltshire and Gloucestershire and subsequently endorsed by the Movement for Innovation and DfT. Further information about the NHBVBC is available from the 'Constructing Excellence' website (www.constructingexcellence.org.uk)

G2.3 The NHBVBC maintains ten indicators relevant to highway maintenance contracts together with the local indicators for highway maintenance safety serviceability and sustainability suggested in the 2001 edition of this Code. Each member receives a copy of the graphs and radar charts for each indicator, showing the industry benchmark score together with the score of their organisation. For local authority DSOs it provides the opportunity to compare performance with private sector providers on a common basis and could assist in meeting the requirements of Best Value Reviews.

G2.4 The suggested KPIs are as follows:

Indicator 1: Commissioner Satisfaction – Product

Indicator 2: Commissioner Satisfaction – Service

Indicator 3: Contractor Satisfaction – Service

Indicator 4: Defects

Indicator 5: Predictability – Cost

Indicator 6: Predictability – Time

Indicator 7: Profitability

Indicator 8: Productivity

Indicator 9: Safety

Indicator 10: Payment for Works

G3 FURTHER DETAILS OF EACH INDICATOR

G3.1 Indicator 1: Commissioner Satisfaction – Product

- Measures how satisfied the commissioner was with the finished product or facility, using a 1 to 10 scale;
- separate indicators for routine and structural maintenance.

G3.2 Indicator 2: Commissioner Satisfaction – Service

- Measures overall level of commissioner satisfaction with the service of contractor, using a 1 to 10 scale;
- separate indicators for routine and structural maintenance.

G3.3 Indicator 3: Contractor Satisfaction – Service

- Measures the overall level of contractor satisfaction with the service of the commissioner and consultants on a 1 to 10 scale;
- separate indicators for routine and structural maintenance.

G3.4 Indicator 4: Defects

- Measures the impact on the client of any defects at the point of handover on a scale of 1 to 10, 10 being defect free;
- separate indicators for routine and structural maintenance;
- for routine maintenance based on monthly analysis of monitoring officers' sample of completed orders;
- for structural maintenance analysis is based on individual schemes.

G3.5 Indicator 5: Predictability – Cost

- Measures the reliability of cost estimates for both design and construction;
- separate indicators for design and construction and for routine and structural maintenance;
- design indicator is based on comparison of the estimated (A) and actual scheme design costs (C), expressed as a % of (A);
- construction indicator is based on comparison of committed (A) and actual (C) works orders costs, as held by maintenance manager, expressed as a % of (A).

G3.6 Indicator 6: Predictability – Time

- Measures the reliability of time estimates for both design and construction;
- separate indicators for design and construction and for routine and structural maintenance and for:
    - routine maintenance design - indicator is based on comparison of the actual time taken to issue works orders within the target time;
    - routine maintenance construction - indicator is based on comparison of the actual time taken to execute works orders within the target time;
    - structural maintenance design - indicator is based on a comparison of the actual duration to design a scheme with the agreed duration;
    - structural maintenance construction - indicator is based on a comparison of the actual duration to construct a scheme with the agreed duration.

G3.7 Indicator 7: Profitability

- Measures the profitability of a construction company before tax and interest;
- for DSOs indicator is based on the excess rate of return on capital employed expressed as a percentage of the annual turnover.

G3.8 Indicator 8: Productivity

- Measures the value added per employee of a construction company;
- indicator is based on the value of sales less the value of goods and services subcontracted to or supplied to other parties, divided by the number of FTEs.

G3.9 Indicator 9: Safety

- Measures safety in terms of the number of reportable accidents per 100,000 employed (the accident incidence rate).

G3.10 Indicator 10: Payment for Works

- Measures performance in paying contractor's valuations;
- indicator is based on the % of contractor's valuations that are paid within the agreed timescales.

G4 NORTHAMPTONSHIRE COUNTY COUNCIL

G4.1 Northamptonshire County Council (NCC) secured the delivery of its highways services and works through the award of an innovative integrated white and blue collar highways partnership contract. This new contract commenced in October 2001. A number of other authorities have subsequently procured integrated service contracts, including Bedfordshire and Gloucestershire.

G4.2 The need to promote continuous improvement in all aspects of service delivery generated an evolving range of jointly agreed partnership indicators which enable this process to be monitored and managed for this integrated highways contract. Soon after the commencement of the contract, a joint Partnership Performance Group was established and met on a regular basis. Various performance indicators were identified against the following four headings:

- National and Best Value Indicators where NCC is required to report figures to central government on an annual basis;
- specific higher level (business) indicators which demonstrate the business health of the partnership;
- specific lower level (operational) indicators which demonstrate the highways maintenance and scheme delivery on site;
- the contractor's own organisational indicators.

G4.3 As the contract evolved and the new partnership arrangement became established, the Partnership Performance Group considered that indicators within the above categories could be best monitored by grouping them under the following headings for ease of reporting quarterly to the Partnership Board:

- satisfaction;
- budget and programme;
- network management;
- health and safety;
- sustainability.

G4.4 Details of the specific higher and lower level indicators used by the contract are summarised below. National and Best Value indicators are dealt with in Appendix F.

Higher Level Indicators (Contract Specific)

Satisfaction

- Annual partner survey with NCC;
- complaints received by NCC;
- complaints received by contractor;
- monthly site audit reports;
- compliments received;
- % sites audited without information boards.

Budget and Programme

- Actual spend against forecast spend;
- predictability of target cost schemes against actual cost;
- predictability of target cost schemes progress;
- predictability of target cost schemes construction time.

Network Management

- See lower level indicator lists.

Health and Safety

- Monthly accident records (split into office based, office visiting site and site based);
- reportable;
- non-reportable;
- near misses;
- utility damage by contractor;
- % of sites complying with Section 8 requirements.

Sustainability

- Innovations register;
- recycled office materials.

Lower Level Indicators (Contract Specific)

Satisfaction

- CLARENCE (fault reporting system records);
- monthly community surveys;
- annual parish surveys;
- claims by third parties.

Budget and Programme

- Prediction of Schedule of Rates works cost to actual costs;
- prediction of works time to actual works time.

Network Management

- Category 1 safety inspections;
- Category 1 public reports;
- average response times;
- % of emergencies dealt with in target time;
- % routes salted on time;
- % of fleet serviced and calibrated;
- % of occasions routes salted before ice;
- % of snow clearing requests within target time.

Health and Safety

- As above;
- % of sites complying with Section 8 requirements.

Sustainability

- Recycled asset equipment;
- street lighting lamps;
- street lighting columns;
- % excavated recycled or reused;
- % imported recycled material;

- % imported non-recycled material;
- % material recycled on site;
- % excavated material not going to licensed landfill.

Appendix H
Winter Service Practical Guidance

Appendix Amended
18 September 2013

Appendix H has been superseded with the revised Appendix below.

This latest revision of Appendix H has been carried out under the direction of the NWSRG on behalf of the UKRLG and UKRB using information from the NWSRG Practical Guide for Winter Service (Practical Guide) and NWSRG member organisations, as well as other recent winter service research and information.

The guidance and recommendations contained within Appendix H relate to national Best Practice and it is recognised that local circumstances, including financial and other resource constraints, as well as political influences etc. can vary widely across the country. Authorities and operators will need to take all of these factors fully into account, when devising and revising their Winter Service policies and plans. Some of the recommendations and practices will, if adopted, also take a number of years to implement. For example, it is recognised that, in certain cases it could potentially take up to around 10 years or so for a major programme of change to be fully implemented.

The NWSRG Practical Guide is updated regularly with the latest research and information and on a different timeline to Well–maintained Highways. Therefore, differences may exist between this document and the NWSRG Practical Guide.

H1 GENERAL

H1.1 Following on from Chapter 13, which provides the background and policy aspects of winter service, this section provides guidance on the delivery aspects of the service.

H1.2 Additional information and further detailed practical guidance on Winter Service delivery is provided in the NWSRG Practical Guide for Winter Service.

H1.3 This section refers generally to salt, i.e. sodium chloride (NaCl) and its use. However, alternative de-icers to salt are also discussed. The information relating to salt use, storage and salt condition etc generally applies to other de-icers, except where specifically stated otherwise.

H1.4 For ease of use, the tables and flowcharts required for the Decision making process have been repeated at the end of this appendix along with some notes**.** It is strongly recommended that these are not used in isolation by decision makers until they have a thorough understanding of the contents of the whole of this appendix.

H1.5 It is suggested that authorities and other winter service providers review their policies and practices against the content of this document with a view to identifying and explaining any significant variance and, where appropriate, develop time tabled implementation plans for the adoption of the detailed national best

practice guidance and recommendations.

H2 WINTER SERVICE PLAN

H2.1 This section provides guidance in what is considered to be the desirable content for an Authority's Winter Service Plan. The Winter Service Plan should be a "Controlled Document" within the Quality Management Regime.

Statement of Policies and Responsibilities

- Policies and objectives;
- Client and Service Provider risks and responsibilities;
- Partnership or shared risks and responsibilities;
- Decision making process and responsibilities;
- Liaison and communication arrangements with other authorities and other public services;
- Winter risk period;
- Resilience standard;
- Legislative background.

Route Planning for Carriageways, Footways and Cycle Routes

- Carriageway routes by risk level;
- Response and treatment times for all carriageway treatments;
- Routes for footbridges, subways and other high risk pedestrian areas;
- Response and treatment times for footway and cycle route treatments;
- Routes for other footway and cycle route treatment by risk level;
- Allocation of plant, vehicles, equipment and materials to routes;
- Location and maintenance of salt bins and grit heaps;
- Special sites or features (e.g. near railways or traffic calming).

Weather Prediction and Information

- The decision making process;
- Road weather information bureau service;
- Road weather stations;

- Timing and circulation of information;
- Road weather forecast;
- Reporting procedure;
- Thermal mapping;
- Maintenance of ice detection equipment;
- Information to be provided.

Organisational Arrangements and Personnel

- Command, control and operational organisation;
- Arrangements with other authorities;
- Arrangements with other public services;
- Decision making;
- Operational record keeping and reporting;
- Plant and vehicle manning arrangements, including management of drivers' hours regulations;
- Materials management;
- Training and development arrangements;
- Schedules of Contract and Voluntary Personnel (CVP);
- Employee roles and responsibilities;
- Contact and commissioning arrangements for CVP;
- Employee duty schedules, rotas and standby arrangements;
- Winter Service exercising arrangements;
- Standard operating procedures ;
- Escalation and emergency operating procedures;
- Operational monitoring;
- Health and safety procedures;
- Contingency arrangements.

Facilities, Plant, Vehicles and Equipment

- Winter Service compounds and facilities;
- Calibration procedures;
- Fleet inventory including licence requirements and capacity;
- Fuel stocks and locations;
- Location of plant, vehicles, snow-blowers and other equipment;
- Contingency arrangements;
- Garaging, servicing and maintenance arrangements;
- Contact and hire arrangements for contract plant.

Salt and Other De-Icing Materials

- Location and capacity of stocks for salt and other materials;
- Contacts and purchasing arrangements for supplies;
- Minimum pre-season and in-season stock levels;
- In season re-stocking arrangements;
- Testing arrangements;
- Stock level monitoring and forecasting procedures;
- Loading arrangements;
- Treatment requirements including spread rates.

Operational Communications

- Technical systems information;
- Reporting arrangements and protocols;
- Inventory and allocation, including back up.

Contingency Plan

- Contingency arrangements for Winter Service delivery such as salt supply, drivers, fuel vehicles etc.;
- Arrangements for implementing minimum winter networks;
- Mutual Aid e.g. resources available from adjacent authorities;

- Liaison with Category 1 and Category 2 responders (reference Civil Contingencies Act 2004).

Information and Publicity

- Local press and broadcast contact information;
- Public information leaflets;
- Other key local and national contact information;
- Thermal mapping;
- Responsibilities and guidance for providing information;
- The decision making process;
- Road weather stations;
- Information to be provided;
- Road weather information bureau service;
- Timing and circulation of information;
- Road weather forecast;
- Notification arrangements for failure to maintain the published network;
- Reporting procedure;
- Maintenance of ice detection equipment.

Quality Management

- Quality management regime including regular service audits;
- Document control procedures;
- Distribution of documents;
- Information recording and analysis;
- Arrangements for performance monitoring, audit and updating;
- Procedure for deviation from the Winter Service Plan;
- Service review following significant events and at the end of season.

H3 SERVICE RESILIENCE

Expressing the Winter Service Standard

H3.1 An example is provided below on how authorities could express and apply their Winter Service resilience standard.

Overall Winter Period	1st October to 30th April
Core Winter Period	1st November to 1st March
Days Resilience (Overall Winter Period)	3 days
Days Resilience (Core Winter Period)	6 days

Determination of minimum salt stocks by depot

H3.2 For the purpose of this example it has been assumed that in heavy snow conditions there would be 6 successive treatments at 20g/m^2 each day.

Table H1 – Minimum Salt Stocks

Routes	**Normal Salting Network (tonnes/ run)**	**Minimum Winter Network (tonnes/ run)**	**Minimum Stock**		
			Full Pre-season stock (12 days/ 48 runs)	**Core Winter Period Minimum Network (6 days/ 36 runs)**	**Overall Winter Period Minimum Network (3 days/ 18 runs)**
Carriageways	200	120	9600	4320	2160
Footways, cycle routes & salt bins (1 per day)	16	16	192	96	48
Total			9792	4416	2208

The minimum salt stock rounded up to the nearest 5 tonnes is therefore:

1 October to 30 October	=	2210 tonnes (at all times)
1 November	=	9790 tonnes
1 November to 1 March	=	4420 tonnes (at all times)
1 March to 30 April	=	2210 tonnes (at all times)

Notes.

1. The minimum in season stocks are the minimum to which stocks should be allowed to fall, i.e. restocking should take place well before the minimum is likely to be reached.

2. The early season and end of season minimum resilience stock should not be confused with the stocks likely to be required to ensure full pre-season stocks are achieved for the current or for the subsequent winter season.

Other Arrangements

H3.3 Minimum numbers of staff should be established for each of the roles identified for delivery of the service. Section 13 advises that all resources should be subject to a minimum resilience standard. When establishing shift patterns for all staff it is important to consider building in resilience for staff absence in addition to the requirements of the working time directive and drivers' hours regulations.

The drivers' hours regulations are in place to contribute to road safety. Pushing drivers to the limit, in difficult driving conditions, should be avoided wherever possible. VOSA has produced guidance on drivers' hours, 'Rules on Drivers' Hours and Tachographs' which can be found at the below web link:

http://assets.dft.gov.uk/publications/drivers-hours-passenger-vehicles/report.pdf

H3.4 Reserve drivers can be sourced from any pool of HGV qualified drivers, although they should be trained to the relevant Winter Service modules. Some authorities have written the requirement to supply reserve spreader drivers into other, non-winter contracts. For example, domestic refuse collection drivers would be suitable candidates for training as reserve spreader drivers.

H3.5 Through multi-skilling other operators, it is possible to provide sufficient resilience for activities such as loading. Reserve driver's mates for snow ploughing, where used, can be sourced through similar multi-skilling of other operatives.

H3.6 Winter decision makers, supervisors and managers have specific tasks to complete during both normal and severe conditions. As with spreader drivers, it is important to ensure that, when combined with other daily duties, the hours worked by individuals remain acceptable.

H3.7 Trained decision makers should be available to support contingency arrangements. Training additional reserve staff should be considered. It is important that these reserve staff are routinely exposed to operational decision making to ensure their knowledge is current and they have sufficient experience to meet the requirements of the winter plan.

H3.8 Where practicable, authorities should make arrangements for obtaining reserve supplies of key resources to support their minimum resilience standard. This should include salt, fuel, power and labour.

H3.9 Authorities should ensure that they have sufficient fuel to meet the resilience standard. This should be either bunkered in the depot or guaranteed from other easily accessible sources.

H3.10 Fuel supply has not historically been a widespread threat to the delivery of the Winter Service. However, lessons must be learnt from the recent shortages of salt. At a local level, there have been cases of localised fuel contamination and even a simple pump failure at a depot is sufficient to put strain on the service. Meeting the resilience standard for fuel stocks locally will lessen the impact of fuel

supply interruptions at a national or regional level.

H3.11 Additional reserve stocks of fuel and salt can be obtained to give surety of supply. Recent winters have shown that supply guarantees need to be well defined and enforceable within contracts, if they are to be effective.

H3.12 A relatively low cost way of increasing the number of vehicles available for snow clearance is to consider fitting snow plough mounts to appropriate non-winter vehicles and procuring additional ploughs to suit. This allows, in authorities where ploughing is appropriate, for two way ploughing whilst maintaining salting in a single pass. (For further details on ploughs and ploughing see Section H11)

H3.13 Depots can be unavailable for a range of reasons but the most common reason is closure of the access road or loss of power. Both can be mitigated against at minimal cost. If feasible, each depot should have more than one entry/exit point onto different routes. Secondary entrances/exits would only be used when necessary but would enable access to and egress from the depot even if one route was impassable. Power supply issues can be mitigated against by the provision of backup generators. However, it is important to assess the requirements for mains electrical power and the required backup generation capacity. Lighting of depot yards can be achieved with temporary lighting towers, and heating for the depot staff can be achieved with portable gas appliances. Not having full IT systems for operational and decision making purposes may or may not be an issue for a short term power outage and a business impact analysis would determine this. Communication links are a potential issue, although mobile phones are a good backup to landlines, as long as they are kept charged.

Crisis Communications

H3.14 Consideration could be given to providing information on appropriate websites during a snow event to direct traffic to the treated and passable sections of the network. It is important to keep information up to date in order not to exacerbate problems or cause the drivers to distrust the information being output. Some local authorities already utilise mapping on their websites to inform the public regarding available routes during major flooding events, and such methods could potentially be utilised for other weather related incidents such as widespread severe snowfalls. Social media is also increasingly used by authorities to keep road users informed of current road conditions and incidents.

H3.15 Other departments within an authority may benefit from accurate updates on the condition of the network and likely future conditions. If, for example, the winter service team realise that safe access to a school cannot be maintained, then those responsible for the school need to be made aware as early as possible, so that arrangements for closing the school can be made in a planned manner.

H3.16 All staff attempting to get into work may benefit from advance information and reminders to allow longer for their journeys to work. Text messages to staff phones or 'telephone trees' are effective ways to deliver the message. These types of arrangements may already exist in the Authority’s Business Continuity Plan.

H3.17 The provision of information is particularly important for those front-line staff engaged in delivering the Winter Service. It will reduce the risk of drivers /

operators arriving late and disrupting the treatment effort. However, many drivers / operators may sleep in the depots to eliminate the risk entirely.

H4 DE-ICING MATERIALS

General

H4.1 Salt and salting are commonly used terms in relation to UK winter service. In the context of this guidance 'salt' refers to sodium chloride (NaCl) and 'de-icer' refers to salt and other chemical de-icers.

H4.2 Chemical de-icers prevent ice formation or melt ice and snow by suppressing the freezing point of water to below 0˚C when a solution is formed. Solid chemical de-icers are not effective until they have dissolved and formed this solution. This requires water, either from the moisture present on the road surface, in the air, or added during spreading.

H4.3 De-icers are not effective unless they remain in the target area. To maximise the amount of de-icer within the target area, it is essential to carry out checks on the performance of the spreader.

H4.4 Rock salt is the most commonly used material for de-icing in the UK. Rock salt is an indigenous product and normally readily available at reasonable cost. A number of other types of salt and chemical de-icers are also available which may be considered for particular circumstances. Cost, effectiveness and environmental impact characteristics differ widely, these should be considered and compared before adoption.

H4.5 Alternatives to sodium chloride are appropriate when:

- Very low temperatures are expected
- Corrosion damage to infrastructure by sodium chloride is unacceptable
- There are concerns about the impact on the environment

H4.6 Alternatives to sodium chloride used in the UK include:

- Magnesium Chloride
- Calcium Chloride
- Sodium chloride brine mixed with ABP
- ABP Liquid (solutions)
- Potassium Acetate
- Calcium Magnesium Acetate
- Ethylene Glycol
- Propylene Glycol

H4.7 When considering alternative de-icers for extreme cold or any other conditions the

effectiveness of different types and mixtures should be carefully evaluated to ensure they can be spread sufficiently accurately and in sufficient quantities with the equipment available (or by any new equipment specifically obtained for this purpose) and that they will deliver the service levels required at overall minimum cost.

Salt

H4.8 While rock salt is the most commonly used salt; marine salt, vacuum and PAD salt are also available. All rock salt and salt used for road de-icing should comply with BS3247:2011.

H4.9 In its dry condition, salt has a natural moisture content of between about 2% and 4%. The practical effective temperature of sodium chloride when used for winter maintenance on roads is at or above -5˚C at the time of spreading in low humidity conditions (below 80% relative humidity) and at or above -7˚C in normal UK winter humidity conditions (at or above 80% relative humidity)

H4.10 The rate of dissolution becomes slower as the effective temperature is approached, although finer gradings will dissolve more quickly than coarser at the same temperature. The rate of dissolution will also depend on the salting technology. Although ice may be melted below the effective temperature, this is at a very low rate which is unlikely to be practical for precautionary or post treatments. Furthermore, the amount of salt needed increases to become economically and environmentally undesirable.

H4.11 If solid (dry or pre-wetted salting) sodium chloride is spread at temperatures near or lower than -7˚C, it will not dissolve quickly enough to become effective until the road surface temperature has risen above the effective temperature (-7˚C).

H4.12 In theory, once sodium chloride has dissolved it can prevent freezing of a saturated solution down to -21˚C. In practice a saturated solution will not be formed on the road surface. Therefore, for winter service purposes, it is considered that sodium chloride can only suppress the freezing point to a minimum of -15˚C.

Types of salt available

H4.13 The types of salt that are normally used to treat highways are:

- Rock salt
- Marine salt

H4.14 Most of the rock salt supplied to the UK is mined at Winsford Mine in Cheshire, Boulby Mine in Cleveland and Kilroot Mine in Carrickfergus, Northern Ireland.

H4.15 Finely graded marine salt is most commonly used for pre-wetted salting, both to manufacture brine and for the dry salt component.

H4.16 Since 2009, marine and rock salt have been supplied from overseas to meet the increased demand due to severe weather and to restock for the future. (Some marine salt was supplied to the UK before 2009).

Salt composition

H4.17 Different types of salt vary slightly in the amount of sodium chloride and insolubles (e.g. marl) in the material. It is the sodium chloride content that provides the de-icing potential of the material and therefore de-icing performance is better, the higher the purity. Salt may also have chemicals added such as de-caking agents or treatment agents such as those manufactured from Agricultural By-Products (ABPs). These additives are not included in the recommendations below for soluble chloride purity

H4.18 Key recommendations – salt composition:

- The soluble chloride content of rock salt, expressed as sodium chloride, should not be less than 90%
- The purity of marine salt should not be less than 99%.
- The soluble sulphate compounds expressed as calcium sulphate, should not be more than 2.5%.
- The insoluble content should not be more than 7.5%.
- High purity salts such as marine salt and vacuum or PAD salt should be used to manufacture brine (except in saturators specifically designed for rock salt).
- The sodium chloride content and percentage of impurities in a salt need to be considered when purchasing and when determining appropriate spread rates.

(Recommendation RH.3)

Salt grading

H4.19 Grading refers to the distribution of particle sizes in the salt, and the proportion by weight of the different particle sizes. When referring to common types of salt used in the UK, e.g. 10mm salt, the '10mm' relates to what should be the largest particles found within the salt.

H4.20 Key recommendations - salt grading:

- The grading of salts, including imported salts should comply with BS 3247 which specifies the range of acceptable particle sizes for salt used in the UK.
- The grading of some types of salt can vary significantly from one delivery to another and therefore it is important to check the grading regularly, and particularly when salt is obtained from a new source or supplier. Spreaders should always be calibrated for the salt being used.
- Pressure dried vacuum salt and PAD or vacuum road salt can be used alone or mixed with other salts, but only if the mixture complies with BS 3247.

(Recommendation RH.4)

H4.21 UK rock salt is graded so that the particle size distribution is fairly well centred within the limits in BS 3247. Marine salt is normally de-dusted so the number of finer particles is much less in marine salt than in UK rock salt.

H4.22 Generally, the higher the moisture content of the salt, the lower the percentage of

fine particles because these tend to be dissolved by the water in the salt.

H4.23 Domestic producers can provide both 6mm (actual maximum particle size is 6.3mm) and 10mm graded rock salt to BS 3247:2011. The larger particle size requires less processing and can therefore be produced faster. Thus significantly more 10mm salt than 6mm salt can be produced in the same period of time. If more orders are placed for 10mm than 6mm then the pressure on UK production has the potential to be lessened. However, smaller particles go into solution much more rapidly than larger particles; particularly in situations of low humidity. A 6mm particle size is suggested for precautionary salting, giving a faster reaction time and better opportunities for salt rate reduction, whereas 10mm is more effective for ice and hard-packed snow. Spreaders should always be calibrated for the salt being used.

H4.24 The size of a particle affects the distance it travels after leaving the distribution system of a spreader. Larger particles generally travel further than smaller particles and it is difficult to control their movement because they tend to bounce more on the road surface than smaller particles. It is important for Authorities to note that a move from 6mm salt to 10mm salt will require different spreader calibration settings to deliver satisfactory spread coverage. 10mm salt tends to spread less evenly than 6mm salt and this can result in more salt being put on the carriageway to achieve the minimum spread rate across the spread width. Use of 10mm salt has also been linked to claims for damage to vehicles, especially vehicle windscreens.

H4.25 Smaller particles will dissolve more rapidly than larger particles given the same conditions. However, smaller particles are more likely to be affected by the wind or spreader induced turbulence during spreading. For dry salting operations, after spreading and in the period before they dissolve, finer particles are more likely to be affected by wind and traffic induced turbulence. Wind/turbulence can affect particles of all sizes but the effects are likely to be small for any particles larger than about 3mm. Particles less than 0.6mm in size are particularly prone to displacement.

H4.26 It should be possible to achieve more effectively distributed salt (assuming the spreader is capable) at lower spread rates the more finely graded the salt, and with pre-wetted salt rather than dry salt. 1mm salt is used in some countries for pre-wetted salting, but such a finely graded salt is impractical for dry salting.

H4.27 For post-treatment on layers of snow and ice, larger particles are more effective because they better penetrate the snow/ice than smaller particles. 10mm salt is therefore more effective on snow than 6mm salt. This is particularly relevant when it is not possible to plough to the road surface,

H4.28 Like for like, the more finely graded a salt, the more rapidly it is likely to deteriorate when stored unless conditions are controlled.

Types of salting technology

H4.29 The main salting technologies (methods) in the UK are:

- Dry salting
- Pre-wetted salting
- Treated salting

- Liquid spreading, e.g. sodium chloride brine, etc.

Dry salting

H4.30 Dry salting' is the spreading of salt at or close to its natural moisture content, in which condition it has a dry appearance. Much of the salting in the UK is dry salting, but it is not the optimum technology for many treatments. The moisture content of the salt is critical to effective spreading (more so than pre-wet salting) and should be in the range of 2% to 3.5% for dry salting operations. See Table H2.

Pre-wetted salting

H4.31 Pre-wetted salting is where dry salt is pre-wetted with brine just before spreading. The brine holds the finer particles of salt in suspension and so the amount of salt lost during and after spreading is lower than for dry salting. The brine dissolves some of the salt but only a small amount because the brine is nearly saturated. Salt can be pre-wetted with alternative liquid de-icers for use in colder temperatures.

H4.32 Pre-wetted salting has been shown to be more effective than dry-salting in most conditions, as salt distribution during the spreading process tends to be more uniform when using pre-wetted when compared to that when using dry salt. The finer particles in dry salt are also more likely to be dispersed by the wind and traffic during and after spreading, whereas those in pre-wetted salt tend to be retained on the road surface.

H4.33 It provides the ability to use less salt but involves investment in spreading equipment and the additional plant required. Consequently, this option cannot be considered for quick and low-cost implementation although it will have long term benefits in cost, resilience and environmental impact. To prevent an unnecessary reduction in the amount of salt spread, the brine concentration should not be less than 20%.

H4.34 The dry salt:brine mix proportions can be varied but are typically 70:30 by weight. Therefore, 10g of pre-wetted salt contains 7g of dry salt plus 0.66g of (pure) salt in the brine if the brine concentration is 22%.

H4.35 Production and/or storage facilities are required for the pre-wetting agent.

H4.36 **Warning – Pre-wetted salting**

- If the brine concentration exceeds 23%, there is a risk of salt re-crystallising within the pumps, pipes and nozzles of the spreader, particularly at very low temperatures.

  (Warning 1)

Treated salting

H4.37 Salt coated with proprietary Agricultural By-Products (ABPs) and/or other additives is used by some Authorities. This may improve the effectiveness of treatments by reducing the loss of fines during spreading and may help retain the salt on the road surface after spreading. The treatment matrices show some reduction in the amount of salt required for some treatments when using treated salt.

H4.38 Conventional spreading machinery will need calibration for the ABP treated salt.

Where both treated and untreated salt is used at the same depot care must be taken that spreaders are calibrated and set for the salt used.

H4.39 Authorities using ABP treated salt have reported savings in salt usage, with experienced users claiming greater savings. This anecdotal evidence suggests benefits may come from prolonged retention of residual salt on the carriageway in some weather conditions.

H4.40 All major suppliers of UK salt can supply treated salt and a choice of treatment is available. The treatment process does not add any significant delay to the production and distribution process in normal circumstances.

H4.41 Authorities should draw on the experience of current users if considering a change of de-icing material.

H4.38 The Environment Agency has asked potential users to notify them before using treated salt due to concerns on the BOD (Biological Oxygen Demand) impact of ABP to sensitive receiving waters. Additives other than ABP (which may be included in ABP treatments) may also have environment impact consequences.

Brine

H4.43 Brine solution only (with no dry salt being spread) is effective in some conditions. For example, in situations where the volume and weight of traffic may be insufficient to promote dissolution (activate) dry salt in time.

H4.44 Spreading brine solution can be carried out with specialist equipment or existing equipment can be modified.

H4.45 Brine only spreading requires more equipment or more runs to treat the same area due to the ratio of water to salt delivered even in a fully saturated brine solution.

Abrasives (Salt/Sand mix)

H4.46 Sand for use as an abrasive in mixtures is ideally a single sized particle size 5-6mm and angular in shape suitable to create an abrasive surface. Abrasives between 1-5mm can still reasonably be used although may not be as effective. The sand can be added to salt at a ratio of 1:1 by weight.

H4.47 Where hard-packed snow and ice have formed and cannot be removed by ploughing, a salt/abrasive mixture can be used in successive treatments at a spread rate of 20 to 40 g/m^2. This aids vehicular traction and helps act to break up the snow and ice. However, there are issues such as costs of clearing the abrasives from surfaces and drainage infrastructure.

H4.48 Salt and abrasive should be pre-mixed before loading onto the spreader (see below). The mix proportions should be approximately 50:50 by weight (or 50:50 by volume will suffice – i.e. one loader bucket full of salt to one loader bucket of abrasive).

H4.49 Care is needed when salt is mixed with abrasives with a high moisture content. Checks should be made that the mixture remains free flowing, does not clump and can be spread effectively.

H4.50 If Authorities use abrasives then, after snow melt, they should ensure that drains are checked and cleaned as necessary. Recovered material, (from roads, drains, etc.) which may be contaminated with oil and other pollutants, must be disposed of safely

H4.51 A salt/abrasive mix can be used as an alternative to salt for filling grit bins. Whilst grit bins are often provided for footways, such mixes can, in some cases, also be applied on minor roads.

Magnesium or Calcium Chloride

H4.52 Magnesium Chloride and Calcium Chloride are effective at lower temperatures than sodium chloride but are more expensive. They can be spread as a liquid brine or a solid. In solid form, these materials absorb moisture freely and special requirements are needed for storage. Their use in the UK is considered likely to remain generally as pre-wetting agents or by blending with salt.

Urea

H4.53 Urea has no more corrosive effect on steel than water alone but is a less effective de-icer than salt (for equivalent weight) and ceases to be effective at about -6°C. It is considerably more expensive than salt. Urea is normally used only in certain specialist locations because of its less corrosive effect. Supplied in pellets it needs special attention in storage and conventional spreading equipment requires modification to obtain satisfactory results.

Glycol

H4.54 Glycol is supplied as a liquid, either in bulk or in drums, and is considerably more expensive than salt. It is most often used on airfields and other specific locations. It may have an adverse effect on skidding resistance, when compared to an otherwise dry or wet road surface.

Calcium Magnesium Acetate

H4.55 Calcium Magnesium Acetate is supplied in the form of spherical pellets. It does not corrode bare steel but may be comparable to salt in the corrosion of reinforcement bars in concrete. It is considerably more expensive than salt.

Potassium or Sodium Acetate (Liquid Acetate)

H4.56 Potassium or Sodium Acetate liquid is supplied in bulk or in drums. It is fast acting and used on some airfields. There is some laboratory evidence that acetates may adversely affect the durability of concrete that has not been air entrained but the significance of this has not yet been proven. It is considerably more expensive than salt.

H5 EFFECTIVE MANAGEMENT OF SALT FOR WINTER SERVICE

Reducing Waste

H5.1 Spreading salt with well calibrated vehicles capable of accurate distribution and ensuring the salt has a moisture content within the target range (for dry salting) will allow reduced spread rates and therefore minimise salt usage.

H5.2 It may help to emphasise to spreader drivers and loader operators, how to minimise salt wastage when loading, off-loading, washing spreaders and when carrying out treatments.

H5.3 Some Authorities have found on-board weighing or vehicle tracking systems useful tools to secure salt savings by ensuring that excess salt is not spun off inappropriately. Authorities should determine whether these systems offer benefits to their own service. The practice of 'spinning-off' surplus salt on the way back to the depot should be eliminated as this is a wasteful practice. It also makes proving full network treatment difficult.

H5.4 At extremely low temperatures salt becomes very much less effective and is required at uneconomical and impractical doses. Alternative de-icers can be used to reduce the amount of salt (and overall chloride content) being spread onto the network. The practicalities of calibrating spreaders for these alternative de-icers and other issues in using them need careful consideration. Use of abrasive mixes can assist with traction using less salt in extreme circumstances. During periods of extreme cold it is likely that atmospheric humidity will also be low, which again reduces the effectiveness of salt, as it inhibits dissolution.

H5.5 The use of suitably screened, salt contaminated wash-down water and rainwater for the production of brine can be considered.

H6 SALT STORAGE

General

H6.1 Good storage is crucial to maintaining salt in good condition and should be addressed before considering other investment. If salt is not maintained in good condition, target spread rates and adequate distribution across the carriageway are unlikely to be achieved, particularly for dry salting, regardless of spreader quality. If salt is in poor condition both under-spreading and over-spreading are possible.

H6.2 Keeping the salt in good condition and monitoring the condition is essential to allow spreading at lower rates, and crucial if spreading at less than 10g/m^2.

H6.3 The condition of the salt must be maintained for consistent spreader performance during the season.

Moisture Content for Salt

H6.4 The moisture content of salt is given as a percentage value. This is the weight of water in the salt expressed as a percentage of the dry weight of salt. The higher the percentage value the wetter the salt.

H6.5 During spreading, the rate at which salt is discharged from a spreader and its distribution on the road surface is critically dependent on the moisture content of the salt and the salt grading. This is particularly critical for dry salting but pre-wet salting may also be affected by tunnelling in the spreader where salt has a moisture content over 4.5%.

H6.6 The optimum moisture content for spreading salt depends on the type of salt and the spreading technology.

H6.7 Key recommendations – moisture content for salt:

- Salt should be stored such that its moisture content is maintained within an optimum range for the spreading technology used.
- The salt moisture content should be kept at a consistent level and should not differ from that used for spreader calibration by more than 1.5% or be outside the range shown in Table H2.
- Where salt moisture content is outside the optimum range consider remedial action as discussed in H6.70

(Recommendation RH.5)

H6.8 Good storage practices will help keep the salt moisture and grading within the optimum ranges. The optimum range for the moisture content of salt is dependent on the type of salt used, such as UK rock salt, imported rock salt, marine salt and whether salt is pre-treated and is shown in Table H2.

Table H2 – Optimum salt moisture content

Salt type	**Technolog**	**Optimum range**
UK rock salt	Dry salting	2 to 3.5%
UK rock salt	Pre-wetted	Less than 3.5%
UK rock salt	Treated	2 to 3.5%
Marine salt*[1]	Dry salting	1.5 to 4%
High purity imported rock	Dry salting	2 to 3.5%

*[1] Includes Vacuum and PAD salt.

H6.9 The effects of salt being too wet can include:

- Tunnelling in the spreader hopper
- Caking of salt stockpiles
- Leaching from salt stockpiles
- Poor salt distribution - areas of carriageway under or over salted

H6.10 The effects of salt being too dry can include:

- Finer particles may be lost due to wind and vehicle draughts during and after spreading (particularly when the moisture content is less than 1% and especially when treating a dry road)
- For pre-wetted salt low moisture is not considered significant

H6.11 BS 3247:2011 is the British Standard for salt used for highway winter maintenance. This gives information on the acceptable condition of the salt and also how to test its condition. This standard specifies the range of acceptable particle sizes and also maximum moisture content on delivery of 4%.

H6.12 Salt can be used with moisture contents higher than the optimum range recommended in this guidance. However the best spreading performance (and possible reduction in spread rates as a result) will be obtained if kept within the recommended optimum ranges as shown in Table H2.

H6.13 Where salt with a moisture content higher that 4.5% is used, checks must be carried out before and during spreading that the salt is reaching the spreading mechanism and being distributed onto the road.

H6.14 For pre-wetted salting with rock salt graded to be compliant with BS 3247:2011, the upper limits for dry salting apply. However, the moisture content can be less than 2% because the pre-wetting agent helps to prevent the loss of the finer particles during and after spreading.

H6.15 For treated rock salt, the upper limits for dry salt apply. The minimum moisture content of coated rock salt is typically 2% or greater; the additive helps to prevent loss of the finer particles during and after spreading.

H6.16 Marine salt tends to have a lower fines content than UK rock salt and hence a lower optimum moisture content than rock salt is provided for within Table H2.

H6.17 Moisture content can be tested by a UKAS accredited laboratory. However a simple test can be undertaken using a standard oven and a suitable set of weighing scales. See H6.69.

H6.18 **Warning – Salt moisture content:**

- Whatever type of salt is being used, tunnelling (the formation of large voids resulting in salt not falling onto the distribution mechanism) can occur in the spreader hopper if the moisture content of the salt is too high. Tunnelling must be avoided because it can result in uneven spreading or large areas of the road being left untreated.

  (Warning 2)

Salt Storage Options

H6.19 Key recommendations – salt storage:

- Storing salt is in a salt barn or dome will help to maintain the salt in optimum

condition

- Fabric covered structures can be considered as an economical option for salt storage. Consideration should be given to them as they may offer similar protection to the salt and control of its condition as barns or domes

- When it is necessary to store salt outside, stockpiles should be covered by waterproof sheeting or a suitable weather proofing system

- The key areas of good practice (covered in this guidance) should be followed whatever storage method is used

- The requirements of the relevant environmental agency and environmental legislation for the area where the salt is stored should be noted and followed

(Recommendation RH.6)

H6.20 There are a number of storage options available for salt. The factors to consider when deciding on storage options are shown in the table below:

Table H3 – Salt storage options

Storage method	**Factors to consider**			
	Relative cost of construction	**Maintenance requirements**	**Control of salt Condition**	**Effect on spread rates**
Salt barn/dome	High	Low	Excellent	Generally Lower spread rates possible (<10g/m²)
Fabric covered structure	Medium	Medium	Good to excellent depending on configuration	Generally Lower spread rates possible (<10g/m²)
Outside under cover	Low	Covering must be installed and regularly inspected	Reasonable – but only when good storage practices are used and maintained	Lower spread rates will not normally be achievable unless the covers are very well maintained and the area is properly drained. Even under covers the moisture content may not be maintained within optimum or acceptable ranges over time.

Outside unprotected[*2]	Low	Medium to Low[*1]	Poor	Lower spread rates are not achievable (i.e. not less than 15-20g/m²)

[*1]Environmental and drainage aspects such as contaminated runoff must be managed in consultation with the local agency responsible for the environment

[*2]EA recommendations are for salt stores to be roofed or, if this isn't practicable, covered with an impermeable membrane. EA also require all salt to be stored on an impermeable base and untreated runoff must not enter groundwater, surface water drainage or watercourses.

Preparing storage areas

H6.21 The most important practical considerations when providing for salt storage are:

- The required storage space.
- Planning permissions and restrictions.
- Construction requirements.
- Position/orientation of salt barns/domes/fabric covered structures.
- Drainage and environmental requirements

H6.22 Key recommendations – Storage space:

Storage space:

- The storage area must be large enough to contain the salt stockpile and provide room for vehicles to safely manoeuvre when unloading/loading and maintaining the stockpile
- If changing to a different salt type, the effect on the storage area requirements or amount of salt that can be stored should be reviewed
- Different types of salt should be properly and clearly segregated in storage to prevent contamination or loading of the wrong type of salt

(Recommendation RH.7)

H6.23 Key recommendations – Safety:

Safety:

- Salt stockpiles can become dangerous if the salt is piled too high. Vertical or very steep faces also present a danger due to the risk of collapse. The risk will increase dependent on the quality of the material and storage method i.e. barns or domes generally present a lower risk than open storage.

- The maximum stockpile height should not exceed the ability of the loader to push up salt from solid ground

- All faces should be sloped to the natural angle of repose to reduce the risk of collapse

- Salt should be handled by machine including when taking samples

- Stockpiles must not be walked on without adequate precautions and equipment for health and safety reasons and lone working should be prohibited when working manually at stockpiles. Proper procedures with risk assessments should be put in place.

- Operators of machines involved in handling salt, spreader drivers, etc., should not leave the vehicle to carry out any manual operation on the stockpile without a proper procedure and risk assessment having been put in place. Such procedures should not permit lone working.

(Recommendation RH.8)

H6.24 Key recommendations – Construction:

Construction:

- All buildings and storage structures must meet UK building design codes and be constructed of materials not subject to corrosion e.g. timber, high grade concrete(C50).

- All of the walls within a barn or dome must be designed to withstand the maximum possible loads caused from salt stored against them and the dynamic forces from loading the salt

- Salt stockpiles should be kept on a concrete (preferred) or a bituminous base sloped to allow water to drain away, prevent ingress of water from the ground, contamination and facilitate loading.

- Stockpile bases should be designed to prevent salt contaminated water flowing from the stockpile directly into the ground or any untreated drainage system. They should also prevent ingress of water flowing into the stockpile.

- For salt stored outside (covered or uncovered), the hard standing should have a slight cross-fall and drainage to disperse precipitation quickly and prevent water accumulation at the base of the stockpile.

- An impervious base must be provide to meet environmental requirements

- Adequate drainage must be provided which meets environmental requirements/agreements

(Recommendation RH.9)

H6.25 Key recommendations – Position/orientation of salt barns and domes

Position/orientation of salt barns and domes:

- Doors will assist in maintaining the salt condition, in particular where openings face the prevailing weather

- To minimise weather ingress and where practical, openings should face away from the prevailing wind and weather

(Recommendation RH.10)

H6.26 Key recommendations - Drainage and environmental requirements:

Drainage and environmental requirements:

- The requirements of the relevant Environmental Agency for the area where the salt is stored should be noted and followed

- Where pre-wetted salt is used, there may be a business case for the recycling of drainage water from stockpiles and the washing down of spreading equipment, as well as the collection of rainwater for brine production (brown water recycling)

EA recommendations are that:

- Salt stores should be roofed or covered with an impermeable membrane

- Salt stores should be sited on an impervious base and sited at least 10m away from the nearest watercourse or drain inlet/access

- Drainage from salt storage areas, loading areas or areas where extraneous salt is deposited by spreaders leaving the depot , should pass to a suitable system or a sealed tank – not to a watercourse or soakaway

- If the above drainage requirements cannot be met, consent from the appropriate agency will be needed which may contain strict quality conditions

- Salt from stores should not encroach onto the open yard

(Recommendation RH.11)

Storage capacity requirements

H6.27 The Final Report of the Review of the Resilience of England's Transport Systems to Severe Winter Weather made the recommendation that Authorities should have sufficient pre-season stocks of salt for 12 days/48 runs (assuming each run at 20g/m^2)

It was further recommended that:

- Local Highway Authorities with capacities less than 12 days/48 runs should fill their storage; they should also carefully review their history of usage and mutual aid arrangements, opportunities with surrounding authorities, and consider whether there is a case for increasing storage capacity towards 48 runs;

- Local Highway Authorities with capacities in excess of 12 days/48 runs should consider whether and to what extent they should stock at or above these levels, taking account of their own pattern of usage, their costs, and the levels of resilience in neighbouring authorities with whom they may have or could have mutual aid arrangements.

H6.28 If too much salt is stored in an area it can be difficult to manage the salt stocks using the methods recommended in Section H6.

H6.29 The amount of salt that can be stored in a given area will depend upon:

- the steepness of the stockpile slope determined by the salt's angle of repose.
- the maximum safe and workable height of the salt stockpile.
- the shape of the stockpile.
- the space required for vehicle manoeuvring in barns and domes.
- access and egress for vehicles when delivering and loading salt.

H6.30 Salt poured from a low height will form a cone with sides that slope at the 'angle of repose' of the salt; that is the angle the surface of the pile naturally makes with a horizontal surface. This storage method is not typical in the UK, where salt is usually pushed up into stockpiles. The range of angles of repose discussed in this section allows for these different storage methods. The angle of repose is determined by the shape and size of the particles and will therefore vary from one type of salt to another. The higher the angle of repose, the steeper the safe slope of the stockpile and the greater the amount of salt that can be stored in a given area.

H6.31 The angles of repose for commonly used salts are given below:

Table H4 – Angles of repose for common salt types

Salt type	Angle of repose (degrees)	Approximate height/width ratio of stockpile (h/w)
UK Rock Salt	40-44	0.90
Treated UK Rock Salt	36-40	0.78
Marine Salt	35-40	0.78

Types of storage

Salt Barn and Domes

H6.32 The condition of salt in a salt barn or dome should remain fairly constant, although the stockpile may increase in moisture content if there is ingress of precipitation, increase or decrease in sustained high or low humidity, or decrease in sun and wind, particularly near an open door or for a barn or dome without covered

openings.

Fabric Covered Structure

H6.33 A well specified, constructed and maintained fabric covered structure should provide the same degree of protection as a salt barn or dome and the notes as above apply. If the fabric covered structure does not meet these conditions then the degree of protection should be considered as equal to "Outside Protected" as below.

Outside Protected

H6.34 Whenever possible, outdoor stockpiles should be protected by waterproof sheeting or suitable alternatives such as a spray on waterproofing system. This is an EA recommendation. The system should prevent (or at an absolute minimum severely limit) the ingress of water and prevent erosion due to the wind. Covers should be positioned to prevent precipitation from reaching any part of the stockpile, including the base.

H6.35 Where circumstances allow, outside stockpiles should ideally take the form of an extended pyramid with the working face at one end. It is likely to be impractical to cover the working face of a stockpile during frequent use, hence the need to reduce the size of the working face which is exposed to the elements.

H6.36 Covers should be handled carefully and inspected on a regular basis for damage, especially after high winds, heavy rainfall and heavy snow. Covers may be prone to deterioration by ultra-violet radiation and this should be considered at the point of purchase. Damage should be repaired promptly to prevent the ingress of water. Water ingress may be significant and 'swallow holes' may form.

H6.37 The turning and agitation of protected stockpiles is not recommended as this may damage the protection and allow the ingress of water. The condition of the salt at different parts of the stockpile should be checked regularly. If it is found that the moisture content is close to the limit of the optimum range, the affected salt should be used as soon as practicable to prevent its moisture content moving outside the target range Alternatively, mixing with salt, with that of different moisture content could be considered.

H6.38 **Warning – Outside protected salt:**

- If water enters a stockpile, a cover may prevent subsequent drying in fine weather. If this happens the condition of the stockpile will deteriorate rapidly and the stockpile should be considered effectively uncovered. Water must be prevented from entering a covered stockpile.

- Walking on covers must not be allowed without adequate precautions and equipment for health and safety reasons. Apart from the potential for slips and falls, a 'swallow-hole' in the stockpile may entrap anyone walking on the cover. A full risk assessment must be carried out and a proper process put in place.

  (Warning 3)

Outside Unprotected

H6.39 Key Recommendations – Outside unprotected storage:

- EA recommendations are that salt stores are roofed or, if this isn't practicable, covered with an impermeable membrane
- The stockpile should be left undisturbed to keep the thatch intact, apart from the working face
- The thatch on rock salt should not be used
- The thatch on a stockpile of marine or pad salt with high purity can be used if it is regraded
- The stockpile should be profiled such that water runs off and does not pool on the surface
- The base to the stockpile should be impervious and designed to prevent water running into the base of the stockpile

(Recommendation RH.12)

H6.40 Pre-treatment spread rates will be higher for salt stored outside and unprotected compared to salt stored under cover. Unprotected stockpiles should also be avoided where possible because salt and anti-caking agents are lost through leaching, and the moisture content of the salt cannot be maintained at optimum levels. Results from a test programme in the 1960s suggest that losses of salt of the order of 0.01%/mm of rainfall can be expected from an undisturbed stockpile of UK rock salt that is not treated, i.e. 60 tonnes from a 1,000 tonne stockpile with annual rainfall of 600mm. (Average rainfall in the UK is generally higher than 600mm and most of the country has an average rainfall of 800mmm or more)

H6.41 UK rock salt contains insolubles that range from about 2.5 to 5.5% by weight. The insolubles are mostly marl. When stored outside a thatch or crust is formed on the surface of the stockpile from the marl and recrystallised salt as the sodium chloride at the surface is dissolved by precipitation. The thatch helps to prevent large amounts of water from entering the stockpile. This indicates that salt under the thatch will be less affected by precipitation the deeper the salt is in the stockpile. However, testing must be carried out to determine that the salt used lies within the acceptable range and that the correct spread matrix is chosen for the salt condition.

H6.42 Other rock salts and marine salts can have a very low insoluble content. When stored outside, thatch is formed as the salt on the surface of the stockpile dissolves and recrystallises. The potential for water ingress is greater with purer salts because the thatch can take longer to form.

H6.43 The advantages of using some types of treated salt may be compromised if it is stored in unprotected stockpiles and exposed to the elements. It is suggested that before storing any salt and particularly treated salt unprotected, Authorities should satisfy themselves as to the suitability and/or cost effectiveness of this storage method.

H6.44 Outside stockpiles should take the form of an extended pyramid with the working face at one end in order to limit the ingress of water to the stockpile. The opportunity should be taken to check the condition of the salt at different parts of the stockpile when this can be done safely.

H6.45 Once thatch has formed, the stockpile should be disturbed as little as possible. If the thatch is broken up, the ingress of water will increase until new thatch has formed.

H6.46 The thatch on UK rock salt should be not used because it has a very low sodium chloride content. The thatch on a stockpile of salt with high purity can be used if it is thoroughly broken up. If large particles from the thatch are spread, the discharge rate of the salt from spreader may be affected, wastage may increase, and target spread rates may not be achieved. Also, there is an increased risk of damage to car windscreens, etc.

Drainage and Environmental Considerations

H6.47 Following the guidance in this document and from the relevant agencies will enable Authorities to reduce the risk of serious environmental impacts from spreading de-icers, by using proper storage facilities and spreading in the most efficient manner.

H6.48 Environmental and regulatory agencies have concerns over the environmental impacts of spreading all de-icers. Authorities should be aware that any de-icer, including salt, will have an environmental impact and should take all necessary precautions, as far as practically possible, to reduce the amount of de-icer entering the environment. Authorities need to comply with all relevant legislation and guidance. Therefore close liaison with the relevant environmental agencies is recommended at the earliest stage.

H6.49 Before, during and after spreading, de-icers will reach the environment in a number of ways:

- Leakages and spills during storage.
- Directly from the back of the spreader to the verge during spreading.
- Spray of the de-icer solution from the road surface by traffic and wind.
- Run off of the de-icer from the road surface into the surrounding environment e.g. surface water, ground waters, soil and sensitive habitats.

H6.50 The Environment Agency for England and Wales (EA), Scottish Environment Protection Agency (SEPA), and the Northern Ireland Environment Agency (NIEA) have jointly produced a range of guidance documents for storage of industrial liquids, based on relevant legislation and current good practice which should be consulted, including:

- Guidance on industrial and commercial pollution prevention: 'Pollution Prevention Pays', available from the EA website

  http://www.environment-agency.gov.uk/business/topics/pollution/36641.aspx

- Pollution Prevention Technical Information note: 'Safe storage and use of de-icing products', available from the EA website.

  http://www.environment-agency.gov.uk/static/documents/Business/PPTI_De_Icer.pdf

H6.51 A section of the Environment Agency's website deals directly with pollution prevention guidance, and can be found at: http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx.

Contact details for the Environment Agency (EA), Scottish Environment Protection Agency (SEPA) and Northern Ireland Environment Agency (NIEA) are provided below.

The UK-wide incident and pollution hotline is available on 0800 80 70 60 and can

be reached 24 hours a day.

Environment Agency

Website: www.environment-agency.co.uk

Email address: pollution.prevention@environment-agency.gov.uk

Telephone: 0117 934 4001

Head Office: Horizon House, Deanery Road, Bristol. BS1 5AH

Scottish Environment Protection Agency (SEPA)

Website: www.sepa.org.uk

Email address: netregs@sepa.org.uk

Telephone: 01786 457 700

Head Office: Erskine Court, The Castle Business Park, Stirling. FK9 4TR

Northern Ireland Environment Agency (NIEA)

Website: www.ni-environment.gov.uk

Email address: NIEAPollutionPrevention@doeni.gov.uk

Telephone: 0845 302 0008

Head Office: Klondyke Building, Cromac Avenue, Gasworks Business Park, Lower Ormeau Road, Belfast. BT7 2JA

Salt stockpile maintenance

H6.52 Key factors in maintaining salt condition following delivery to the storage area include:

- Stock rotation.
- Method of working of the stockpile.
- Turning /agitation of stockpiles (to be avoided if possible).
- Monitoring of salt condition.

It is also crucial that the stockpile is maintained in a safe condition at all times.

Stockpile Rotation

H6.53 Key recommendations – Stockpile rotation:

- Salt should be stored such that its condition is maintained throughout the season
- Where practical, the priority should be to use any externally stored unprotected salt first, and then externally stored covered salt before salt stored in barns and domes
- Salt should be used in order of delivery (oldest first)
- Salt should not be externally stored unprotected for more than one winter season
- Salt should not be externally stored undercover for more than three years unless it can be confirmed that the salt remains in good condition
- Handling of salt for dry salting should be kept to a minimum

(Recommendation RH.13)

H6.54 A stockpile rotation plan should be developed by Authorities to ensure that the salt being used is in good condition, the salt in storage is not deteriorating and no salt deteriorates so much that it cannot be used. For each type of storage, there should be a principle of first in first out. Stocking to meet the resilience standard may leave surplus salt in store at the end of a mild winter. Reserve stockpiles, once established, should be part of the rotation plan.

H6.55 As a general rule, salt should not be stored outside unprotected for more than one season. Where salt is protected it should not be stored for more than three years unless it can be confirmed that the salt is in good condition. Based on current information, it may be necessary for Authorities to consider replacing strategic stocks on a rotating basis every three years.

H6.56 Old salt stocks left in a barn or dome should remain in good condition for a number of seasons. However, they should be moved forward and used before they can deteriorate beyond the required condition.

Method of working of the stockpile.

H6.57 Key recommendation – Method of working stockpiles:

- Salt should only be removed from a single working face at any one time
- Where practical, the stockpile should be worked fully to the back of the pile before moving the working face
- External stockpiles should take the form of an extended pyramid or trapezoid
- The size of the working face should be kept to a minimum, for example by making the working face the short side of the pile

When there is insufficient covered storage capacity for all salt stocks, the priority for storing under cover should be as follows:

- Highest priority: High purity/low insoluble content salt e.g. Marine salt
- Lowest priority: UK rock salt

(Recommendation RH.14)

Monitoring of salt condition.

H6.58 Key recommendations – Monitoring of salt condition:

- Authorities should regularly check the salt condition, by testing samples taken from existing stockpiles as well as new deliveries
- A regime of testing should be developed in consultation with the salt supplier
- Salt samples can be sent to a UKAS accredited laboratory and analysed.
- Simple checks on moisture content can be carried out locally at reduced cost but should be supplemented and verified by UKAS accredited laboratory tests
- Independent testing should be compared with certificates provided by suppliers

(Recommendation RH.15)

H6.59 Testing of salt moisture content, grading and certain chemical properties can be carried out by UKAS accredited laboratories. There are also other, simpler methods that can be used to measure salt moisture content. These tests can be used for comparative purposes to check how the moisture content is changing throughout a season. If the simple checks indicate a change in salt moisture, it is recommended that samples are then sent for testing by an accredited laboratory for confirmation.

H6.60 Checks should be made on new deliveries of salt. A testing regime should be developed in consultation with the supplier, based on the consistency of the salt being supplied. e.g. a level of testing of one sample every 10 lorry loads might be recommended.

H6.61 Checks should also be carried out regularly on the condition of salt in stockpiles. Suggested frequencies of sampling for different storage options are shown in the table below:

Table H5 – Salt testing frequency	
Storage type	**Frequency of testing (per month)**
Outside unprotected	2
Outside covered *[1]	1
Barn or dome *[1]	1

*[1] Use appropriate level for Fabric covered structures depending on specification

H6.62 If incorporated as a routine procedure, sampling and testing the salt condition will be a quick and easy process and will provide useful long term information.

Procedure for taking salt samples:

H6.63 For safety reasons, the sample should not be taken by hand from the stockpile. It should be taken using equipment normally used to load spreaders.

H6.64 It is recommended that two bucket loads are first removed from the same location and height. A third bucket load should then be removed and a sample (of about 2kg) taken from this bucket. In this way the sample will be representative of salt that would be loaded into a spreader.

H6.65 When sampling from stockpiles in barns or domes, it is recommended that samples are taken from the working face and other areas of the stockpile. For external stockpiles, salt should only be taken from the working face to avoid disturbing the cover or thatch.

H6.66 For each sample:

1. Assign a unique reference number
2. Note on a plan of the stockpile where each sample was taken
3. If sending for laboratory analysis, the samples should be placed in an airtight container labelled with the sample reference number and sent for analysis, preferably at a UKAS accredited laboratory.

Simple procedure for testing salt moisture content:

H6.67 Although the preferred method for measuring the moisture content is by laboratory analysis, a reasonable estimate for continual monitoring can be obtained by the following method:

1. Samples should be taken from the stockpile in the same way as outlined above
2. Weighing a sample of salt (before drying)
3. Drying the sample in a fan oven at 70°C

4. Weighing the dry sample

5. Calculating the difference in weight

The moisture content (%) can be obtained using:

100 x (wet weight – dry weight) ÷ (dry weight)

Example

If a sample weighs 500g (wet) and 478.5g (dry) the moisture content would be 100 x (500 – 478.5) ÷ 478.5 = 4.5%

Action when salt moisture content is outside the optimum range

H6.68 Key recommendations – Actions when salt moisture content is outside the optimum range:

- Review spread rates when salt is not in the optimum moisture content range
- Recalibrate spreaders where moisture content varies significantly from that at previous calibration

(Recommendation RH.16)

H6.69 When salt is too wet it can be removed from the stockpile and allowed to dry and/or be mixed with drier salt to reduce the moisture content in an appropriate area. Some of the potential actions that can be taken are summarised below:

H6.70 Actions for wet salt (>4.5% moisture):

- All wet salt should be moved away from the stockpile and left to dry (in a suitably contained area to minimise environmental impact)
- When the moisture content reaches the optimum range, the salt can be mixed with drier salt in the stockpile or from new deliveries
- Samples should be checked after mixing to confirm that the moisture content is in the optimum range

H6.71 Actions for wet salt (<4.5% moisture):

- Salt should be mixed with drier salt in the stockpile or from new deliveries
- Samples should be checked after mixing to confirm that the moisture content is in the optimum range
- If spreading when wet, assume poor distribution when deciding the spread rate

H6.72 Actions for dry salt:

- For dry salting, assume high losses after spreading

- Consider mixing with salt of higher moisture content in the stockpile or from new deliveries

Storage of strategic stocks

H6.73 Key recommendations – Storage of strategic stocks:

- Recommendations for preparing and maintaining stockpiles given in this section apply equally to strategic stockpiles
- Salt should not be stored outside undercover for more than three years unless it can be confirmed that the salt is in good condition
- Consider replacing strategic stocks of salt on a rotating basis every three years.
- Strategic stocks of salt should be inspected regularly and samples taken to monitor the salt condition. More frequent checks should be made for stockpiles over three years old

(Recommendation RH.17)

H6.74 Information from salt suppliers suggests that, if stored correctly, UK indigenous rock salt can be stored outside under waterproof covers and remain in good condition without turning or agitation for up to three years. However, it should not be assumed that salt stored outside under cover will remain in good condition indefinitely. Salt should not be stored outside undercover for more than three years unless it can be confirmed that the salt is in good condition.

H6.75 Based on current information, it may be necessary to consider replacing strategic stocks on a rotating basis every three years.

H6.76 There is insufficient experience of the covered storage of other types of salt in UK conditions to provide guidance on this issue at this time. The guidance provided for preparing a stockpile will apply equally to strategic stockpiles of salt.

Loading spreaders

H6.77 It is important that spreaders are loaded in such a way that maintains the salt condition resulting from good storage.

Key recommendations:

- Do not load thatch or large aggregations (‘lumps’) of salt
- Care should be taken to avoid contamination of the salt with detritus when removing from the base level of the stockpile
- Salt spreaders should be sheeted during spreading. This will protect the salt from snow and rain and prevent it being lost from the hopper during spreading

(Recommendation RH.18)

H7 CALIBRATION OF SALT SPREADERS

General

H7.1 Key recommendations – Calibration of salt spreaders:

- Spreaders should be calibrated for each type of salt they are to spread using salt in the expected condition for normal operations
- Any variation in the condition of the salt from the condition at calibration must be minimised if re-calibration is to be avoided
- The performance of spreaders should be routinely monitored after calibration and checked if necessary
- Significant changes in performance, salt type or salt condition should trigger re-calibration or at least a review of the need for re-calibration
- Spreaders should be calibrated regularly and following any maintenance or incident that has the potential to affect spreader performance
- Calibration records should be retained in accordance with the Authority's policies regarding the retention of other important documents

(Recommendation RH.19)

H7.2 The purpose of calibration is to ensure that each spreader in a fleet is spreading the salt uniformly over the target area, at the correct rate of application and with as little wastage as possible.

H7.3 Salt spreaders require calibration and set-up for the specific salt type, grading and moisture content being used. Even though salts may be compliant with BS 3247: 2011, the spreader settings for salt from one source are unlikely to be the optimum settings for salt from another source. The amount of salt discharged could vary from the expected amount by as much as ±50%.

H7.4 Calibration should always involve a direct measurement of the salt being discharged and where it is being spread. An indirect check of the spreader settings, such as the belt speed, gate height and spinner speed is not sufficient. Before any calibration is carried out, the salts, spread widths and spread rates for which calibration is required must be clearly identified.

H7.5 Every spreader should be calibrated before each winter, however undertaking and additional mid-winter calibration is also good practice. Calibration should be carried out whenever required throughout the season, for example following a change of salt or monitoring highlighting a potential issue. The objective is to ensure that the intended spread rates are achieved.

H7.6 It cannot be relied upon that the spreader performance will remain unchanged after calibration. There are numerous variables that impact on calibration. Performance needs to be monitored and recorded so that recalibration of

spreaders can be carried out where necessary. Monitoring of the salt tonnage used provides a quick and easy method of checking the spreader performance in terms of discharge rate.

H7.7 Driver training is important in monitoring the performance, as any non-routine actions (such as operating the spreader in burst mode) should be recorded and allowed for. Driver training is discussed in Section 13

H7.8 **Warning – Calibration of spreaders:**

- There is a risk of under or over spreading if the spreader is not calibrated for the salt being spread.
- The potential consequences of under spreading are higher when the spread rate is low.

(Warning 4)

H7.9 An extensive record of spreader performance testing has been built up over the last 10 years, through spreader trials carried out on behalf of the NWSRG (formerly NSSRG) and the Highways Agency. The results of these trials demonstrated that the amount of salt discharged could vary from the expected amount by as much as ±50%. Important reasons for this large amount of variation were identified as insufficiently rigorous calibration procedures and/or variations in salt condition after calibration and/or spreader performance capabilities.

H7.10 Calibration can be carried out in-house or under contract but always by trained and competent persons. Before any calibration is carried out:

- The level of service to be provided and the roles and responsibilities of all parties must be agreed.
- The de-icers, spread widths and spread rates for which calibration is required must be clearly identified.
- This should be fully documented and form part of any contractual agreement.

Calibration procedure

H7.11 Key recommendations – Calibration procedure:

- Calibration should be carried out for every spreader in a fleet and should check:
  1. That the total amount of salt being discharged is within acceptable tolerances
  2. That the salt is being spread to the target area
- Calibration should always involve a direct measurement of the amount of salt being discharged and where it is being spread

- Calibration must be carried out by a competent and trained person

(Recommendation RH.20)

H7.12 **Warning – Calibration procedure:**

- Carrying out an indirect check of the spreader settings, the belt speed, gate height and spinner speed is not sufficient.

- The amount of salt being discharged must be measured**.**

(Warning 5)

H7.13 The key element of calibration is to check that the amount of de-icer discharged corresponds to the particular target spread rates required to be delivered by that spreader and that the salt distribution profile meets the specification across the whole of the road.

H7.14 An effective calibration procedure will involve carrying out checks in the following order:

A. Pre-calibration Checks

H7.15 Key recommendations – Pre-calibration checks:

- Check and record the salt moisture content ensuring that it is in an acceptable range

- Check the condition of the spreader, particularly the hopper, chute and salt distribution mechanism and controls.

(Recommendation RH.21)

H7.16 Calibration will not be effective unless the spreader is well maintained, in a good serviceable condition and the salt(s) used (for calibration) are both typical of the salt stored and ideally within the optimum moisture range.

H7.17 The salt moisture should be within the optimum range. However, the vehicle should be calibrated for the actual salt that it will be using, no matter the state of the salt.

H7.18 Calibration should only be carried out with salt outside the optimum moisture content range when there is no alternative salt in good condition available. Spreaders must be re-calibrated as soon as salt in good condition and within the optimum moisture content range is available.

B. Discharge Tests

- The discharge test should check that the spreader is discharging salt (and brine for pre-wetted salting) at the correct rate. The target amount (g) = spread width (m) x spread rate (g/m^2) x spread length (m).

- The salt discharge rate can be measured most accurately by completing a trial

spreading run. This will require the use of a weighbridge, an accurate on-board weighing system or weigh pads to measure the amount of salt and brine discharged during the run.

- Weighbridges and weigh pads should be calibrated and the resolution (the smallest increment in weight) should be considered. For example, if the weighbridge measures to the nearest 10kg, and the amount of salt discharged is 100kg, there would be a potential error of 10%. For accuracy, sufficient salt should be discharged such that the resolution does not result in a measurement error greater than 3%.

- If using the spreader's on board weighing system, the spreader should be on a flat area of ground to give an accurate measurement. The spreader should be parked in the same position to measure the weight before and after a spreading run
- If using weighbridges or weigh pads and the spreader has completed a full treatment run then it is important to ensure the fuel tank is full during weighing both before and after treatment.

- The discharge rate may vary with the hopper load, with experience indicating that a full hopper is more likely to result in a reduced rate of spread. This is considered more of an issue for older spreaders as more modern equipment may be able to continuously adjust the output (once calibrated) through closed loop control.

- Alternatively, for some spreaders it is possible to carry out a discharge test with the spreader stationary, simulating spreading at the normal spreading speed. The salt (and brine when spreading pre-wetted salt), can be collected in a bag or bucket and weighed using scales. This method will be less accurate than a trial spreading run because less salt is discharged.

- Checks should be made that the calibration is valid at two significantly different spread rates using a typical spread width on the routes treated by that spreader.

- The amount of salt (and brine where applicable) discharged should be adjusted in accordance with the spreader manufacturer's recommendations so they are within ±10% of the target.

- For more modern spreaders, with closed loop control of the amount discharged, more stringent limits of ±6% should apply.

- The dry salt to brine mix proportions for pre-wetted salting should be within the range 64:36% to 76:24%.

Procedure for discharge test

H7.19 Following completion of pre-calibration checks, the discharge test should be carried out as follows:

1. The spreader should be refuelled to the same level before and after any spreading run, so the weight of fuel used does not affect the measurement

2. Load salt into the spreader hopper (the hopper should be between 10% and fully loaded and all spreaders within a fleet should be loaded to a consistent level)
3. Weigh the spreader or hopper load before spreading
4. Calculate the target amount from the spread rate setting
5. Carry out the discharge run or static discharge
6. Weigh spreader or hopper/discharged load after discharging
7. Calculate the difference in weight before and after spreading to determine the amount of salt (and brine where applicable) discharged
8. To measure the amount of brine discharged during a static test it can be collected separately to the salt. Alternatively, the spreader can be weighed with no salt loaded before and after the test (fuelled to the same level). The difference in weight will be the amount of brine discharged
9. Compare this to the target amount. If the amount of salt discharged is not within ±10% of the target, make adjustments in accordance with the spreader manufacturer's recommendations
10. Repeat until two consecutive measurements are made within ±10% of the target. (For more modern vehicles, with closed loop control of the amount discharged, more stringent limits of±6% should apply)
11. When pre-wetted salting at target mix proportions of 70% dry salt and 30% brine, the measured proportions should be within the range 64:36 to 76:24
12. Checks should be made at two significantly different spread rates using a typical spread width for the routes treated by that spreader

C. Distribution Check

- A visual check of the salt distribution should be made to check the salt is being spread to the target area. This should be carried out by an experienced person who has the competence to relate the visual check to actual performance.

- For some spreaders the check can be carried out with the spreader stationary and operated for a few seconds to simulate spreading at normal speed. The bounce of salt across the road surface will be affected by accumulations of salt, so the salt should be cleared as necessary. Cones can be placed as markers to define the correct spread width.

- Alternatively, the salt distribution may be observed from a vehicle following the spreader while performing a trial spreading run. While this will demonstrate the distribution at speed, with the extra bouncing of the salt particles due to their forward momentum and the snaking caused by turbulence generated by the spreader, it is harder to assess the uniformity of the distribution and the wastage than from a static assessment.

- The spread pattern should be observed and, if necessary, the spinner speed and symmetry should be adjusted to optimise the salt distribution profile and reduce wastage.

- The distribution should be checked at the typical spread rate and also at the lowest rate that may be used by that spreader.

- An assessment of the uniformity of the salt distribution as **Good/Fair/Poor** should be made during calibration and this will depend on the salt type (see Table H6 and H7)

- The assessment is made when the amount of salt being discharged is within 10% of the target amount (as checked during the discharge test)

Procedure for stationary distribution check

H7.20 Following completion of discharge checks, the distribution check should be carried out as follows:

1. The spreader should be positioned on a level surface with a normal road surface or at least one that is similar
2. Cones can be placed as markers to define the correct spread width, e.g. from 1.75m to the left of the spinner to 5.25m to the right for a 7m asymmetric spread
3. Operate the spreader for a few seconds simulating spreading at normal speed
4. The bounce of salt across the road surface will be affected by accumulations of salt, so the salt should be cleared as necessary to prevent any accumulations
5. The spread pattern should be observed and, if necessary, the spinner speed and symmetry should be adjusted to optimise the salt distribution profile and reduce wastage to less than 10% of the target amount

H7.21 For each salt type, the uniformity of distribution is defined by the minimum spread rate achieved in any lane as follows:

Table H6 – Assessment of Uniformity of Salt distribution from stationary test

Salt type	Uniformity	Minimum spread rate in a lane (% of the target amount)
Treated and pre-wetted	Good	90
	Fair	70
	Poor	60
Dry	Good	80
	Fair	60
	Poor	50

H7.22 The following guidelines are given, to help assess the level of uniformity based on a simple visual assessment of the relative amounts of de-icer in each lane based on an observed spreader run.

Table H7 – Assessment of Uniformity of Salt distribution from observed run		
Salt type	**Uniformity**	**Observation of distribution to two lanes**
Treated and pre-wetted	Good	Distribution appears uniform between the lanes Wastage assessed to be less than 5%
	Fair	Up to 50% more salt assessed to be in one lane than the other Wastage assessed to be less than 10%
	Poor	Up to 75% more salt assessed to be in one lane than the other Wastage assessed to be less than 15%
Dry	Good	Up to 20% more salt assessed to be in one lane than the other Wastage assessed to be less than 10%
	Fair	Up to 75% more salt assessed to be in one lane than the other Wastage assessed to be less than 15%
	Poor	Up to 90% more salt assessed to be in one lane than the other Wastage assessed to be less than 20%

H7.23 An example of a fair dry salt distribution is given below:

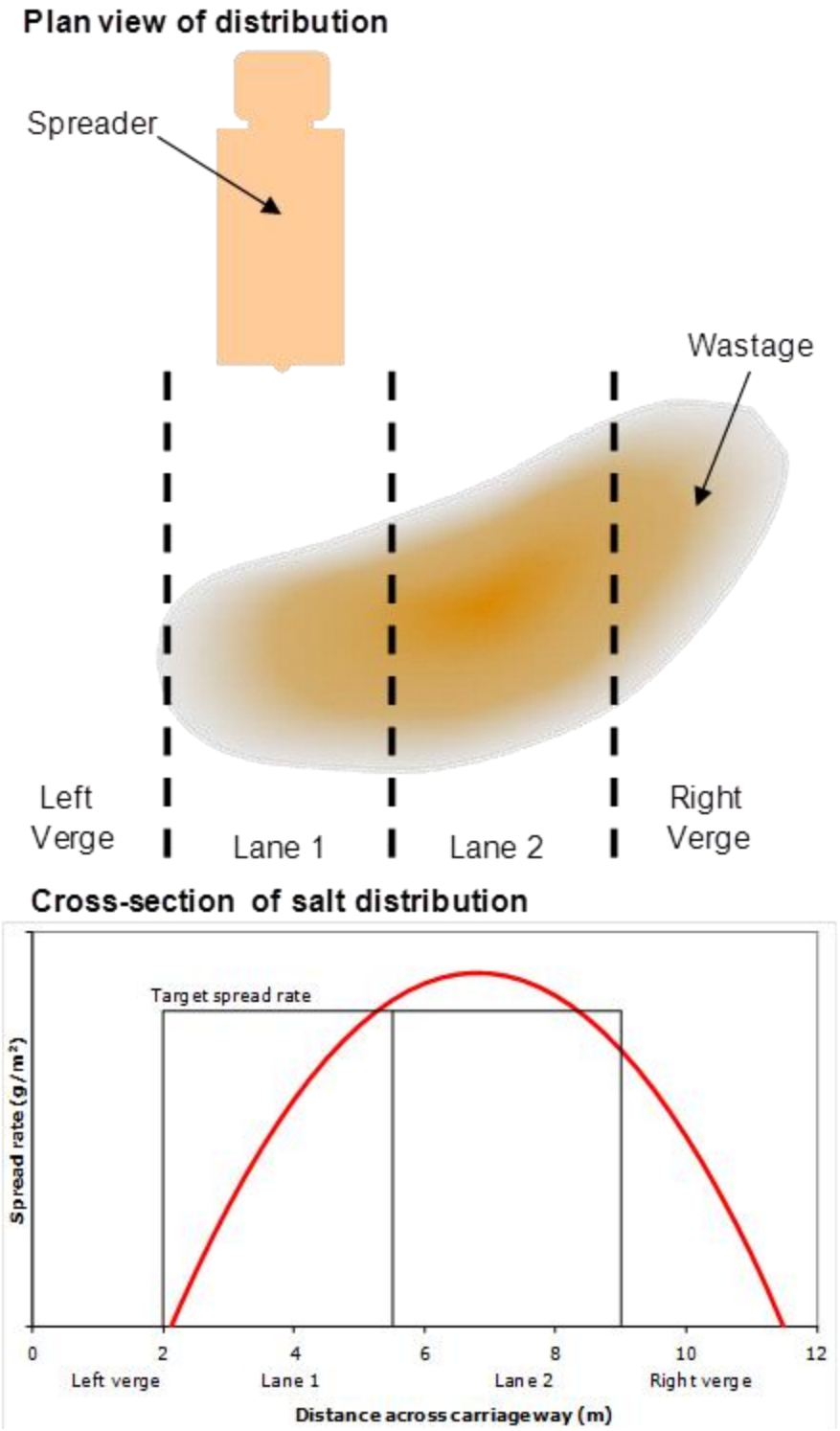


Figure H1 – Dry Salt Distribution Diagram

D. Certification

Following successful completion of the discharge tests and distribution check, a calibration certificate should be issued by the tester who should be an appropriately trained and experienced person. The calibration certificate should give details of the:

- spreader being tested;
- type and moisture content of the salt;
- amount of de-icer discharged at each spread setting;
- spread settings at which the salt distribution profile was assessed;
- approximate hopper load.

Timing of calibration

H7.24 Key recommendations – Timing of calibration:

- Spreaders should be calibrated:
    - Just before the start of the season
    - Mid-season
    - Whenever significant changes in performance are noted
    - Whenever significant changes are made to the spreader (maintenance, repair, etc.)
    - When salt type or condition changes

    (Recommendation RH.22)

H7.25 Every spreader should be calibrated before each winter season commences. The end of September is recommended as a suitable time for carrying out pre-season calibration and this can also be incorporated into any training or route familiarisation for new drivers. A mid-winter calibration is also recommended.

H7.26 Calibration should also be carried out when

- A different type of salt is to be spread
- The moisture content of the salt to be spread differs by more than 1.5% from that used in the original calibration
- Changes have been made to the spreader that would affect salt delivery e.g. after servicing, repair, replacement of key parts, etc.

- Monitoring of spreader performance has indicated a potential problem (see H7.24)

- If and when any concern is raised by the salting vehicle driver or other winter service personnel regarding spread rate and/or distribution

- If a vehicle collision or a series of less severe incidents occur on a treated route where icy/frosty/snowy conditions have been reported (attributable to road surface conditions) and there are concerns/allegations regarding the salt spread rate and/or distribution

Monitoring spreader performance after calibration

H7.27 Key recommendations – Monitoring spreader performance after calibration:

- Spreader performance should be routinely monitored throughout the season

- Spreaders should then be recalibrated when any significant change in the spreaders performance is noted

- Regular spreader checks should form part of the Winter Service plan

- Recalibration should always be instigated where the performance checks show this is required

(Recommendation RH.23)

H7.28 Once calibrated, spreader performance may change as a result of many factors. As well as physical changes to the spreaders, there may be variations in the condition of the salt, which will impact on the amount spread and its distribution. For example, during a severe winter, supplies of UK indigenous rock salt may be delivered straight from the mines and are likely to be drier than any weathered supplies obtained previously. Furthermore, salt supplies obtained from other depots or strategic stockpiles are likely to differ from the salt utilised during calibration. Therefore, spreader performance needs to be monitored and recorded so that re-calibration of spreaders can be carried out where necessary.

H7.29 After calibration, the amount of de-icer being spread on each route should be monitored continuously through a defined and robust process. Where incorporated as a routine procedure, this provides a quick and easy method of checking the spreader performance in terms of discharge rate (although not the distribution).

H7.30 There should be a target amount for each route and each spread rate used. The amount spread during each treatment should be continuously monitored throughout the winter season against the target amount for that route and spread rate.

H7.31 A suggested method of monitoring performance is as follows: For each treatment, the spreader should be weighed before and after spreading to measure the amount of salt (and brine for pre-wetted salt) discharged (the amount of fuel used will need to be factored in to the target amount or fuel topped up before weighing). For spreaders with onboard weighing, the difference in weight before and after

should be logged. Weighing should be carried out with the spreader stationary and on level ground. (Clearly weighing needs to be done before unloading any surplus/excess salt).

H7.32 Acceptable upper and lower limits for the amount of salt being spread should be agreed e.g. ± 10% of the target amount. A procedure should be in place to investigate spreaders when their performance falls outside the acceptable range. This should include:

- Confirming that the correct spread rate, spread width and treatment length was used for any treatment where there was a discrepancy
- Confirming that no unaccounted for additional spreading was undertaken, e.g. spot treatments, etc.
- Confirming that the spreader is in working order – i.e. the spreading mechanism is not damaged or contaminated
- Confirming that there has been no tunnelling
- Confirming that the equipment was operated to instruction by a trained operative

If these checks cannot explain any discrepancies, re-calibration is required. An example process to follow is given below

H7.33 Carry out checks in the following order, look for the simplest answer first. If the answer to any of the questions below is “no” carry out remedial action and consider if recalibration is required where appropriate:

1. Check the spread settings:

- Incorrect spread rate and spread width?
- Correct setting for the salt type being spread?
- Confirm with driver correct operation of vehicle?

2. Issues during the spread run:

- Spreading was over correct length?
- Spreader was not continually operated in burst mode?
- Salt was not spun off before returning to depot?
- No reported tunnelling during spread run?

3. Check spreader operation:

- Damage to the hopper or spreading mechanism?
- Contamination of the hopper or spreading mechanism?

- Obstruction of the hopper or spreading mechanism?

H8 CONSIDERATIONS FOR PRECAUTIONARY TREATMENTS

Salt type, grading and condition

H8.1 Guidance on salt type, quality, grading and condition are provided within previous sections of Appendix H.

Salt spreaders

H8.2 The amount of salt spread and the uniformity of the salt distribution (also considering any wastage) are dependent on the performance of the spreader. High performing spreaders achieve spread rates and distributions close to the target amount but less accurate spreaders need to spread more salt to ensure that the target area receives the correct amount of salt. Less salt is needed to ensure target spread rates are achieved for spreaders that deliver salt accurately than those that spread unevenly and/or with high wastage. If spread rates are accurate and salt remains on the surface through the period required, relatively little salt is needed for precautionary treatments in marginal conditions. Even if the performance of the spreader does not meet a good standard, it may be possible to reduce spread rates in marginal conditions provided minimum target rates are achieved. However, it is essential that the guidance given in this section is followed closely and risk properly managed.

Salting technology

H8.3 Guidance is provided within previous sections of Appendix H on considerations for dry, treated and pre-wetted spreading.

Weather and road surface conditions

H8.4 Key recommendations – Weather and road surface conditions:

- Accurate forecasting of road and weather conditions will allow spread rates to be optimised and give decision makers confidence in selecting the lowest spread rates for those forecast conditions
- Information should be obtained concerning predicted precipitation type, intensity and timing, as well as the predicted road surface temperature in order that the timing of treatments and spread rates can be optimised
- Weather stations and live data should be used when possible
- Forecasts and treatments based on climatic domains (where practical) may enable more efficient and economic spreading
- When the weather and road surface conditions are suitable, consideration should be given to treating only the known wet and cold spots, rather than full routes. However, when undertaking ‘spot’ treatments such as these, good records need to be kept regarding which locations were treated, when they

were treated, why they were treated and the spread rate used. These records should be used to aid future decision making in similar conditions

- Highway drainage systems need to be adequately maintained to prevent water ponding or flowing on to the road. Information concerning locations where water is flowing onto the highway or failing to flow away from it should be reported to the appropriate maintenance team for remedial action and/or the erection of temporary warning signs

- Higher spread rates should be used in high wind (greater than 20mph average wind speed) if wind compensation of the spreader settings is not possible

(Recommendation RH.24)

H8.5 The amount of salt required to prevent ice formation is dependent on the amount of water present at the road surface as well as road surface temperature. Good drainage of roads is therefore important to reduce the amount of salt needed to be spread. Provided there is effective drainage, the amount of water at the road surface decreases rapidly after rainfall and the action of traffic also assists in this process. If a road surface is well drained and has been trafficked for several hours after rainfall, relatively little water will be present at the road surface.

H8.6 **Warning - Weather and road surface conditions:**

- A very significant quantity of salt is required to prevent freezing if water has ponded on or is flowing across a road surface. Spreaders can be operated in blast mode, but this is often insufficient to prevent freezing. N.B. Approx. 100g/m² of rock salt is required to prevent the freezing of water of depth 2.5mm (or 1kg/m² for 25mm of ponded water) at road surface temperatures down to only -2˚C. Where water is flowing onto the carriageway (or up through porous surfacing, cracks, etc.) it will remove the salt solution. Thus spreading at high rates or in blast mode may be ineffective no matter how much salt is spread.

(Warning 6)

Effect of types of surfacings

H8.7 Different surface course types may affect the level of treatment required and may present problems with drainage of water either to or from the road surface

H8.8 Some surfacing materials, including porous asphalt, “negative texture” thin surfacings, multiple surface dressings and micro surfacings, exhibit different texture, drainage and thermal characteristics from conventional positively textured surfacings such as Hot Rolled Asphalt.

H8.9 Thin surfacings are a textured surface course generally less than 40mm in thickness (as defined in HD 37/99).

H8.10 Porous asphalt surfacings have a higher permeability and allow increased flow of water through the surface.

H8.11 The air voids content of these surfacings are such that drainage may occur within them. Water may flow through these voids carrying away salt solution. Water may also appear at the surface where there is a barrier to flow such as a joint, this may create areas of particular difficulty in preventing ice formation.

H8.12 Evidence has shown that the effect of residual salt on the carriageway is reduced for such surfacings, particularly in areas of low traffic and therefore should not be relied upon. Higher spread rates and more frequent treatments may be required than on positively textured dense surfacings such as hot rolled asphalt or some surface dressings.

Porous asphalt

H8.13 Key recommendations – Porous Asphalt:

- Porous asphalt surfacings require particular attention
- Precautionary treatment rates at least 25% higher should be considered for porous asphalt
- Since porous asphalt cools more rapidly than denser surfaces, treatments should be made in good time to avoid ice forming, These treatments must also remain effective for longer as porous asphalt is slower to warm
- Spread rates should be increased for a distance of at least 100m before a change from dense surfacing to porous asphalt and, after a contiguous section of porous asphalt, the spread rate should remain at the elevated level for at least 1km after the surface change. ; The distance can be shorter than 1km with a low level of traffic. This is due to a reduction in the amount of salt carried forward by traffic from the porous asphalt to the dense surfacing

  (Recommendation RH.25)

H8.14 In winter conditions, porous asphalt can reach temperatures up to 2°C lower than denser surfaces. In areas that cannot drain freely, porous asphalt stays wetter for longer than positively textured dense surfacings (such as hot rolled asphalt). This increases the risk of ice formation and consequently more salt is needed to keep porous asphalt free from ice.

H8.15 Water may drain through the surface and rise to surface level at joints, discontinuities or low spots creating ponding. Such areas require particular attention (see Warning 6)

H8.16 Salt in solution may flow away from the road through the surface requiring consideration of additional treatments where this is known to occur.

H8.17 Water, salt solution and salt grains will enter the voids. Salt in solution will drain towards the lower parts of the carriageway, but some salt, water and brine may be retained in the voids. Salt in solution may be ‘pumped’ back to the surface by the action of traffic, but this effect cannot be relied upon because of the uncertainties involved. When water or weak brine solution are ‘pumped’ back to the surface it has the potential to freeze; also ice 'mushrooms' may form in the pore structure when insufficient salt is present.

H8.18 Salt can be transported for over one kilometre along a dense surfacing due to the action of traffic, but this action does not occur to the same extent on porous asphalt because de-icers are largely retained in the voids of the porous surface. Thus there is a tendency for sections of dense surfacings following sections of porous asphalt to lose de-icer over time (due to the action of traffic) which is not replenished because of the absence of the tracking effect from the porous asphalt.

Negatively textured thin surfacing other than porous asphalt

H8.19 Key recommendations – Negatively textured thin surfacings:

- The spread rate for negatively textured thin surfacing (other than porous asphalt) should remain as for hot rolled asphalt (see Treatment Matrices A to C)

- Winter service practitioners should aim to apply treatment as close as possible to the forecast time of freezing, within the limits of practicality

- The common practice of applying treatment during the early evening to protect against a forecast of ice forming in the early hours of the following morning may not be economical or effective. Where this practice is employed, accurate historical records of the decision making process are important to provide confidence that appropriate levels of service are met. These records should be used to aid future decision making in similar conditions.

  (Recommendation RH.26)

H8.20 Negatively textured thin surfacings generally exhibit thermal characteristics between those for positively textured surfacing and porous asphalt. It is unlikely that most thin surfacings will cool as quickly to as low temperatures as porous asphalt.

H8.21 As with porous asphalt, salt tends to become trapped in the surface voids. For the trapped salt to become effective, it must be dissolved and be drawn to the surface by the action of tyres. For heavily trafficked roads, an amount of residual salt may remain on the surface to combat ice formation. On lightly trafficked roads, salt is more likely to be retained in the surface voids and thus not be effective.

H8.22 Significant amounts of water can be retained in some thin surfacings. This is more likely to constitute a problem where the carriageway:

- has limited crossfall

- is on a shallow incline

- is wide, with multiple traffic lanes

In particular, water can pond where there is inadequate drainage, and where the flow of water through the surfacing is impeded by surfacing of lower porosity or joints. There is an increased likelihood of a layer of ice forming on the surface where water has ponded; a significant amount of salt may be needed to form a salt solution of sufficient concentration to prevent freezing. (see Warning 6)

H8.23 As for porous asphalt, when water retained in thin surfacings is 'pumped' back to the surface it has the potential to freeze. Also, ice 'mushrooms' may form in the pore structure when insufficient salt is present.

Concrete road construction

H8.24 Care is needed for concrete carriageways. Concrete roads will tend to retain heat in their core for longer than HRA roads due to their dense construction and at times this can lead to slightly warmer road surface temperatures than bituminous constructions in the same conditions. However, after a prolonged cold spell they also tend to be slower to warm and can be colder than other bituminous construction roads in the same weather conditions.

Residual salt

H8.25 Key recommendations – Residual salt:

- Before reducing treatment because of the amount of salt already present on the network, Authorities must satisfy themselves that residual salt levels are adequate and it is crucial that the information utilised regarding this issue is accurate.

- Residual salt levels should only be taken into account for routes where good information is available, conditions are favourable and historical evidence has been gathered to support decision making. It is important that the possible variation of residual salt levels over the whole length of treatment routes is considered

- Reliance should not be placed on residual salt levels on negatively textured thin surfacing

- Less reliance should be placed on residual salt levels as lower spread rates are introduced

- Whilst normally providing useful information regarding conditions, residual salt measurements from roadside weather stations should be treated with caution

- For decision making purposes, residual salt readings (or calculated 'Freezing Temperatures') from individual sensors should not be solely relied upon, and other information such as knowledge of previous salting operations, actual weather and road conditions during the intervening period etc. should also be utilised. Furthermore, it is recommended that this information is supplemented by visual inspection.

- It is important that good records are kept on the decision making process involved in determining the effect of residual salt on spreading operation and rates.

  (Recommendation RH.27)

H8.26 Residual salt may build up on road surfaces if there are treatments on successive days without precipitation in the intervening period and traffic levels are not high. To reduce the number of treatments and minimise spread rates, residual salt

levels should be considered when possible

H8.27 If residual salt levels are high, consideration should be given to either reducing the spread rate for the next treatment or not making a treatment. Accurate measurement and assessment of the overall residual salt level and a careful risk assessment are required.

H8.28 The potential to either reduce spread rates or not make a treatment is greatest on marginal nights. This decision depends on the spread rates for the previous treatments and the weather and road surface conditions. Primarily, it is dependent on the accurate assessment of overall residual salt, good knowledge of the routes in question to understand where the minimum residual levels may be and the experience of the decision maker in this area.

H8.29 Residual salt sensors are only effective when water is present on the sensors and road surface. Some Authorities have correlated a measured reading with the protection to a specific temperature in order to assess top-up rates.

H8.30 Accurate records of the decision making process are always important and particularly when residual salt is taken into account. They provide essential evidence in defending claims where an incident has occurred.

Traffic levels

H8.31 Key recommendations – Traffic levels:

- Actual traffic levels should be used
- Where actual traffic levels are not known the decision making process should consider both the low/medium and high traffic levels, then take the highest spreading rate applicable for the known conditions
- Spreading in heavy traffic should be avoided where possible as conditions for spreading will be less than optimal
- Spreading carried out at a time of lower traffic will help reduce losses before the salt has dissolved
- Ideally, there should be reasonable trafficking after spreading to facilitate dissolution, especially when spreading dry salt and even more so for dry 10mm salt
- Treatments after rainfall should be delayed to allow traffic to disperse as much water as possible, when operational considerations and the weather allows
- Treatments on roads with low traffic may need to be increased or carried out earlier to allow sufficient time for dissolution to take place before the forecast conditions.

(Recommendation RH.28)

H8.32 The effects of traffic on precautionary salting are significant and therefore must be considered carefully in the decision making process.

H8.33 Actual traffic levels should be used in the decision making process and these may vary between “Before Spreading”, “At Spreading”, Immediately after Spreading” and during “Forecast Conditions”. (N.B. At times one or more of the latter 3 may be part of the same time period). Where actual traffic counts are not available figures may be based on route and time specific estimates.

H8.34 For purposes of simplification and the issues involved in accurately estimating traffic across any part of the network and at any time, this guidance considers only two levels of traffic:

- Heavy - 250 vehicles per hour per lane or more
- Low/Medium – up to 250 vehicles per hour per lane

H8.35 The two levels of trafficking have been based on loss of de-icers observed in trials. Thus heavily trafficked roads and medium/light trafficked roads, in terms of de-icer spreading, bear no relation to the actual or theoretical traffic capacities of the roads. Research shows that de-icer losses do not increase significantly for traffic levels. beyond 250 vehicles per lane per hour.

H8.36 Average Daily Traffic levels (ADT), or similar categorisation must not be used. Also traffic levels associated with Road Hierarchy, Road Category, etc. must not be used.

H8.37 See Table H8 for a summary of the effects attributable to differing traffic levels before, during and after salting.

H8.38 Salt may be deflected by vehicles or vehicle draughts and not reach all of the target area when spreading in heavy traffic.

H8.39 Salt may be removed from the road by the action of tyres and vehicle drafts (drafts are more of an issue for dry salting or pre-wet salting in dry and windy conditions)

H8.40 Whereas trafficking can help to redistribute salt from the well-salted to the under-salted areas, the redistribution may be insufficient and should not be relied upon, especially when spread rates are low. Trafficking may also remove salt from an under salted area exacerbating the situation.

H8.41 Where practical, when frost and ice weather conditions are forecast and humidity conditions are beneficial to dissolution, spreading is preferable at a time when the amount of traffic within the first hour after spreading is lower. (This is because the rate of loss of salt from the target area through trafficking is likely to be higher before the salt has dissolved, particularly for dry salting).

H8.42 In heavy traffic conditions spreading may be compromised by de-icer being deflected by vehicles or moved by vehicle drafts. In slow moving and stop/start conditions spreading is unlikely to be optimal.

H8.43 When spreading in heavy traffic, losses due to trafficking will tend to be higher when dry salting and particularly if the road is not sufficiently damp to retain the smaller salt particles or hasten the dissolution of the salt.

H8.44 The precautionary spreading of salt during peak traffic flow periods should be

avoided whenever possible. In emergency or snow conditions (forecast and actual), appropriate salting should be arranged to be carried out outside of peak flow periods however, there will be times where this is unavoidable due to weather and/or network conditions. If precautionary treatment in heavy traffic is unavoidable it may be necessary to implement additional measures to aid the passage of spreaders and/or to consider treatment in two runs to ensure proper distribution of the de-icers.

H8.45 Trafficking breaks up the salt particles and aids their dissolution provided there is sufficient moisture present.

H8.46 Trafficking displaces water from the road surface. Treatments after rainfall should be delayed as long as possible to enable the amount of water present to reduce so less salt is needed to prevent ice formation.

H8.47 It may be necessary to undertake treatments when roads are dry and atmospheric humidity is low. Dissolution in these conditions will be slow, particularly when dry salting and traffic flow is light after salting. Although the rate of loss may be lower under these circumstances. Such conditions require consideration of increasing the amount of salt spread and/or earlier treatment, in order to allow the salt more time to enter solution.

Table H8 – Effect of trafficking (read in conjunction with notes above for details)		
Traffic Level & Timing	**Pros**	**Cons**
Before treatment High	Removes water from wet road surfaces Reduces water film thickness on damp roads	None
Before Treatment Low/Medium	None	Little water removed from a wet road surface Higher water film thickness for damp and wet roads
At Treatment High	None	May deflect salt from target areas, vehicle draughts may remove salt from road, particularly in dry conditions. Operation of spreader may be less than optimal in slow moving or stop/start conditions
At Treatment Low/Medium	Little loss due to traffic Salt spreading unhindered by vehicles adjacent to spreader	None
Shortly After Treatment High	Will help dissolution by crushing salt grains and reduce loss due to wind	Much salt may be removed from road by tyres and vehicle draughts before it enters solution
Shortly After Treatment Low/Medium	Less losses due to traffic	Dissolution may be slow particularly for dry roads and low humidity conditions. Some salt will be removed from the road before dissolution takes place.

H9 DECISION MAKING

General

H9.1 Appropriate spread rates and treatment times can only be determined with accurate forecasting of road and weather conditions. Timing of treatments and spread rates will be dependent on predicted precipitation type, intensity and timing, as well as the predicted road surface temperature.

H9.2 Many Authorities operate over a network that covers more than one climatic domain. By using domain-based forecasting, consideration can be given to using different spread rates in different domains or partial network treatment to provide a more economical service where practical. Route-based forecasting can also help assist in the route design and decision making for such an approach. Such an approach may assist in reducing the amount of salt used by the Authority.

H9.3 When the actual and predicted weather and road surface conditions are suitable, consideration can be given to treating only the known wet and cold spots, rather than full routes. Route assessment with drivers, highway maintenance records and third party reports can all assist in identifying sections of road where the carriageway suffers from run-off from beyond the highway boundary. Such causes can include changes in agricultural practice. Problematic locations can be identified and further actions such as mitigation or enforcement to resolve the underlying issues should be considered. However, when undertaking ‘spot’ treatments, good records must be kept regarding which locations were treated, when they were treated, why they were treated and the spread rate used.

H9.4 Use should be made of all available sensor and camera information.

H9.5 Patrols to inform treatment decisions could be introduced. These can aid decisions on focused treatments and help in making the best use of salt stocks by providing information to decision makers of problem sites, visual assessment of road wetness and residual salt levels etc. Trained and experienced patrols and/or scouts can provide useful information that significantly assists the decision making process. However, they are usually not in possession of all of the information available to the nominated decision maker regarding predicted conditions and/or the conditions being experienced and the actions being taken across the wider road network. Therefore, it is important that patrols and/or scouts are only used carefully to supplement the decision making process, rather than to replace it.

H9.6 In conducting the annual review recommended in Section 13 it can be useful to investigate individual “marginal” forecasts experienced during previous seasons and to consider whether decision making and the data provided for that decision making could be improved in the future. This process can provide information to aid decision making in future "marginal" situations and can provide economies if future unnecessary treatments are avoided.

H9.7 A suggested decision making process, taking into account various operational scenarios, is provided in this section. This may be modified as necessary to suit local circumstances within the bounds of legislative requirements and delivering an effective service.

H9.8 Decision makers should be suitably trained and experienced and fully competent to make the winter service decision across the full range of conditions that may be met in a winter season.

- They should have a thorough understanding of the local network and any temporary or permanent conditions that may require particular consideration in delivering the service.

- They should have a sufficient understanding of the technical process to determine how changes in de-icer, de-icer condition, spreading capability and late changes to weather, road or traffic conditions may impact the level of service delivered.

- They should undertake appropriate training and certification where this is available.

Precautionary Treatment Decision Matrix

H9.9 A suggested decision matrix for precautionary treatments based on road surface conditions and predicted weather conditions is given in Table H9.

Table H9 – Sample Precautionary Treatment Decision Guide

<table>
<tr><th rowspan="2">Road Surface Temperature</th><th rowspan="2">Precipitation</th><th colspan="3">Predicted Road Conditions</th></tr>
<tr><th>Wet</th><th>Wet Patches</th><th>Dry</th></tr>
<tr><td>May fall below 1°C</td><td>No rain
No hoar frost
No fog</td><td rowspan="3">Salt before frost</td><td rowspan="2">Salt before frost (see note a)</td><td rowspan="2">No action likely, monitor weather (see note a)</td></tr>
<tr><td rowspan="4">Expected to fall below 1°C</td><td>No rain
No hoar frost
No fog</td></tr>
<tr><td>Expected hoar frost
Expected fog</td><td colspan="2">Salt before frost (see note b)</td></tr>
<tr><td>Expected rain BEFORE freezing</td><td colspan="3">Salt after rain stops (see note c)</td></tr>
<tr><td>Expected rain DURING freezing</td><td colspan="3">Salt before frost, as required during rain and after rain stops (see note d and H11.35)</td></tr>
<tr><td>Possible rain
Possible hoar frost
Possible fog</td><td colspan="2">Salt before frost</td><td>Monitor weather conditions</td></tr>
<tr><td colspan="2">Expected snow (See H11.35)</td><td colspan="3">Salt before snow fall</td></tr>
<tr><td colspan="5">The decision to undertake precautionary treatments should be, if appropriate, adjusted to take account of residual salt.
All decisions should be evidence based, recorded and require continuous monitoring and review.
Decision on treatment timing should account for traffic and road surface wetness at time of treatment and after, as well as forecast conditions.</td></tr>
</table>

Notes:

(a) Particular attention should be given to the possibility of water running across or ponding on carriageways and other running surfaces e.g. off adjacent fields after heavy rains, washing off or diluting salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning and possible other occasions. See Warning 6.

(b) When a weather warning contains reference to expected hoarfrost, considerable deposits of frost may occur. Hoarfrost usually occurs in the early morning and is

difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective. Close monitoring is required under this forecast condition which should ideally be treated just as the hoarfrost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to and as close as possible to the expected time of the condition. Hoarfrost may be forecast at other times in which case the timing of salting operations should be adjusted accordingly.

(c) If, under these conditions, rain has not ceased by early morning, crews should be called out and action initiated as rain ceases.

(d) Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period. Authorities should be aware of the health safety implications of ice forming during freezing rain events, both to the travelling public and winter maintenance personnel carrying out treatments. They should be prepared to make follow up treatments on any ice that has formed or to take suitable actions such as road closures.

(e) By using domain-based forecasting, consideration can be given to differing actions from each depot.

(f) Where there is any hint of moisture being present, a pessimistic view of the forecast should be taken when considering treatment to negatively textured surfaces. See Warning 6

(g) Spreading salt alone at temperatures below about -7°C (the lower of air or road surface at time of spreading) or below about -5°C in low humidity conditions (relative humidity less than 80%) may not be practically effective. High spread rates will be required and even then salt may not enter solution quickly enough to prevent freezing or be able to melt ice or compacted snow. Consideration should be given to spreading at least 2 hours before the temperature reaches these values to allow salt to enter solution, or the use of alternative de-icers. See Section H12.

Road Surface Wetness

H9.10 For the purpose of allocating treatments a distinction is made between dry, damp and wet road surfaces. Definitions for use when making treatment decisions are given in Table H10. These may be used in conjunction with direct measurements of water film thickness and data from weather forecasts to determine when a road is damp or wet.

Table H10 – Road Surface Wetness		
Definition	**Description**	**Water film thickness (mm)**
Dry road	A road that shows no signs of water or dampness at the surface but may be just detectably darker (however it may have moisture contained in pores below the surface that is not 'pumped' to the surface by traffic)	0 to 0.03mm
Damp road	A road which is clearly dark but traffic does not generate any spray. This would be typical of a well-drained road when there has been no rainfall after 6 hours before the treatment time.	0.03 to 0.05mm
Wet road	A road on which traffic produces spray but not small water droplets. This would be typical of a well-drained road when there has been rainfall up to 3 hours before the treatment time.	0.05 to 0.1mm

H10 TARGET SPREAD RATES OF SALT FOR PRECAUTIONARY TREATMENT

General

H10.1 Key recommendations – Target spread rates for precautionary treatment:

- When precautionary treatments are carried out, sufficient salt should be spread, based on the forecast conditions, to prevent frost and ice formation and/or to prevent ice or snow from bonding to the carriageway
- Spread rates should be kept as low as possible for the forecast conditions, routes and road surfaces considered. This is in order to optimise salt usage, improve stock resilience, and reduce the impact of salt on vehicles, infrastructure and the environment
- **(Recommendation RH.29)**

H10.2 The majority of winter service treatments in the UK are precautionary in nature and in response to predicted frost and ice conditions.

H10.3 Those conditions where expected road surface temperatures are close to zero (just above or below) are termed marginal. In these situations significant salt savings can be achieved using the rates given in this guidance when:

- Spreader performance is good and in-calibration
- Salt is in good condition

- The type of salt is the same and salt moisture content is within 1.5% of that when the spreader was calibrated, and when this is also within the optimum range, see H7.23
- Salt distribution in the target area is within acceptable defined limits, see H7.18
- Losses during spreading and wastage are within acceptable defined limits

H10.4 Spread rates for precautionary treatments are given in this section for dry, pre-wetted and treated salting for a range of weather and road surface conditions.

H10.5 The use of pre-wetted or treated salt can provide salt savings compared to dry salting. Thus providing service efficiencies and increased resilience, whilst having less detrimental impact on the environment, vehicles and infrastructure.

H10.6 There are a number of key factors which determine appropriate treatment spread rates. This section provides guidance on how to consider each factor when deciding which spread rate to use. The key factors which determine the appropriate spread rate are:

- The type, grading and moisture content of the salt
- Whether the spreader is accurately calibrated for the salt being used
- The performance and serviceability of the spreader
- The type of salt and salting technology (e.g. dry, pre-wetted, treated salting)
- The weather forecast and forecast road surface conditions
- The weather and road surface conditions during and after spreading
- The residual salt levels on the highway
- The level of trafficking before, during and after spreading
- The type of surfacing
- Other factors associated with the nature of the local road network, such as the presence of slopes, and highway drainage provision, etc.

Spread rate decision making

H10.7 Recommended spread rates for dry, pre-wetted and treated precautionary treatments are provided in Treatment Matrices A to C. Authorities should select the appropriate Matrix column for each route based on an assessment of the following 3 factors as shown in Table H12:

- Salt distribution **Good/Fair/Poor**
- Traffic level **Low/Medium or High**
- Salt loss immediately after spreading **Normal or High**

H10.8 The determination of these factors may vary for a number of factors, these include:

- different climatic domains,
- different routes,
- different spreaders,
- accuracy of calibration or time since last calibration,
- different salt types,
- different salt condition,
- different stocks/deliveries of the same salt type,
- time of spreading,
- traffic levels at time of spreading,
- traffic levels after spreading,
- road surface types.

Therefore a one size fits all approach will not provide the benefits outlined above.

H10.9 The final decision on the correct matrix column will be dependent on the factors above and others that must be confirmed, either as continuing from previous assessments or newly assessed, each time a new treatment is required. Prior to commencement of the winter season, assessment can be made of the spreader performance following calibration.

H10.10 The decision maker should recognise that circumstances or conditions may change following the original treatment decision for a single or multiple treatments and the decision making process should be revisited when necessary.

The Treatment Decision Making process

H10.11 The following checklists are designed as a quick reference for the delivery of the Treatment Decision. They should be read and used in conjunction with the detailed guidance and information given in this Appendix.

H10.12 Decision Making Checklist H1 “In advance of forecast” can be used to prepare for the winter season as well as be used in season to confirm that the data has not changed and take action where necessary outside of the individual treatment decision making process required for a weather event.

H10.13 Using this process, when the treatment decision is made it is only necessary to confirm that the base data/parameters, that may not change at each treatment decision (such as spreaders being in calibration and salt condition remains unchanged), need be confirmed.

H10.14 Furthermore, the number of treatment matrices and columns used within the matrix needed for a particular route can be identified possibly reducing to just one or two for most decisions.

H10.15 Decision Making Checklist H2 “At forecast” is the part of the decision making process which is reliant on the forecast and other current conditions such as traffic level, road wetness at time of spreading and wind.

Decision Making Checklist H1 – In advance of forecast of frost		
Item	**Parameters**	**Action**
The following conditions and parameters may be assessed/determined in advance of the treatment decision but must be confirmed within the treatment decision process for each forecast		
Spreader is allocated to route	Yes/No	Check spreader is able to spread de-icer allocated for the route – if not do not use or treat as poor spreading capability and increase spread rate to next largest rate in appropriate matrix. Monitor route during and after spreading
Spreader is in Calibration	Yes/No	Use Poor Spreading capability if No providing spreader is capable of spreading de-icer to the minimum level required *1.
Is the same spreading technology used as when calibrated?	Yes/No	If No confirm spreader is capable of spreading de-icer to the minimum level required *1. Use spread rate matrix consistent with the actual technology to be used.
Is de-icer the same type and grading as calibration (Normal and/or extreme cold alternatives need to be considered)	Yes/No	Is spreader capable and calibrated for de-icer if Yes OK – if No do not use or treat as poor spreading capability (poor coverage) and increase spread rate to next larger rate in appropriate matrix. Monitor route after during and spreading
Has de-icer been tested within allowable period (Table H5)	Yes/No	If No reduce spreading capability (coverage) to next lesser level of capability if above Poor Capability. Take remedial action where salt exceeds maximum allowable moisture content
Is de-icer within 1.5% of calibrated m/c and not above maximum allowable m/c	Yes/No	If No reduce spreading capability (coverage) to next lesser level of capability if above Poor Capability. Take remedial action where salt exceeds maximum allowable moisture content

*1 Note the minimum requirements for spreading capability when using the spreading matrices in this guidance must be met at all times for the rates to be valid.

Decision Making Checklist H2 – At forecast of frost or ice		
Item	**Parameters**	**Action**
The following conditions and parameters are assessed/determined when the treatment decision is being made for the forecast conditions		
Obtain forecast conditions (from forecast provider)	Temperature and precipitation	Use values to determine road surface wetness and appropriate row in spread rate matrix for salting technology for wetness and RST [*1]
Assess salt distribution	Good/Fair/Poor	Use results of distribution assessment if known and spreader is in calibration. Otherwise use Poor – See Flowchart H1
Assess traffic level	High/Medium	Use known traffic levels at time of/immediately after spreading. If traffic levels are not known carry out the full decision making process for both High and Medium/Low traffic levels and take higher spread rate. See Table H11
Assess road surface wetness at time of spreading	Dry/Damp/Wet Or Very Wet	See Table H10 and use appropriate value to determine both losses and spread rate for combined RST and wetness in appropriate decision matrix for salting technology used. For a very wet road (in excess of Wet as defined in Table H10 refer to Table H13 for appropriate action
Assess loss after spreading	High/Normal	Use Flowchart H2
Assess road surface wetness at forecast point	Dry/Damp/Medium	Assess from forecast of precipitation See Table H10
Assess road surface temperature	°C (from forecast) [*1]	Use along with road surface wetness to determine appropriate row in spread rate matrix.
Determine spread rate from appropriate spread rate matrix for technology and de-icer used	Using information assessed above	Use Table H12 to identify appropriate Matrix column. For normal or extreme cold conditions.
Check special conditions which may require increase in treatment rate, etc.	Surfacing, wind, traffic.	See Table H13
Record of decision process		Record all information and communicate to appropriate parties for service delivery, management and audit of the service.

[*1] – Forecast conditions may be modified by additional historical data, thermal mapping information, sensor information and other sources of local knowledge where these are available. This should only be done where well defined processes aligned with the Treatment Decision and understanding of the information along with its impact on the decision and associated risks are understood and risks mitigated.

H10.16 Guidance is given in the following sections on how to assess all the factors required in the decision making process:

- Salt distribution (see Flowchart H1)
- Traffic level (see Table H11)
- Salt loss immediately after spreading (see Flowchart H2)

Guidance on assessing salt distribution

H10.17 For precautionary treatments, the spread rates that can be used depend upon how accurately the spreaders can distribute the salt. A simple assessment of the salt distribution as **Good/Fair/Poor** should be made during calibration

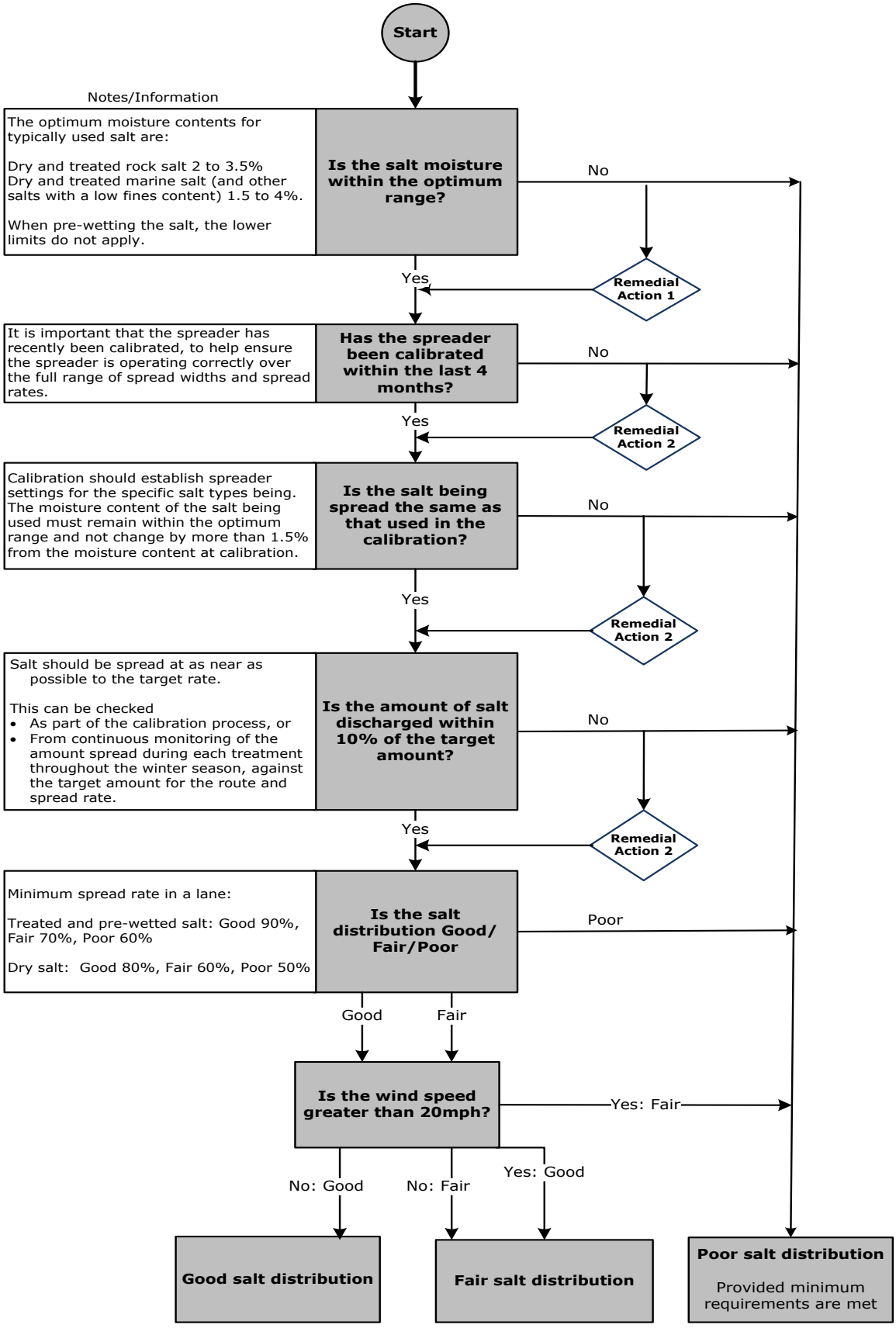
H10.18 The decision on the salt distribution is based on the condition of the salt and the spreader performance, as well as the calibration of the spreader. The flow chart H1 below provides guidance on determining whether the spreading capability can be considered as Good, Fair or Poor. It asks a number of questions relating to the condition of the salt and the calibration and performance of the spreader.

H10.19 The coverage should be reduced from 'Good' to 'Fair' or 'Fair' to 'Poor' when the wind speed is greater than 20mph and the spreader is not operated with wind compensation. In winds greater than 30mph, additional treatments may be necessary which may include continuous spreading. It is recommended that an assessment is made based on the spreader characteristics (e.g. susceptibility to poor distribution in winds or wind compensation providing ability to be set for effective asymmetrical spreading in windy conditions for the road layout and topography), road surface wetness (e.g. if the road is drying in the wind and further precipitation is not forecast, or the road is wet and the salt is less likely to be blown off the road) or the road surface is highly exposed to the wind. This assessment should firstly consider whether de-icer spreading is practical in the conditions and then consider whether an increased spread rate or continuous spreading is the appropriate decision when all circumstances are taken into account

H10.20 It is considered that 'Good coverage' will apply only to spreaders capable of high spreading accuracy and in good condition, that are correctly calibrated and whose performance is monitored regularly.

H10.21 Ideally, a Service Provider would utilise the same spreaders on the same routes. It is acknowledged that this may not be practically achievable in all circumstances. However Authorities should as far as possible use spreaders with the same performance on each route. Where spreaders are allocated to a different route than the normal, one or backup spreaders are used they must be calibrated for the salt being used or allowances made for increasing the spread rate during the

decision making process.



Note:- For wind speeds of 30mph or more refer to Section H10.19

Flowchart H1 – Salt Distribution Flowchart

H10.22 An Authority can improve its spreading capability by considering the remedial actions below.

Action1

Mix the salt with drier or wetter salt (as appropriate to decrease or increase the moisture content). Use salt from the stockpile or from new deliveries.

A simple test for moisture is outlined in H6.69

Action 2

Calibrate the spreader using the salt being spread.

Guidance on assessing traffic levels

H10.23 Traffic levels are an important part of the treatment decision. Details are given in Section H8 and Table H11

Table H11 – Traffic Level	
Level	**Vehicles/hour/carriageway**
Heavy	250 or more
Low/Medium	Less than 250

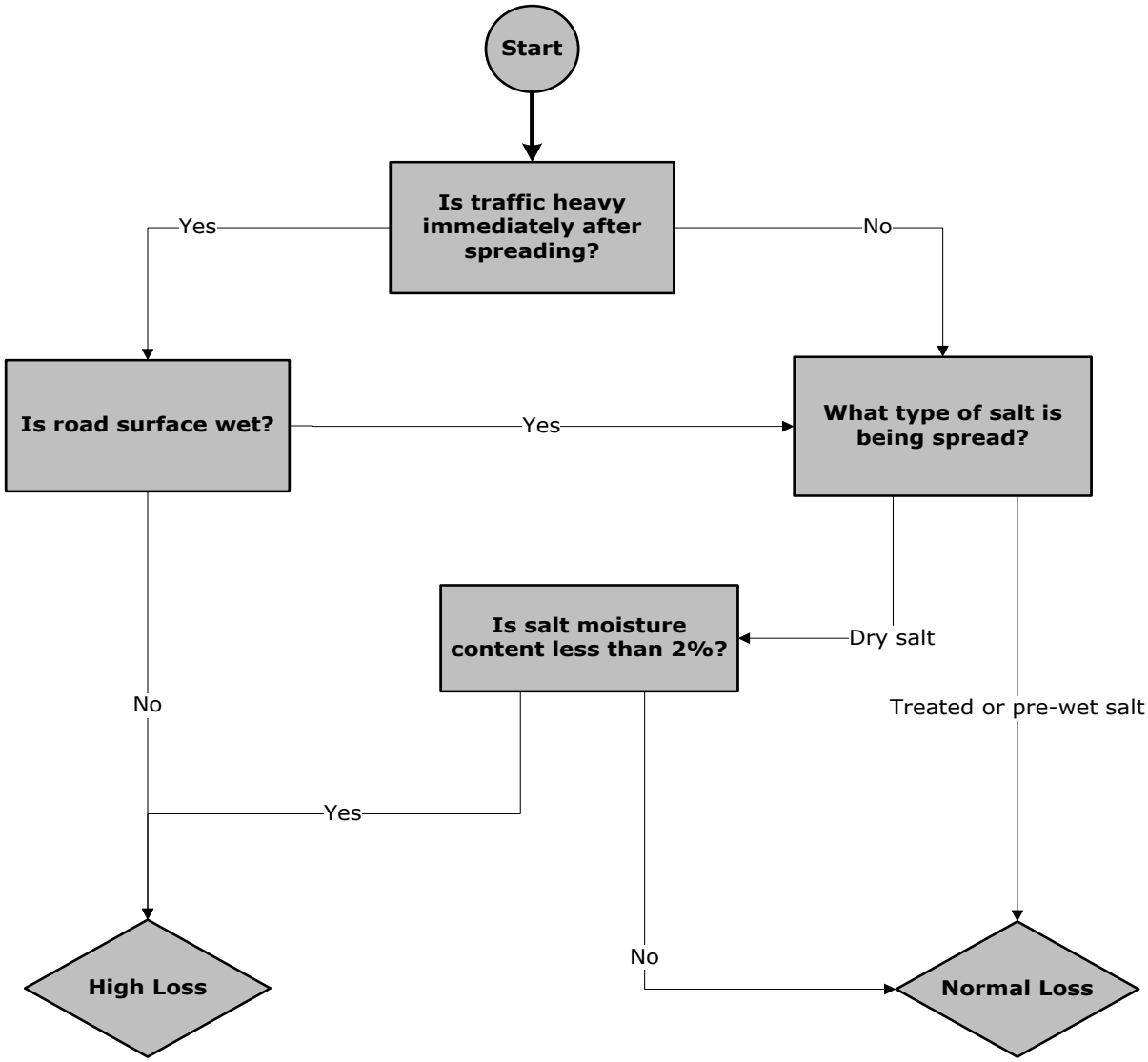
Guidance on assessing salt loss immediately after spreading

The salt loss immediately after spreading should be assessed as normal or high loss:

- Normal loss
  Road surface is wet, or traffic is not heavy immediately after spreading

- High loss
  Traffic heavy immediately after spreading and road surface dry or damp, or
  If the moisture content of dry salt is less than 2% when dry salting

The flow chart H2 provides guidance on the decision making process to determine whether the salt loss immediately after spreading will be normal or high.



Flowchart H2 – Salt Loss Flowchart

Spread rate matrices

H10.24 Authorities should select the correct Treatment Matrix and matrix column from Table H12.

Table H12 - Treatment matrix & column for different non-forecast conditions			
Spreading Technology		**Treatment Matrix**	
Dry Salting		Treatment Matrix A	
Pre-wet Salt Spreading		Treatment Matrix B	
Treated Salt Spreading		Treatment Matrix C	
Salt distribution	**Traffic level**	**Losses**	**Treatment matrix column**
Poor	High	Normal	**A**
Poor	High	High	**B**
Poor	Medium/Light	Normal	**C**
Poor	Medium/Light	High	**D**
Fair	High	Normal	**E**
Fair	High	High	**F**
Fair	Medium/Light	Normal	**G**
Fair	Medium/Light	High	**H**
Good	High	Normal	**I**
Good	High	High	**J**
Good	Medium/Light	Normal	**K**
Good	Medium/Light	High	**L**

H10.25 The following points must be considered when using the spread rate matrices for normal conditions. If the minimum requirements set out below are not met then the service provider must take remedial action to ensure that the total amount of salt being spread is at least 90% of the target amount and wastage of salt spread outside the lanes is assessed to be less than 20% of the target amount.

1. The service provider must make adequate checks to ensure salt distribution is within 60 % of target for treated and pre-wet spreading and 50% for dry salt, for each lane for the spread rate used and that there will be no tunnelling in the spreader preventing salt reaching the discharge mechanism.

2. The Matrices only relate to properly calibrated spreaders as outlined in Section H7.

3. Spread rates given in the Matrices are only appropriate when spreading takes place at temperatures that ensure the salt is fully dissolved before lower temperatures are reached. Generally this is at temperatures above -5˚C in low humidity conditions (below 80%) and above -7˚C in normal UK winter humidity conditions (80% and above). Temperatures below these have been defined as “Extreme Cold” in this guidance. While salt **already** in solution on the road can be effective at temperatures significantly below these values it is essential that spreading operations are undertaken before temperatures fall to these levels. The absolute value considered effective for sodium chloride brine solutions is -15^{o}C.

4. In Extreme Cold conditions spreading should be completed at least 2 hours before the threshold temperatures of -7°C or -5°C are reached to enable the salt to enter solution provided conditions of road wetness and/or humidity are sufficient at the time of spreading to provide sufficient water. Roads should be closely monitored and consideration given to increasing the spread rate, making successive treatments or both.

5. In Extreme Cold conditions, where spreading cannot be completed in the above time-frame or in conditions when dissolution will not occur alternative de-icers should be considered. Also, where forecast temperatures will be below -15^{o}C, alternative de-ices should be used. (See Section H12). Where alternative de-icers are not available consideration must be given to providing clear and frequent warnings to drivers of icy conditions or roads should be closed.

6. The spread rates are for sections of well drained roads without ponding or runoff from adjacent areas. Spread rates must be adjusted accordingly or other measures taken where appropriate

7. The rates may be adjusted to take account of variations occurring along routes such as temperature, surface moisture, road alignment and traffic density. When single spread rates are used for each route/network (which is currently typical practice) the rates should reflect the expected conditions on all sections of that route/network.

8. The rates may be adjusted to take account of residual salt levels. However, it should be noted that residual salt levels will tend to be lower if lower spread rates are introduced. Residual salt levels are most likely to be significant on marginal nights after treatments on two or three successive days without precipitation in the intervening period.

9. On porous asphalt and on dense surfacing for 1km after a change from porous asphalt, spread rates should be increased by 50% on roads with medium traffic levels and by 25% on heavily trafficked roads.

10. Spread rates should be increased to a rate appropriate for the particular situation where negatively textured thin surfacings are poorly drained such that water can accumulate within the surface texture.

11. When the rates in the selected Matrices are significantly lower than those used previously, it is recommended that the reduction should be introduced in stages with the performance of spreaders and route condition monitored. In particular, checks should be made that the amount of salt discharged is within 10% of the target and that treatments are effective.

12. All decisions should be evidence based, recorded and require appropriate monitoring and review.

13. Where Authorities are confident of significant levels of residual salt, spread rates may be reduced by an appropriate amount based on local knowledge and experience. Care must be taken to identify any areas on a route where residual salt may not be present.

Important notes

- The spread rates for pre-wetted salt are for the total de-icer, i.e. the dry salt and the brine components.

- Matrices A to C provide the spread rates for UK Indigenous Rock Salt. Spread rates can be reduced by 5% for salts with a sodium chloride content of 99% or more such as marine salt when using spread rates of 20g/m² or above.

- It has been assumed that two treatments are required to achieve spread rates greater than 30g/m². It may be necessary and preferable to make two treatments to achieve spread rates greater than 20g/m².

- Spread rates should be increased from those given in the Matrices under the conditions shown in Table H13 below:

Table H13 - Change in spread rates	
Condition	**Increase in spread rate or action**
Spreading when there is no or very little traffic	25%
Porous asphalt	25%
Dense surfacing after change from porous asphalt	25% for 1km
Areas prone to surface water	See Warning 6
Spreading in very heavy traffic (e.g. peak traffic times) if unavoidable	Consider treatment in 2 runs
Spreading in high winds (greater than 20 mph)	Increase the spread rate or consider continuous spreading as detailed in Section H10.19 and Flowchart H1
Concrete roads after prolonged cold spell	25%
Spreading in low humidity (less than 80%)	Consider an additional precautionary treatment earlier in the day [*1]
Spreading in dry conditions in advance of heavy hoar frost	Consider an additional precautionary treatment earlier in the day [*1]

[*1] The treatment should be timed to allow the maximum time for dissolution taking into account the likely losses due to traffic especially when using dry salt only.

TREATMENT MATRIX A **DRY SALTING (De-icer spread rates in g/m^2)**													
Frost or forecast frost Road Surface Temperature (RST) and Road Surface Wetness	**Column** **Cvrg** **Traffic** **Loss**	**A** **PC** **HT** **NL**	**B** **PC** **HT** **HL**	**C** **PC** **MT** **NL**	**D** **PC** **MT** **HL**	**E** **FC** **HT** **NL**	**F** **FC** **HT** **HL**	**G** **FC** **MT** **NL**	**H** **FC** **MT** **HL**	**I** **GC** **HT** **NL**	**J** **GC** **HT** **HL**	**K** **GC** **MT** **NL**	**L** **GC** **MT** **HL**
RST at or above -2˚C and dry or damp road conditions		8	8	8	8	8	8	8	8	8	8	8	8
RST at or above -2˚C and wet road conditions		10	13	13	16	8	11	11	13	8	8	8	10
RST below -2˚C and above -5˚C and dry or damp road conditions		15	20	17	20	13	17	14	17	10	13	11	13
RST below -2˚C and above -5˚C and wet road conditions		25	2 x 17	2 x 17	2 x 20	21	28	28	2 x 17	16	21	21	25
RST at or below -5˚C and above -10˚C [*1] and dry or damp road conditions		29	2 x 19	2 x 16	2 x 19	24	32	27	2 x 16	18	24	20	24
RST at or below -5˚C and above -10˚C [*1] and wet road conditions˚		2 x 24	2 x 32	2 x 32	2 x 39	2 x 20	2 x 27	2 x 27	2 x 32	30	2 x 20	2 x 20	2 x 24
Please see Table H13 for variations to the rates given above													

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

[*1] Refer to Section H10.21 Notes 3, 4 & 5 when spreading at temperatures at or below -5^{o}C

TREATMENT MATRIX B **PRE-WETTED SALTING (De-icer spread rates in g/m^2)**													
Frost or forecast frost Road Surface Temperature (RST) and Road Surface Wetness	**Column Cvrg Traffic Loss**	**A PC HT NL**	**B PC HT HL**	**C PC MT NL**	**D PC MT HL**	**E FC HT NL**	**F FC HT HL**	**G FC MT NL**	**H FC MT HL**	**I GC HT NL**	**J GC HT HL**	**K GC MT NL**	**L GC MT HL**
RST at or above -2˚C and dry or damp road conditions		8	8	8	8	8	8	8	8	8	8	8	8
RST at or above -2˚C and wet road conditions		8	10	12	14	8	9	10	12	8	8	8	9
RST below -2˚C and above -5˚C and dry or damp road conditions		13	16	16	18	11	14	14	16	9	11	11	12
RST below -2˚C and above -5˚C and wet road conditions		21	26	2 x 16	2 x 18	18	22	27	31	14	17	21	24
RST at or below -5˚C and above -10˚C [*1] and dry or damp road conditions		26	2 x 16	2 x 16	2 x 18	22	27	27	31	17	21	21	24
RST at or below -5˚C and above -10˚C [*1] and wet road conditions˚		2 x 21	2 x 26	2 x 31	2 x 36	2 x 18	2 x 22	2 x 27	2 x 31	28	2 x 17	2 x 21	2 x 24
Please see Table H13 for variations to the rates given above													

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

[*1] Refer to Section H10.21 Notes 3, 4 & 5 when spreading at temperatures at or below -5^{o}C

TREATMENT MATRIX C **TREATED SALTING (De-icer spread rates in g/m^2)**													
Frost or forecast frost Road Surface Temperature (RST) and Road Surface Wetness	**Column Cvrg Traffic Loss**	**A PC HT NL**	**B PC HT HL**	**C PC MT NL**	**D PC MT HL**	**E FC HT NL**	**F FC HT HL**	**G FC MT NL**	**H FC MT HL**	**I GC HT NL**	**J GC HT HL**	**K GC MT NL**	**L GC MT HL**
RST at or above -2˚C and dry or damp road conditions		7	7	7	7	7	7	7	7	7	7	7	7
RST at or above -2˚C and wet road conditions		7	8	10	11	7	7	8	10	7	7	7	7
RST below -2˚C and above -5˚C and dry or damp road conditions		10	13	12	14	9	11	11	12	7	9	8	10
RST below -2˚C and above -5˚C and wet road conditions		17	21	24	28	15	18	21	24	11	14	16	19
RST at or below -5˚C and above -10˚C [*1] and dry or damp road conditions		19	24	23	27	17	21	20	23	13	16	15	18
RST at or below -5˚C and above -10˚C [*1] and wet road conditions˚		2 x 16	2 x 20	2 x 23	2 x 27	2 x 14	2 x 17	2 x 20	2 x 23	22	27	30	2 x 18
Please see Table H13 for variations to the rates given above													

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

[*1] Refer to Section H10.21 Notes 3, 4 & 5 when spreading at temperatures at or below -5^{o}C

H11 TREATMENTS FOR SNOW, ICE AND FREEZING RAIN

General

H11.1 It is impractical to spread sufficient salt to melt more than very thin layers of snow and ice. Ploughing is the only economical, efficient, effective and environmentally acceptable way to deal with all but light snow.

H11.2 Drainage should not be obstructed when ploughing snow. Windrows or piles of snow should be positioned to allow drainage system to function or be removed. Where necessary snow should be removed to prevent melt water overloading of drainage systems or running back into the carriageway.

H11.3 The salt distribution profile determined during calibration is most relevant to precautionary treatments when salt can bounce across the road surface. When slush, snow or ice is present, unless the spread width setting is increased, salt distribution will tend to be restricted to a narrower width as a result of the salt not 'bouncing' across the road surface. Therefore, when spreading on snow or slush, the spreader settings should be adjusted to achieve the required spread width.

H11.4 Providing space for ploughing of further snowfalls is important and may require windrows to be removed or ploughed further off the carriageway.

H11.5 Freezing rain occurs when droplets of water freeze upon contact with the ground and freeze instantaneously into ice, often forming ‘black’ ice. Freezing rain is difficult to forecast and can cause ice to build up very quickly on the road surface.

Preparation before ice, snow and freezing rain

H11.6 Key recommendations – Preparation before ice, snow and freezing rain:

- Forecasting and timing are critical to the efficient treatment of snow and freezing rain conditions. Decisions should be based on the best available forecast information and treatments carried out as close to the optimum time as is practicable

  (Recommendation RH.30)

H11.7 When snow is forecast ploughs and snow blowers should be prepared and positioned in order that snow clearance can start without delay as and when required.

H11.8 To facilitate the breakup and dispersal of ice and snow by trafficking, treatments must be made before snowfall or freezing rain. This ensures that there is de-icer present on the surface to provide a debonding layer.

H11.9 Although it will increase salt usage, before snowfall and where practicable, consideration should be given to spreading salt on as much of the network as possible (i.e. beyond the normal precautionary salting network). This will provide a debonding layer and facilitate the breakup and dispersal of snow by traffic where subsequent treatments will not take place for a considerable time or at all.

H11.10 Spreading salt before freezing rain is necessary to provide a de-bonding layer but freezing of the liquid brine may occur on top of the salt. Authorities should be aware of this limitation and the health safety implications of this frozen layer during freezing rain events. They should be prepared to make follow up treatments on any ice that has formed or to take suitable actions such as road closures. Research into more effective treatments before, during and after freezing rain is currently on going and guidance will be updated to reflect the findings.

Depths of snow (light, moderate to heavy snow)

H11.11 This guidance defines two main snowfall categories – light snow and moderate/heavy snow. The differentiation is based on the amount of snow that a 40g/m^2 treatment of dry salt would adequately treat at freezing down to -2 ˚C. This relates to dilution amongst other factors and it is suggested that light snow relates to a snow depth with an equivalent depth of water of 1mm. Depending on the type of snow (dry (powdery), normal and wet) the depth varies. The forecaster should forecast the snow "wetness" factor. Figure H2 defines light and moderate/heavy snow

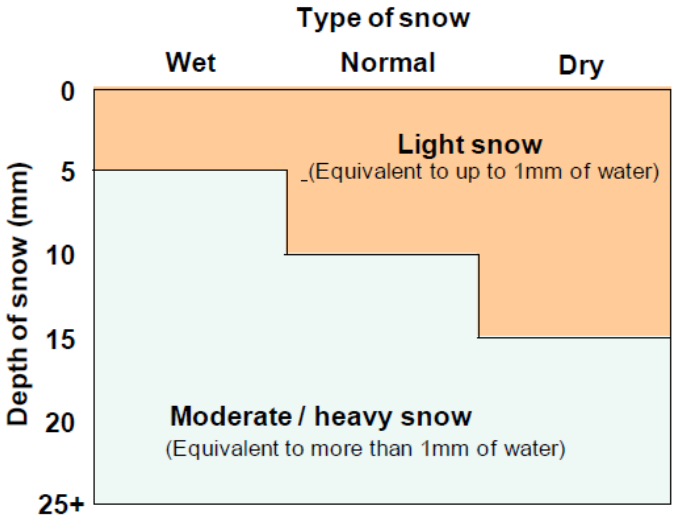


Figure H2 – Snow definitions

Timing of different treatment types

H11.12 Whenever possible, treatments should be made:

- Before snowfall and freezing rain (to provide a debonding layer and melt small amounts of snow).

- Depending on the prevailing conditions, subsequent treatments should be carried out as shown below:

Table H14 – Timing of treatments for snow and freezing rain	
Timing of treatment	**Treatment type**
Before snowfall and freezing rain	• Salt spreading
During freezing rain, or where there are minor accumulations of ice	• Salt spreading
During snowfall	• Ploughing • Salt spreading
After snowfall • When there is slush on the road	• Ploughing • Salt spreading
After snowfall • When there is compacted snow or ice on the road	• Ploughing • Salt spreading • Salt and abrasive mixtures • Abrasives only

Effect of trafficking on roads affected by snow

H11.13 Key recommendations – Effect of trafficking on roads affected by snow:

- The effect of trafficking should be considered when planning treatments relating to snowfall events as, depending on the prevailing conditions, it can be beneficial in aiding the melting or dispersing of snow or have the dis-benefit of compacting existing layers of snow making them harder to remove

- For the above reasons careful consideration needs to be given to the closing of roads in snow conditions or the timing of closing and opening

- If trafficking is not able to be accounted for, treatment rates should be those provided for light traffic conditions

- When traffic levels are light, and where practicable, the number of trafficked lanes should be reduced, as this concentrates the traffic and helps to disperse the snow more rapidly

(Recommendation RH.31)

H11.14 Traffic helps to melt and disperse snow, particularly at air and road surface temperatures at around 0°C or higher, and may be sufficient on its own to melt and disperse light snow. However, when snow is likely to settle (because the road and/or air temperatures are below zero) traffic will be more effective in dispersing

snow when salt has been spread on the road beforehand.

H11.15 Where snow has settled on a road surface, traffic may compact the snow when air or road surface temperatures are below 0°C. However, when precautionary treatment has established a debonding layer, trafficking may help to break up compacted snow and ice. Increased trafficking also tends to disperse the debonding layer at the road surface more rapidly which may dictate further treatment is necessary where conditions require.

Ploughing

H11.16 Key recommendations - Ploughing:

- When snow is forecast, ploughs and snow blowers should be made ready to allow snow clearance to commence without delay as and when required.
- Drivers and staff required to carry out ploughing should be ready to start operations when needed and not be delayed due to travelling to depots etc. when snow has started to settle.
- When carrying out treatments after snowfall, as much snow and slush as possible should be removed from the road surface by ploughing, before the application of de-icer and/or abrasives
- During and after snowfall, for efficiency and environmental reasons it is best that only the ploughed lane is treated if other lanes have still to be ploughed. The spread width settings may be adjusted accordingly to maximise effectiveness
- Actions to remove snow should be taken as early as practicable to prevent compaction by traffic
- Subsequent ploughing can be carried out when necessary to prevent a build-up of snow (this may require continuous ploughing in certain conditions)
- Ploughing is most effective when down to the road surface
- Ploughs are best operated at a steady speed which is effective for the plough and conditions
- Ploughing should be with a loaded vehicle, to aid traction and allow a steady ploughing speed to be maintained
- When fitted, a plough blade float mechanism should always be used
- If available, snow blowers can be used for particularly deep snow or where there is insufficient width at the side of the road to store the ploughed snow
- Snow ploughs should always be operated in accordance with the manufacturer's instructions

(Recommendation RH.32)

H11.17 The purpose of ploughing is to move as much snow as possible away from the road surface. More than a few millimetres of snow cannot be treated with salt. Effective ploughing will:

- Remove as much snow as is practical for the given conditions, preferably down to the road surface.
- Reduce the likelihood of snow becoming compacted and bonded to the road surface.
- Reduce the amount of de-icer needed for subsequent treatments (these treatments may not be effective if much snow has fallen and not been removed by ploughing)

H11.18 Ploughing down to (or very close to) the road surface is very important as it improves efficiency and reduces salt usage. However, snow ploughs should be adjusted and/or operated to avoid risk of damage to the plough, the road surface, street furniture and level crossings.

H11.19 Ploughing with a loaded vehicle is recommended to improve traction and provide greater momentum. For this reason consideration must be given to the effect on traction and ability to plough deeper snow towards the middle and end of a route when ploughing and spreading at the same time.

H11.20 **Warning - Ploughing:**

- Records of raised manholes, traffic calming measures, and level crossings that may be damaged, or damage the plough, should be taken into account when ploughing.

  (Warning 7)

Types of plough

H11.21 Key recommendations – Types of plough:

- Plough blades should be designed to minimise distortion during ploughing. They should have special wearing edges to prevent damage and ensure low friction
- In addition to the spreader fleet, consideration should be given to the fitting of ploughs to other suitable vehicles
- Authorities should consult manufacturers, to ensure that ploughs are suited to the operational conditions and requirements

  (Recommendation RH.33)

H11.22 A wide range of snow plough types are available, including those for mounting on spreading vehicles and other maintenance vehicles. It is recommended that ploughing should be carried out down to the road surface and snow ploughs are available that can allow this to be achieved without causing damage to the road surface.

H11.23 Important aspects to consider on a plough are:

- The material used for the wearing edge of the plough blade
- The construction of the plough
- The ease of mounting and removal (where applicable)

H11.24 Plough blades are available with different types of wearing edge material, including rubber, polyurethane, metal and composite materials. Rubber wearing edges can offer an effective 'squeegee' action that removes soft snow and slush. However rubber wearing edges are likely to be less effective than harder wearing edges at removing hard packed snow and ice. Ploughs specifically designed for removing compacted snow or ice will have metal cutting edges. Weak materials should not be used as wearing edges.

H11.25 The type of ploughs used on the highway network are typically straight bladed, and it is often possible to change the angle at which the blade is oriented to the left or right and the angle of the plough blade to the road surface.

H11.26 Steerable snow ploughs, in which the blade orientation can be changed automatically during clearing operations, provide even greater operational flexibility. For example, when clearing snow to the roadside with an angled plough, there may be occasions when it is necessary to alter the angle of the blade, for example to move snow along a road when there is insufficient room to the side, or there is a need to avoid blocking certain areas.

H11.27 The correct plough orientation should be used for the intended purpose:

- Straight blade angled to the road alignment - for displacing snow/slush to the roadside
- Straight blade perpendicular to the road alignment - for moving snow along a road
- V shaped – typically for displacing deep snow to both sides of the vehicle. Blades can be formed from several sections, mounted side by side, with each section able to move independently. This allows the blades to better adapt to the shape of the road surface. Some types of plough are constructed with a single section blade and these may be less effective in certain circumstances than multiple section blades.

H11.28 Ploughs should have effective systems to avoid damage to the machine, the road surface and the blade - for example spring mounted wearing edges which can deflect when an obstacle is encountered. A float mechanism enables the plough blade to automatically follow the changing longitudinal profile of the road, preventing the whole weight of the vehicle being applied to the plough and reducing wear to the plough blade.

H11.29 In addition to the spreading fleet, consideration should be given to fitting ploughs to other vehicles including those belonging to contractors or farmers. This will increase the capacity for ploughing on a Authority's network and potentially free up salting vehicles to spread de-icer and/or abrasives to assist in providing a faster

and more effective service in snow conditions.

H11.30 For demountable ploughs the plough should be easily mountable, to minimise the time and manpower required to mobilise the plough, potentially shortening response times.

Good ploughing practices

H11.31 Key recommendations – Good ploughing practices:

- Plans should be drawn up for each ploughing route to inform drivers where ploughed snow can and cannot be moved to
- Snow should be ploughed to the low side of carriageways and the build-up of snow in the centre of a single carriageway should be avoided. This is to avoid the later run-off from windrows or piles of snow from entering the traffic lanes, where it may dilute treatments and/or refreeze
- Drainage should be kept clear, and windrows or piles of snow should be removed or be positioned to allow melt water to reach the drains
- Piles of snow should be removed, where possible, so that melt water does not overload drainage systems or run back onto the road
- Windrows must be avoided at level crossings. Before ploughing commences on roads that include level crossings, contact should be made with Network Rail.
- Windrows should be removed or ploughed back when further periods of heavy snow are anticipated. This will provide space to plough the further snowfalls
- Accumulations of snow at central reserves, especially those with vertical concrete barriers, should be cleared where they create a hazard or impede drainage
- Where possible, multi-lane dual carriageways should be ploughed in one pass, either by:
- Ploughing just one lane
- Ploughing all lanes using ploughs working in echelon formation
- Appropriate traffic management should be considered

(Recommendation RH.34)

H11.32 **Warning - Good ploughing practices:**

- Run-off from windrows and piles of snow may enter the carriageways and refreeze to form sheet ice, particularly where drainage is blocked or piles of snow are to the high side of the road.

(Warning 8)

Precautionary treatments before snow or freezing rain

H11.33 Key recommendations – Precautionary treatments before snow or freezing rain:

- If light snow is forecast that will be of insufficient depth to require ploughing, then sufficient salt should be spread to melt the snow aided by the action of traffic

- If moderate or heavy snow is forecast, sufficient salt should be spread to provide a debonding layer

(Recommendation RH.35)

H11.34 Trafficking is important in the process of breaking up and removing ice and snow. When it snows, the temperature can hover around 0°C and rarely falls below -3°C. Calculations show that even when spread rates of 40g/m² are used the freezing point of water is only suppressed by a small amount (and rarely below -1.5°C) because of the diluting effect of the moisture provided by snow.

H11.35 Spread rates for precautionary treatments before snow or freezing rain are given in Treatment Matrix D

H11.36 The traffic levels are as assigned in Table H11 according to the vehicles/hour/carriageway

TREATMENT MATRIX D – Precautionary Treatments Before Snow Or Freezing Rain		
Weather conditions	**Light or medium traffic**	**Heavy traffic**
Light snow forecast	Spread: • 40g/m^2 of dry salt, or • 40g/m^2 of pre-wetted salt, or • 30g/m^2 of treated salt	Spread: • 20g/m^2 of dry salt, or • 20g/m^2 of pre-wetted salt, or • 15g/m^2 of treated salt
Moderate/Heavy snow forecast	Spread: • 20-40g/m^2 of dry salt • 20-40g/m^2 of pre-wetted salt • 15-30g/m^2 of treated salt (see Note 1)	Spread: • 40g/m^2 of dry salt, or • 40g/m^2 of pre-wetted salt, or • 30g/m^2 of treated salt
Freezing rain forecast	• 40 or 2x20g/m^2 of dry salt, or • 40 or 2x20g/m^2 of pre-wetted salt, or • 30 or 2x15g/m^2 of treated salt	
Note 1: The lower rates (e.g. 20g/m^2 for dry salt) can be used if the snow is likely to settle quickly, e.g. when the road surface temperature is below zero, the road surface is not wet and the snow is not wet, and/or there is little traffic after snowfall begins and settles. Note 2: Spreading salt before freezing rain can have a limited benefit and Authorities should be prepared to make follow up treatments on any ice that has formed.		

Treatments during snowfall

H11.37 Key recommendations – Treatments during snowfall:

- Ploughing is most effective when started as soon as possible for the conditions and, where required, is continuous or sufficient to prevent a build-up of snow
- Salt spreading should be considered after ploughing to provide a new debonding layer to facilitate further ploughing of fresh snow and the break up and dispersal of compacted snow
- On heavily trafficked roads it is preferable (where practicable) to prevent a build-up of more than 10mm depth of snow. The build-up should be no more than 50mm in depth where there is a risk of compaction by traffic

(Recommendation RH.36)

H11.38 Ploughing and salt spreading are undertaken during snowfall to:

- Limit the accumulation of snow on the road surface, thereby reducing the amount of salt required for subsequent treatments
- Help the dispersal/clearing of the snow by traffic

- Prevent snow from being compacted

H11.39 **Warning – Treatments during snowfall:**

- Applying salt alone to compacted snow and ice can produce more dangerously slippery conditions if a weak brine film is formed on top of the ice/snow layer.

- De-icer should not be spread alone without abrasives to anything other than a thin layer of ice or compacted snow when snowfall has ceased or future snowfall will be less than 10mm.

(Warning 9)

H11.40 Treatment Matrix E provides guidance on how to treat during snowfall.

<table>
<tr><th colspan="3">TREATMENT MATRIX E – Treatments During Snowfall</th></tr>
<tr><td colspan="3">Plough to remove as much material as possible (e.g. slush, snow, compacted snow)
Ploughing is most effective when as near as possible to the level of the road surface</td></tr>
<tr><td>No ice or compacted snow on surface</td><td colspan="2">Ice or compacted snow on surface (see Note 2)</td></tr>
<tr><td rowspan="3">To provide a debonding layer, spread:
• 20g/m^2 of dry salt, or
• 18g/m^2 of treated salt or
• 24g/m^2 of pre-wetted salt
(See Note 1)</td><td colspan="2">Is traffic likely to compact subsequent snowfall before further ploughing is possible?</td></tr>
<tr><td>YES</td><td>NO</td></tr>
<tr><td>To provide a debonding layer, spread:
• 20g/m^2 of dry salt, or
• 18g/m^2 of treated salt, or
• 24g/m^2 of pre-wetted salt
(See Note 1)</td><td>No de-icer should be spread</td></tr>
<tr><td colspan="3">Note 1: During and after snowfall, it is best that only the ploughed lane be treated if other lanes have still to be ploughed. The spread width settings may be adjusted accordingly.
Note 2: A de-icer should not be spread alone without abrasives to anything other than a thin layer of ice or compacted snow when snowfall has ceased or future snowfall will be less than 10mm. Applying salt alone to compacted snow and ice can produce more dangerously slippery conditions if a weak brine film is formed on top of the ice/snow layer.</td></tr>
</table>

Treatment of slush on the carriageway

H11.41 Key recommendations – Treatment of slush on the carriageway:

- If freezing conditions are expected, it is important to remove as much slush as possible by ploughing to reduce the amount of material available to form ice when temperatures drop, as well as to reduce the amount of salt required for subsequent treatments

- If freezing conditions are not expected and the slush will melt and be dispersed under the action of traffic, no action is required

(Recommendation RH.37)

H11.42 Treatment Matrix F provides guidance on how to treat slush.

TREATMENT MATRIX F – Treatment For Slush When Freezing Conditions Are Forecast
Plough to remove as much slush as possible (ploughing is best when as near as possible to the level of the road surface).
After removing slush, spread: • 40g/m^2 of dry salt, or • 36g/m^2 of treated salt, or • 48g/m^2 of pre-wetted salt (See Note 1)
Note 1: After snowfall, and when there will be no further ploughing but some slush remains on the road surface, it may be necessary to change the settings normally used for precautionary treatment to ensure a satisfactory distribution is achieved over the target spread width.

Treatment of thin layers of ice (up to approximately 1mm)

H11.43 **Warning - Treatment of thin layers of ice:**

- Care is needed when salt is mixed with abrasives. Checks should be made that the mixture is free flowing, does not clump and can be spread effectively.

(Warning 10)

H11.44 Where a thin layer of ice forms, including after an instance of freezing rain, Treatment Matrix G provides guidance on how to treat thin layers of ice.

TREATMENT MATRIX G – Treatment For Thin Layers Of Ice (Less Than 1mm Thick)		
Forecast weather and road surface conditions	**Medium/Light Traffic**	**Heavy traffic**
Lower of air or road surface temperature **higher than -5˚C**	Spread: • 40g/m^2 of dry salt, or • 36g/m^2 of treated salt or • 48g/m^2 of pre-wetted salt • 40g/m^2 of salt/abrasive mix (see Notes 1 and 2)	Spread: • 20g/m^2 of dry salt, or • 18g/m^2 of treated salt or • 24g/m^2 of pre-wetted salt
Lower of air or road surface temperature **less than -5˚C**	Spread: • 40g/m^2 of salt/abrasive mix (50:50) (see Notes 1 and 2)	Spread: • 40g/m^2 of salt/abrasive mix (50:50) (see Notes 1 and 2)
Note 1: Abrasives are ideally of 5-6mm and angular particles, but gradings down to 1-5mm may be reasonably effective. After abrasives have been used, drainage systems should be checked and cleared where necessary. Recovered material, which may be contaminated, must be disposed of safely. Note 2: Care is needed when salt is mixed with abrasives with a high moisture content. Checks should be made that the mixture remains free flowing, does not clump and can be spread effectively.		

Treatments of medium or thick ice and compacted snow

H11.45 Key recommendations – Treatments of medium or thick ice and compacted snow:

- For high thicknesses of compacted snow and ice (i.e. greater than 5mm), treatments should be with salt and abrasive mixture or abrasive only. Treatments with a significant amount of salt should not be considered because they may leave the surface uneven. Any brine formed on the surface may collect in hollows and deepen them further, which can lead to a very uneven surface

- When using abrasives alone, sufficient salt should be added to the abrasive to prevent freezing of the water within it. If the moisture content of the abrasive is 7%, 25kg of salt per tonne of abrasive is sufficient to prevent freezing if thoroughly mixed

(Recommendation RH.38)

H11.46 For compacted snow, when no further snow is expected, salt and abrasive mixtures or abrasives alone can be applied to assist the action of traffic in breaking the layer.

H11.47 For compacted snow, when further snow is expected, salt and abrasive mixtures may be applied to provide grip as well as a debonding layer between the existing layer and any future snow to assist future ploughing operations. Salt should not be applied on its own as it may eventually form a weak brine solution which may re-freeze to form an ice or ice/brine layer.

H11.48 **Warning - Treatments of medium or thick ice and compacted snow:**

Applying salt alone to compacted snow and ice can produce more dangerously slippery conditions if a weak brine film is formed on top of the ice/snow layer.

(Warning 11)

H11.49 Where medium or thick (greater than 1mm thickness) has formed or snow has compacted to form ice the treatments suggested in Treatment Matrix H should be considered.

TREATMENT MATRIX H – Treatment For Layers Of Compacted Snow And Ice	
Plough to remove as much material (e.g. slush, snow, compacted snow) as possible from the top of the compacted layer	
Medium Layer Thickness (1 to 5 mm)	**High Layer Thickness (greater than 5mm)**
For initial treatment, spread: • 40g/m^2 of salt/abrasive mix (50:50) (see Notes 1, 3, 4 and 5) For successive treatments, spread: • 20g/m^2 of salt/abrasive mix (50:50) (see Notes 1, 3, 4 and 5)	For initial treatment, spread: • 40g/m^2 of abrasives only (see Notes 2, 3, 5 and 6) For successive treatments, spread: • 20g/m^2 of abrasives only (see Notes 2, 3, 5 and 6) After traffic has started breaking up the layer, spread: • 20g/m^2 of salt/abrasive mix (50:50) so salt can penetrate the layer and reach the road surface (see Notes 1, 3, 4 and 5)
Note 1: For medium thicknesses of compacted snow and ice, treatments without abrasives should only be used when earlier precautionary treatments have successfully established a debonding layer, and there is sufficient traffic to break up the layer of ice quickly. Note 2: For high thickness of compacted snow and ice (greater than 5mm), treatments with a significant amount of salt should not be considered because they may leave the surface uneven. Any brine formed on the surface may collect in hollows and deepen them further, which can lead to a very uneven surface. Note 3: Abrasives should ideally be of 5-6mm and angular particles, but gradings down to 1-5mm should be effective. After abrasives have been used, drainage systems should be checked and cleared if necessary. Recovered material, which will be contaminated with road oil, must be disposed of safely. Note 4: Care is needed when salt is mixed with abrasives with a high moisture content. Checks should be made that the mixture remains free flowing, does not clump and can be spread effectively. Note 5: When there are layers of snow, compacted snow, or ice of medium or high thickness on the road surface, it may be necessary to change the settings normally used for precautionary treatment to ensure a satisfactory distribution is achieved over the target spread width. Note 6: Salt should be added to the abrasive to prevent freezing of the water within it. If the moisture content of the abrasive is 7%, 25g of salt per tonne of abrasive is sufficient to prevent freezing if thoroughly mixed.	

H12 TREATMENTS FOR EXTREME COLD

General

H12.1 Spreading sodium chloride alone in extreme cold conditions may not be practically effective or economical. High spread rates will be required and even then salt may not enter solution quickly enough to prevent freezing or be able to melt ice or compacted snow.

H12.2 Extreme cold conditions for the spreading of salt (sodium chloride) without suitable additives are considered to be at or below -5˚C at the time of spreading in low humidity conditions (below 80% relative humidity) and at or below -7˚C in normal UK winter humidity conditions (at or above 80% relative humidity).

H12.3 When utilised without additives specifically designed for extreme cold conditions, sodium chloride should be spread at least two hours before temperatures reach -5˚C to -7˚C to allow the salt to enter solution and become effective as a de-icer.

H12.4 Salt already in solution before extreme cold temperatures are reached is considered to be effective down to -15˚C for a fully saturated brine solution. Care must be taken where spreading is carried out before extreme cold temperatures are reached that the brine solution is not weakened by the ice and snow melted to a point where it is not effective in preventing freezing at the temperatures encountered.

H12.5 Alternative de-icers (to sodium chloride) can provide more effective and economical treatments than salt alone when spreading has to be carried out in extreme cold conditions. Some alternatives can be spread in conjunction with salt to make the salt more effective. Other alternatives can be used on their own without salt to melt ice and/or compacted snow. The ability to spread an alternative de-icer gives an option to Authorities for handling prolonged extreme cold conditions.

H12.6 While these de-icers provide benefits over sodium chloride in terms of effective operating temperature, they also may have disadvantages in terms of cost, corrosion, environmental impact and smell.

H12.7 Environmental impact may also be reduced by the use of some alternative de-icers either on their own or added to salt. This is because they may be less damaging than salt in the quantities used and may reduce the amount of salt that would be needed on its own.

Mutual aid and resource sharing

H12.8 Due to the cost of providing suitable facilities and equipment for the use of alternative de-icers as well as the cost of the de-icers themselves, consideration may be given to mutual aid and resource sharing within the winter plans of Authorities. However, plans need to be considered very carefully to ensure that an effective, timely service can be delivered in the likely operating conditions and demands on resource which will be present during extreme cold conditions.

Types of alternative de-icers suitable for extreme cold

H12.9 Alternative de-icers that can be used in extreme cold are include in Section H4 and typical compositions are shown in Table H15 below:

Table H15 – Types of de-icer

De-icer	Composition
Magnesium chloride brine	32% concentration magnesium chloride brine
Calcium chloride brine	28% concentration calcium chloride brine
Brine with ABP - Sodium chloride brine with ABP	A blend of 23% concentration sodium chloride brine and ABP *20% sodium chloride, 10% ABP, 70% water*
Brine with ABP - Sodium chloride and calcium chloride brine with ABP	A blend of 23% concentration sodium chloride brine, 28% concentration calcium chloride brine and ABP *20% sodium chloride, 1.5% calcium chloride, 10% ABP, 68.5% water*
ABP Liquid	A blend of 32% concentration magnesium chloride brine and ABP *26% magnesium chloride, 13% ABP, 61% water*
Brine with ABP - Sodium chloride brine with ABP Liquid	A blend of sodium chloride brine (23% concentration) and ABP Liquid *16% sodium chloride, 8% magnesium chloride, 4% ABP, 72% water*
Sodium chloride brine	20% – 23% concentration sodium chloride brine, used in pre-wetted salting. Use is not recommended in extreme cold temperatures (see below)
Dry rock salt	High spread rates are required and use is not recommended in extreme cold temperatures (see below)

H12.10 The alternative de-icers listed above provide benefits in two ways:

- They can lower the freezing point of water further than salt, melt more ice than salt and melt ice more rapidly than salt

- When used with salt, hygroscopic de-icers (e.g. magnesium and calcium chloride) attract moisture and can facilitate the dissolution of salt. This is particularly helpful for precautionary treatments, but this also helps the salt dissolve more quickly when treatments are made to remove existing ice and compacted snow.

H12.11 When applied in longitudinal lines along a road, alternative de-icers in liquid form are better able to penetrate existing ice and compacted snow, and provide a debonding layer, than salt. When used in this way, the liquid should have sufficient viscosity to minimise flowing out over the surface after spreading. If the liquid simply melts the surface of a layer of ice or compacted snow (rather than penetrates it), this can potentially create a more dangerous slippery surface that is also liable to refreeze, depending on the weather conditions.

Environmental considerations

H12.12 Key recommendations – Environmental considerations:

- Authorities should obtain a full specification and Material Safety Data Sheet (MSDS) detailing the types and amounts of chemicals contained in any de-icer used. Authorities should carry out an impact assessment for the specific products used

- Authorities should follow the guidance in this document to reduce the risk of any significant environmental impacts from storage and spreading of alternative de-icers. When proposing to use any de-icer other than rock salt, authorities should contact the relevant national environmental agency to agree their use, including advice on special restrictions due to potential impacts on environmentally sensitive locations

  (Recommendation RH.39)

H12.13 In assessing the environmental impact of using alternative de-icers, consideration should be given to the amount being spread, the level of available dilution and the potential receptor e.g. surface water, ground water, soil or sensitive habitats.

H12.14 All of the chloride-based de-icers being recommended in this guidance (sodium chloride, calcium chloride and magnesium chloride) will have the potential to increase the salinity of adjacent land and watercourses. Using the alternative de-icers as recommended in this guidance will enable lower spread rates in comparison to standard treatments with sodium chloride. For example, spread rates for pre-wetted precautionary treatments using alternative de-icers are less than 80% of spread rates for standard treatments with salt pre-wetted with sodium chloride brine. This will result in a reduction of the concentration of chlorides entering the environment when carrying out treatment in these conditions.

H12.15 Environmental agencies have concerns over increases in Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) in water courses receiving

drainage from road surfaces after treatments with de-icers containing ABPs (and glycols and acetates although these are not recommended here). BOD is the amount of oxygen used by microorganisms (e.g. bacteria) when breaking down organic matter, such as ABPs, in the water. COD is a measure of the total amount of oxygen required for the chemical oxidation or decomposition of compounds in water. These can deplete the oxygen levels in the water and kill or harm fish and other aquatic organisms.

H12.16 For treatments made using salt pre-wetted with alternative de-icers, as recommended in this guidance, the proportion of ABP contained in the de-icer will be the same as standard treatments made using ABP treated salt. i.e. the ABPs make up around 3% by weight of the de-icer. Therefore, treatments recommended in this guidance should not have significant additional impacts compared to standard treatments with sodium chloride or ABP treated salt. When making remedial treatments by spreading liquid de-icers that contain ABPs on compacted ice and snow, larger amounts of ABP will be spread as opposed to precautionary treatments using mixtures of the de-icer with salt. Therefore, it should be stressed that this should only be carried out as a last resort in extreme conditions, which in themselves occur very rarely. The de-icers will also be highly diluted by the water from melted ice and snow.

H12.17 It is important that Authorities have full information regarding the composition of de-icers that are spread to the road network and consequently entering the environment. A specification should be available for the de-icers supplied providing details of the chemicals contained in the product and in what amounts, including the amount of ABPs.

H12.18 Pollution Prevention Guidelines (PPGs) available from the Environment Agency website, containing guidance directly applicable to the storage of liquid de-icers include:

- PPG1: General Guide to Pollution Prevention
- PPG21: Incident Response Planning
- PPG22: Dealing with Spills
- PPG26: Storage and handling of drums and intermediate bulk containers
- PPG2: Above Ground Oil Storage Tanks

Storage of alternative de-icers

H12.19 Alternative liquid de-icers must be stored and handled correctly to:

- Maintain their condition and effectiveness
- Prevent damage to infrastructure
- Prevent impacts to the environment from leaks and spillages
- Minimise the risks to personnel handling them.

H12.20 Important considerations when storing alternative liquid de-icers are:

- Deciding on the type of container and storage capacity required
- Requirements for storage containers, including materials that are resistant to corrosion by the de-icer
- Requirements for the storage area, e.g. containment measures to prevent leaks and spillages entering the environment and drainage requirements
- Monitoring and maintaining de-icer condition
- Handling and special health and safety requirements
- Additional equipment requirements to enable loading and unloading of liquids from spreaders
- Storage and disposal techniques for unused liquids

Storage capacity requirements

H12.21 Key recommendations – Storage capacity requirements:

- A severe weather plan (winter service plan) should be produced that identifies the network to be treated using the alternative de-icers in extreme cold conditions
- Authorities should plan to provide sufficient de-icers to give the necessary resilience. However, the likelihood of extreme events occurring in their particular geographic areas should be considered
- Authorities should calculate the amount of de-icer required to be stored, based on the route length to be treated, the spread rates required under different weather conditions and the number of treatments for which a reserve is considered necessary

(Recommendation RH.40)

H12.22 To determine the storage capacity required, Authorities need to consider the length of network to be treated using the alternative de-icers. For example, Authorities should consider whether or not the alternative treatments will be utilised in extreme conditions:

- on the entire precautionary treatment network
- on the strategic network alone
- on critical network links
- at identified cold spots
- on critical infrastructure

- at vulnerable locations
- at major transport hubs

Types of storage container

H12.23 Key recommendations – Types of storage container:

- When choosing the type of container the following factors need to be considered:
    - Total storage capacity
    - Requirements for storage container construction
    - Requirements for preparing the storage area
- Materials must be capable of withstanding corrosion from stored chemicals and resistant to degradation from external factors. Recommended materials for storage container construction are polypropylene, polyethylene, glass reinforced plastic (GRP) or stainless steel
- Container walls must be thick enough and plastics be of a suitable grade to withstand the weight of dense de-icing liquids.
- Storage containers should have the facility to prevent the build-up of pressure within the container

(Recommendation RH.41)

H12.24 A range of storage tank types and capacities are available. Examples that are suitable for the storage of liquid de-icers include:

- Intermediate Bulk Containers (IBCs). De-icers can be delivered and then stored in this type of container. These containers typically have a capacity of around 1000 litres, have an external metal reinforcing cage and can be easily refilled from subsequent deliveries made by tanker.
- Tank Containers or Vertical or Horizontal Storage tanks. These tanks will allow a larger storage capacity in a single tank up to around 50,000 litres.

Storage area

H12.25 Key recommendations – Storage area:

- Storage areas for liquid de-icers should be bunded or storage tanks have a secondary containment system to contain any leaks and spills and to aid any clean up
- The containment capacity of the bund should be large enough to hold at least 110% of the capacity of the largest tank or 25% of the total storage capacity if in multiple tanks, whichever is the greater

- Storage should be sited on an impermeable surface, to prevent any leakage soaking into the ground

- Drainage from the store or loading area must not be allowed to soak away and must not pass into the surface water system or to soakaways. Foul drainage cannot be used without the prior permission of the drainage service provider. Discharge to a sealed tank equipped with a level alarm could also be considered

- Liquids should not be stored where spillage could enter adjacent surface water or foul water drainage and the bunded area should not have any drains within it that lead to these systems unless prior permission of the drainage service provider has been granted

- Where practical, preference should be given to indoor and/or covered storage of liquids. This will assist in preventing rainwater from building up in any bunded area, reduce bunding requirements, offer greater protection to the storage containers and associated equipment and fittings and also shading from direct sunlight

- Indoor storage areas should be well ventilated

- Ensure all local and national environmental requirements are met

(Recommendation RH.42)

H12.26 Information on constructing good quality bunds is contained within:

- The Construction Industry Research and Information Association (CIRIA) Report 163, on the construction of bunds for oil storage tanks.

H12.27 Storage in multiple containers, e.g. 1000 litre IBCs, will reduce requirement for substantial bunding and may be a convenient method for storing alternative liquid de-icers. If the bunded area is uncovered, the volume of rainwater/precipitation must be considered which could cause the bunded area to overflow.

H12.28 Alternatives to building a bunded area include:

- Secondary containment provided by storage tanks with secondary linings or integrated sumps.

- Storage units for holding multiple containers, which are vented and have an integrated sump for containing leaks and spills.

Monitoring de-icer condition in storage

H12.29 Key recommendations – Monitoring de-icer condition in storage:

- Procedures should be put in place to properly maintain and monitor the de-icer condition, and to ensure the de-icers remain effective after storage i.e. that they remain adequately mixed and that solid particles do not settle out

- A reference measurement should be made of the de-icer condition for each new delivery and recorded for future monitoring

- De-icers should be regularly stirred or agitated and immediately before each use to reduce any settlement or crystallisation and ensure the liquid does not separate out into layers of different concentrations

- When not in regular use, de-icers should be stirred or agitated at least once every 3 months to help maintain the condition of the de-icer

(Recommendation RH.43)

Procedure for testing liquid condition – checking the liquid is thoroughly mixed:

1. The liquid should first be stirred/agitated in the storage tank before sampling
2. Ideally the sample should be taken directly from the storage tank and not from the delivery hose
3. If taking the sample from the hose, enough de-icer should first be discharged to ensure the sample is from the de-icer within the tank and not from residual liquid within the hose
4. The sample size should be at least 10 litres
5. A suitable hydrometer or refractometer can be used to measure the liquid density
6. A reference measurement should be taken and recorded for each new delivery of de-icer, for comparison with subsequent measurements. Each subsequent sample reading should be within 5% of the reference value
7. If the reading is outside the 5% limit, the liquid should be restirred/agitated and resampled
8. If still outside the 5% limit, further investigation should be made of causes of the difference

Handling liquid de-icers – equipment and health and safety requirements

H12.30 Key recommendations – Handling liquid de-icers:

- The Material Safety Data Sheet (MSDS) should be consulted for necessary health and safety information. Authorities should carry out a COSHH assessment for the specific products used

- In order to reduce the risk of leaks escaping, as far as issues of practicality allow, all pipes and hoses used for transferring de-icers to the storage tanks and from storage tanks to spreaders should be contained within the bunded area or secondary containment system

- Loading and dispensing areas should not connect to any surface water sewer or soakaway. Foul drainage cannot be used without prior permission of the sewer provider. A sealed tank with level alarm could also be considered.

- All connections and fittings must be constructed of materials resistant to corrosion by the de-icer i.e. polypropylene, polyethylene, GRP, PVC or stainless steel

- All pipes, hoses and connections should be regularly checked for leaks and tight fitting

- In order to load and unload spreaders quickly, a pump of sufficient capacity will be needed to transfer liquid de-icer between the spreader and storage container. In determining the required pump capacity, consideration should be given to the number of spreaders that are to be loaded, the spreader capacity and the number of pumps available

- It is recommended that all wetted parts of the pump should be stainless steel or other suitable materials to provide resistance to corrosion by the de-icers

  (Recommendation RH.44)

Spreading equipment

Pre-wetted salt with alternative liquid wetting agent

H12.31 Key recommendations – Pre-wetted spreading equipment:

- Authorities should ensure that spreaders:

  - Should not be adversely affected by the de-icer

  - Can be set up and calibrated to accurately deliver the proposed spread rates to the defined target areas at the operating temperatures

  - Have the capability to be set up for different salt types and pre-wetting agents

- Drivers (including reserves) should be fully competent in the use and operation of the spreaders

- Regular checks should be made when using the alternative de-icers to ensure they have no additional (as compared to salt) detrimental effect on the following equipment:

  - Spreader body, chassis, electrics and spinner

  - Brine tanks on spreader

  - Spreader brine pumps

  - Spray nozzles on spreader

  - Pumps and other equipment for transferring de-icers to spreaders from storage tank

    (Recommendation RH.45)

H12.32 Standard pre-wetted salt spreaders are suitable for the application of salt pre-wetted with the alternative liquid de-icers. The liquid de-icers can be loaded into the spreader saddle tanks to pre-wet the salt using the same mechanism as when pre-wetting salt with sodium chloride brine.

H12.33 All spreaders should be individually calibrated and set up for the de-icer being spread. The purpose of calibration is to ensure that each spreader in a fleet is spreading the de-icer uniformly over the target area, at the correct rate of application and with as little wastage as possible.

H12.34 Guidance on calibration of spreaders for dry and pre-wetted spreading is contained within previous sections of Appendix H. The assessment of the distribution profile from spreaders distributing salt mixed with alternative de-icers should follow the same procedures previously outlined.

H12.35 Driver training is important to ensure all drivers are fully competent in the use and operation of the spreaders with the alternative de-icers. Where reserve drivers are available as part of an Authorities's contingency plans, it is essential that they are trained to an equal standard of competence.

H12.36 If the concentration of some alternative de-icers is too high or some alternative de-icers are mixed together or with salt brine, recrystallisation may occur that may affect the pumps and nozzles of the spreader. If the liquid discharge rate falls more than 10% below the target, or if irregular discharge is suspected, the operation of the nozzles and pumps should be checked.

H12.37 The guidance in this document has been based on the information available. However, due to the limited operational experience with these alternative materials in the UK, it is recommended that Authorities make regular checks to ensure there are no detrimental effects to their spreaders.

Liquid only spreading

H12.38 Key recommendations – Liquid only spreading equipment:

- Liquids should be spread using dedicated liquid spreaders or combination spreaders where available

- If Authorities do not have liquid spreaders, modifications to spreaders or other maintenance vehicles, potentially including equipment for weed control or plant watering, should be investigated to provide an adequate and calibrated liquid spreading capability (N.B. de-icers should not be sprayed onto compacted snow or ice)

- Liquid spreading equipment that can apply de-icer liquid in longitudinal lines no greater than approximately 100mm apart for treatments on ice and snow should be used

(Recommendation RH.46)

H12.39 Precautionary treatments using only liquids in extreme cold conditions are not generally recommended because very high spread rates are required. However,

spreading for localised priority treatments may be acceptable on occasion.

H12.40 For post treatments, on anything other than very thin uncompacted snow (less than 10mm thick) or thin ice and compacted snow (less than 1mm thick), it is recommended that application of the liquid should be in longitudinal lines (not more than 100mm apart) along the carriageway rather than as a uniform distribution. This should allow optimum penetration and undercutting of ice and snow.

H12.41 In order to provide an effective and safe treatment, the liquid should have sufficient viscosity to limit flowing out over the surface of existing ice or compacted snow after spreading. If the liquid just melts the surface (rather than penetrates into a layer of ice or compacted snow), this can leave a more dangerous slippery surface that is also potentially liable to refreeze, depending on the weather conditions.

H12.42 **Warning - Liquid only spreading equipment:**

- Liquid de-icers should not be spread uniformly onto an existing layer of ice or compacted snow without penetrating into it. If they melt the surface and form a liquid film on top of the layer of ice or compacted snow this may well result in more dangerously slippery conditions.

  (Warning 12)

H12.43 Possible options for providing a liquid spreading capability include the modification of existing pre-wet spreaders with the addition of a spray/dribble bar and associated pipe work. When liquid only application is required, liquid can be diverted to the bar. Spray bars are available with interchangeable nozzles, for application of a fan spray or application of liquid in lines. Other practical options will include the modification of maintenance vehicles by the addition of a storage tank, pumps and dribble bars.

Spreading without pre-wet or liquid spreaders

H12.44 Key recommendations – Spreading without pre-wet or liquid spreaders:

- When using the alternative de-icers discussed in this guidance, it is strongly recommended that pre-wet or liquid spreaders are utilised. This section is presented to give guidance to Authorities without these capabilities regarding spreading in extreme cold conditions. However, the treatments are likely to be both less economical and less effective than with pre-wetted or liquid spreading capability

- The options presented in this section should only be considered as a last resort and not as an alternative option to using the preferred spreading methods previously described

- Salt wetted with alternative de-icer liquids before loading onto spreaders can be considered but strictly in accordance with the guidelines given below:

  - Increase the spread rate. This may help in some conditions when no other alternatives are available (see salt spread rates included in the

treatment matrices below) but Authorities should consider the probable limited effectiveness, cost, salt stock resilience and environmental implications

- In extreme cold or low humidity conditions, even at high spread rates salt may not be effective. Authorities must assess the risk and act appropriately. For example consider road closures or clearly warning drivers of unsafe conditions

- The local winter plan should include additional measures for extreme cold conditions beyond treatments. These should include:
  - Provision of timely information and warnings to the public
  - Liaison with the police and other emergency services
  - Additional monitoring of route condition after treatment

  (Recommendation RH.47)

H12.45 It is not considered practical to spread solid alternative de-icers on their own or mixed with salt (except in very limited amounts for highly localised priority treatments) because of the onerous requirements for storing and spreading of the solid de-icers. The hygroscopic nature of the recommended alternative de-icing materials mean they readily absorb water and must be kept dry, i.e. stored in sealed bags or containers. De-icers would need to be properly mixed with salt immediately before spreading, (and not sooner) in sufficient quantities for spreading. Any materials remaining after spreading would need to be disposed of.

H12.46 In the USA, salt is sometimes wetted with alternative liquid materials, typically calcium chloride, before loading into spreaders. This can be achieved by:

- Wetting of dry salt with alternative de-icers during loading. Salt can be sprayed with the liquid as it is loaded into the hoppers of spreading vehicles e.g. each loader bucket of salt could be sprayed before loading. This is not recommended but is considered to be a potentially practicable alternative of last resort.

- Wetting of dry salt stockpiles with alternative de-icers: This is a practice that is not recommended or considered at all desirable for use in the UK.

H12.47 As noted above, the wetting of dry salt in stockpiles is not considered at all desirable for use in the UK and the wetting of otherwise dry salt during loading is not recommended. If either of these methods is employed, the resultant salt distribution on the road will be poorer than when spreading using a purpose built pre-wet spreader. These methods also increase the risk of 'tunnelling' within vehicle hoppers. Spreaders are unlikely to have been appropriately calibrated for otherwise dry salt that has been wetted with alternative de-icers.

H12.48 During extreme conditions, when the use of dry salt would be relatively ineffective, salt wetted during loading with alternative de-icer can be considered as a potentially practicable emergency option of last resort, rather than to continue

using dry salt alone. The need to make dry salt applications more effective in these conditions is considered likely to override concerns regarding the uniformity of the resultant spread distribution, and the impact of the lack of uniformity may be overcome with repeat treatments. However, it is strongly recommended that, where these treatments are utilised, the treated routes are closely monitored to determine the effectiveness of the treatments. Suitable warnings should be issued to the public regarding potentially dangerous driving conditions, because the de-icers may not be fully effective.

H12.49 **Warning - Spreading without pre-wet or liquid spreaders:**

- Dry salt that has been wetted with alternative de-icer during loading into spreading vehicles will demonstrate a potentially poorer spread distribution, and spread rates may be inaccurate. The salt may suffer from tunnelling within the vehicle hoppers, which could potentially result in sections of road not being treated.

- Routes treated in this manner should be monitored after treatment and suitable warnings issued to drivers regarding potentially unsafe driving conditions.

(Warning 13)

Maintenance of spreading equipment

H12.50 Key recommendations – Maintenance of spreading equipment:

- Spreaders should be washed down after use, using high volumes of water with low pressure, taking care that washdown water is handled properly to prevent environmental impacts. Wash bay areas should not be connected to any surface water sewer or soakaway. Refer to the Environment Agency's Pollution Prevention Guideline PPG13 Vehicle Washing and Cleaning for further guidance

- Spreader tanks, pumps and hoses should be rinsed with water before changing the liquid. After rinsing, the brine pump should be operated for a short time to put the new de-icing liquid through the whole system and prevent freezing

- Spreader manufacturers should be consulted to confirm spreaders have adequate protection for mechanical and electrical components:

    - Paint work and protective systems should be of an appropriate standard

    - Additional protection measures such as wax based coats, plastic chassis canopies and gear box covers should be considered

    (Recommendation RH.48)

H12.51 The alternative liquid de-icers and sodium chloride brine can result in greater corrosion of spreading vehicles when compared to spreading dry salt only. The viscous nature of some alternative liquid de-icers and the hygroscopic nature of

some of the chemicals can also increase the retention of corrosive liquid de-icers on metal components and keep metal components wetter for longer.

Precautionary treatments for extreme cold

H12.52 Key recommendations – Precautionary treatments for extreme cold:

- As per other winter conditions, the most cost effective way to treat roads in extreme cold conditions is to undertake precautionary treatments before snow or ice are present.
- The guidance given in H9 should be followed for treatments when the salt can enter solution before the minimum of the air or road surface temperatures are at or below -7˚C (or -5˚C in low humidity conditions). This is typically when treatments can be made earlier in the day and completed at least 2 hours before the temperatures reach this threshold
- For practical and effective winter service, alternative de-icers should be considered for precautionary treatments when spreading at:
    - Temperatures at or below -7˚C or
    - Temperatures at or below -5˚C in low humidity conditions
- In order to improve stock resilience and reduce the impact of salt and alternative de-icers on vehicles, infrastructure and the environment, spread rates used should not exceed those recommended

  (Recommendation RH.49)

H12.53 Spread rates are given for ‘Good’ spreading capability (Treatment Matrix I), ‘Fair’ spreading capability (Treatment Matrix J) and 'Poor' spreading capability (Treatment Matrix K). See section H7 on Spreader Calibration for how to assess the spreading capability. Spread rate before snow and freezing rain are given in Treatment Matrix L.

H12.54 Spread rates are given for:

- Dry rock salt pre-wetted with alternative liquid de-icers,
- Standard pre-wetted precautionary treatments with sodium chloride brine
- Rock salt wetted with alternative liquid de-icers before loading and spread from dry salt spreader
- Dry rock salt

H12.55 Liquid only precautionary treatments in extreme cold require very high spread rates, which are uneconomical and potentially more environmentally damaging for spreading over large areas of the network.

H12.56 Spread rates in the tables can be high (greater than 40 g/m^2) and may require more than one pass to achieve. Authorities should take account of this with regard

to treatment response times.

H12.57 Guidance has been included for the equivalent amounts of salt needed (dry or pre-wetted with sodium chloride brine) under the same extreme cold temperature conditions as the alternative de-icers where appropriate, however their use is not recommended.as although salt does not become completely ineffective at extreme cold temperatures (down to -15˚C or so,) for practical purposes its effectiveness is reduced at these very cold temperatures, even if high spread rates are utilised. Therefore, as temperatures fall below the thresholds for 'extreme cold' conditions, the use of salt alone becomes progressively less economical and practical, as well as leading to increased environmental impacts.

TREATMENT MATRIX I **FROST or FORECAST FROST DURING EXTREME COLD** **PRECAUTIONARY SPREAD RATES FOR GOOD SPREADING CAPABILITY (in g/m2)** **(See Notes 1 to 6)**						
Dry salt component (% by weight of de-icer)	**Rock salt (70%)**	**Rock salt (70%)**	**Rock salt (70%)**	***Rock salt (70%)***	**Rock Salt (96%)**	***Rock Salt (100%)***
Brine component (% by weight of de-icer)	**Magnesium chloride brine (30%)**	**Calcium chloride brine (30%)**	**Brine with ABP (30%)**	**Sodium chloride brine (30%) See Note 1**	**4% liquid de-icer added before loading**	**No pre-wetting See Note 1**
Road Surface Temperature (RST), Road Surface Conditions.						
RST at or below -5˚C above -7˚C, and dry or damp road conditions NOTE: Only for low relative humidity <80%	11	11	10	*13*	14	*14*
RST at or below -5˚C above -7˚C, and wet road conditions NOTE: Only for low relative humidity <80%	18	19	17	*21*	22	*22*
RST at or below -7˚C and above -10˚C and dry or damp road conditions	16	17	16	*21*	20	*22*
RST at or below -7˚C and above -10˚C and wet road conditions	27	28	26	*35*	34	*37*
RST at or below -10˚C and above -12˚C and dry or damp road conditions	21	22	20	*29*	26	*30*
RST at or below -10˚C and above -12˚C and wet road conditions	35	36	34	*49*	43	*50*
RST at or below -12˚C and dry or damp road conditions	27	29	27	*41*	33	*41*
RST at or below -12˚C and wet road conditions	46	48	45	*68*	56	*68*

Notes:

1. Spread rates have been included in red for dry salt (e.g. *28*) and salt pre-wetted with sodium chloride brine, however their use is not recommended because they may not become effective in the required time scales
2. Dry salt:brine should be in the ratio 70:30 by weight for pre-wetting
3. Spread rates for pre-wetted salting are the weight of dry salt and brine combined as shown in headings.
4. A follow-up treatment of 50% of the recommended spread rate should be considered in lightly trafficked areas at the lower end of temperature bands indicated.
5. To take account of residual salt during periods of sustained extreme cold temperatures, where temperatures do not rise above extreme cold over 12 hours or more, rates of spread for successive treatments, carried out within 6 hours of completing previous treatments using alternative de-icers, may be 50% of the rates in the table. Higher spread rates may require more than one pass to achieve, and Authorities should take account of this with regard to treatment response times.

TREATMENT MATRIX J **FROST or FORECAST FROST DURING EXTREME COLD** **PRECAUTIONARY SPREAD RATES FOR FAIR SPREADING CAPABILITY (in g/m2)** **(See Notes 1 to 6)**						
Dry salt component (% by weight of de-icer)	**Rock salt (70%)**	**Rock salt (70%)**	**Rock salt (70%)**	***Rock salt (70%)***	**Rock Salt (96%)**	***Rock Salt (100%)***
Brine component (% by weight of de-icer) **Road Surface Temperature (RST), Road Surface Conditions.**	**Magnesium chloride brine (30%)**	**Calcium chloride brine (30%)**	**Brine with ABP (30%)**	***Sodium chloride brine (30%)*** **See Note 1**	**4% liquid de-icer added before loading**	***No pre-wetting*** **See Note 1**
RST at or below -5˚C above -7˚C, and dry or damp road conditions **NOTE: Only for low relative humidity <80%**	14	14	13	*16*	18	*18*
RST at or below -5˚C above -7˚C, and wet road conditions **NOTE: Only for low relative humidity <80%**	23	24	22	*27*	30	*30*
RST at or below -7˚C and above -10˚C and dry or damp road conditions	21	22	20	*27*	27	*29*
RST at or below -7˚C and above -10˚C and wet road conditions	35	37	34	*45*	45	*49*
RST at or below -10˚C and above -12˚C and dry or damp road conditions	27	28	26	*37*	35	*40*
RST at or below -10˚C and above -12˚C and wet road conditions	45	47	44	*62*	58	*67*
RST at or below -12˚C and dry or damp road conditions	35	38	35	*53*	45	*55*
RST at or below -12˚C and wet road conditions	59	62	58	*88*	75	*91*

Notes:

1. Spread rates have been included in red for dry salt (e.g. *28*) and salt pre-wetted with sodium chloride brine, however their use is not recommended because they may not become effective in the required time scales
2. Dry salt:brine should be in the ratio 70:30 by weight for pre-wetting
3. Spread rates for pre-wetted salting are the weight of dry salt and brine combined as shown in headings.
4. A follow-up treatment of 50% of the recommended spread rate should be considered in lightly trafficked areas at the lower end of temperature bands indicated.
5. To take account of residual salt during periods of sustained extreme cold temperatures, where temperatures do not rise above extreme cold over 12 hours or more, rates of spread for successive treatments, carried out within 6 hours of completing previous treatments using alternative de-icers, may be 50% of the rates in the table.
6. Higher spread rates may require more than one pass to achieve, and Authorities should take account of this with regard to treatment response times.

TREATMENT MATRIX K **FROST or FORECAST FROST DURING EXTREME COLD** **PRECAUTIONARY SPREAD RATES FOR POOR SPREADING CAPABILITY (in g/m^2)** **(See Notes 1 to 6)**						
Dry salt component (% by weight of de-icer)	**Rock salt (70%)**	**Rock salt (70%)**	**Rock salt (70%)**	***Rock salt (70%)***	**Rock Salt (96%)**	***Rock Salt (100%)***
Brine component (% by weight of de-icer) **Road Surface Temperature (RST), Road Surface Conditions.**	**Magnesium chloride brine (30%)**	**Calcium chloride brine (30%)**	**Brine with ABP (30%)**	***Sodium chloride brine (30%)*** **See Note 1**	**4% liquid de-icer added before loading**	***No pre-wetting*** **See Note 1**
RST at or below -5˚C above -7˚C, and dry or damp road conditions **NOTE: Only for low relative humidity <80%**	16	17	15	*19*	22	*22*
RST at or below -5˚C above -7˚C, and wet road conditions **NOTE: Only for low relative humidity <80%**	27	28	26	*32*	36	*36*
RST at or below -7˚C and above -10˚C and dry or damp road conditions	25	26	24	*32*	33	*35*
RST at or below -7˚C and above -10˚C and wet road conditions	41	43	40	*53*	54	*59*
RST at or below -10˚C and above -12˚C and dry or damp road conditions	31	33	31	*43*	42	*48*
RST at or below -10˚C and above -12˚C and wet road conditions	52	55	51	*73*	69	*80*
RST at or below -12˚C and dry or damp road conditions	41	44	41	*61*	54	*66*
RST at or below -12˚C and wet road conditions	69	73	68	*102*	90	*110*

Notes:

1. Spread rates have been included in red for dry salt (e.g. *28*) and salt pre-wetted with sodium chloride brine, however their use is not recommended because they may not become effective in the required time scales
2. Dry salt:brine should be in the ratio 70:30 by weight for pre-wetting
3. Spread rates for pre-wetted salting are the weight of dry salt and brine combined as shown in headings.
4. A follow-up treatment of 50% of the recommended spread rate should be considered in lightly trafficked areas at the lower end of temperature bands indicated.
5. To take account of residual salt during periods of sustained extreme cold temperatures, where temperatures do not rise above extreme cold over 12 hours or more, rates of spread for successive treatments, carried out within 6 hours of completing previous treatments using alternative de-icers, may be 50% of the rates in the table.
6. Higher spread rates may require more than one pass to achieve, and Authorities should take account of this with regard to treatment response times.

TREATMENT MATRIX L **SNOW or FREEZING RAIN DURING EXTREME COLD** **PRECAUTIONARY SPREAD RATES (in g/m^2)** **(See Notes 1 to 4)**						
Dry salt component (% by weight of de-icer)	**Rock salt (70%)**	**Rock salt (70%)**	**Rock salt (70%)**	***Rock salt (70%)***	**Rock Salt (96%)**	***Rock Salt (100%)***
Brine component (% by weight of de-icer)	**Magnesium chloride brine (30%)**	**Calcium chloride brine (30%)**	**Brine with ABP (30%)**	***Sodium chloride brine (30%)*** **See Note 1**	**4% liquid de-icer added before loading**	***No pre-wetting*** **See Note 1**
Weather conditions & Road Surface Temperature						
Snow forecast (RST at or below -5˚C and above -7˚C)	23	24	22	*28*	28	*28*
Snow forecast (RST at or below -7˚C and above -10˚C)	33	35	32	*40*	40	*43*
Snow forecast (RST at or below -10˚C and above -12˚C)	39	41	38	*47*	47	*52*
Snow forecast (RST at or below -12˚C)	47	50	47	*58*	58	*70*

Notes:

1. Spread rates have been included in red for dry salt (e.g. *28*) and salt pre-wetted with sodium chloride brine, however their use is not recommended because they may not become effective in the required time scales
2. Dry salt:brine should be in the ratio 70:30 by weight for pre-wetting
3. Treatments for moderate/heavy snow are as for light snow, plus a follow-up treatment at half the recommended spread rate when no treatments in previous six hours
4. Higher spread rates may require more than one pass to achieve, and Authorities should take account of this with regard to treatment response times.

De-icer treatments during snowfall

H12.58 Combination of ploughing and de-icer treatments during snowfall are given in Matrix M. See Section H11 for guidance on effective ploughing.

<table>
<tr><th colspan="3">TREATMENT MATRIX M
TREATMENTS DURING SNOWFALL</th></tr>
<tr><td colspan="3">Plough to remove as much slush, snow and compacted snow as possible</td></tr>
<tr><th>No ice or compacted snow on surface</th><th colspan="2">Ice or compacted snow on surface</th></tr>
<tr><td rowspan="3">To provide a debonding layer, spread (see Note 1):
Use the treatments given in Matrix L</td><td colspan="2">Is traffic likely to compact subsequent snowfall before further ploughing is possible?</td></tr>
<tr><td>YES</td><td>NO</td></tr>
<tr><td>To provide a debonding layer, spread (see Note 1):
Use the treatments given in Matrix N</td><td>No de-icer should be spread</td></tr>
<tr><td colspan="3">Notes:
1. During and after snowfall, only the ploughed lane(s) should be treated if other lanes have still to be ploughed</td></tr>
</table>

De-icer treatments on snow and ice

H12.59 Key recommendations – de-icer treatments on snow and ice:

- Where spread rates are given for the application of liquid, this is on the basis that application is only from a dribble bar forming discrete longitudinal lines of de-icer no more than approximately 100mm apart across the carriageway
- Application of liquids in lines can also be in conjunction with dry salt spreading and can be carried out immediately before, after or at the same time as the dry salt application
- Solid de-icer with larger particle sizes will be more effective than a finely graded material, as the larger particles can penetrate further and more quickly into the layer before dissolving to reach the road surface and debond the layer

- The road condition should be monitored on all treated routes when ice, snow or compacted snow are present and abrasives should be applied at a rate of 20 to 40g/m2, as outlined in Matrix D, if more dangerously slippery conditions occur

  (Recommendation RH.50)

H12.60 Combination of ploughing and de-icer treatments are given in Matrix W

H12.61 Ideally, de-icers should penetrate and bore into ice and compacted snow in order to reach the road surface and debond the layer. The performance will be optimised if de-icers are concentrated (e.g. larger particle size or liquids applied in lines) so, when they have penetrated the layer down to the road surface, there is sufficient ice melting capability to spread out and debond the layer from the road surface.

H12.62 Liquid de-icers should not be spread 'uniformly' to a layer of ice or compacted snow. If they melt the surface to form a liquid film on the layer of ice this may result in more dangerously slippery conditions. Also, there is a risk of refreezing when the concentration of the solution formed falls such that the air/road surface temperature is below its freezing point temperature. Small particles of solid de-icer may have a similar effect as uniformly spread liquid de-icers by only melting the surface. When using solid de-icers they should have a low fines content whenever possible, i.e. with less than 20% by weight passing a 1mm sieve, and less than 10% passing a 600µm sieve.

H12.63 The treatments in Matrix N are designed to facilitate the dispersal of ice, snow and compacted snow without the need to use abrasive. However, the road condition should be monitored on all treated routes when ice, snow or compacted snow are present and abrasives should be applied at a rate of 20 to 40g/m², as outlined in Matrix D, if more dangerously slippery conditions occur.

TREATMENT MATRIX N **SPREAD RATES ON SNOW AND ICE (in g/m^2)** **(See Notes 1 to 13)**							
Dry salt component (% by weight of de-icer)		**Rock salt (70%)**	**Rock salt (70%)**	**Rock salt (70%)**	***Rock salt (70%)***	**Rock Salt (96%)**	***Rock salt (100%)***
Brine component (% by weight of de-icer) **Lower of air or road surface temperature:**	**ABP Liquid**	**Magnesium Chloride brine (30%)**	**Calcium chloride brine (30%)**	**Brine with ABP (30%)**	***Sodium chloride brine (30%)*** **See Note 1**	**4% liquid added before loading**	***No pre-wetting*** **See Note 1**
At or below -5˚C and above -7˚C	24	28	29	27	*34*	28	*28*
At or below -7˚C and above -10˚C	24	40	42	38	*48*	40	*43*
At or below -10˚C and above -12˚C	30	46	49	46	*56*	47	*52*
Less than -12˚C	36	56	61	56	*76*	58	*70*

Notes:

General

1. Spread rates have been included for dry salt and salt pre-wetted with sodium chloride brine, however their use is not recommended because they may not become effective in the required time scales
2. Dry salt:brine should be in the ratio 70:30 by weight for pre-wetting
3. Operators should consider carrying out patrols in extreme cold to determine the effectiveness of treatments and when further follow up treatments are required.
4. If the surface melts and becomes slippery, an initial treatment of abrasives should be applied at a rate of 40g/m² and successive treatments at 20g/m² until an acceptable level of friction is restored. Care should be taken to make further applications where ice or snow melts again and refreezes later leaving abrasives beneath the ice surface and therefore ineffective.
5. Abrasives should ideally be of 5-6mm and angular particles, but gradings down to 1-5mm should be effective. After abrasives have been used, drainage systems should be checked and cleared if necessary. Recovered material, which will be contaminated with road oil, must be disposed of safely.
6. A small amount of salt should be added to the abrasive to prevent freezing of the water within it. If the moisture content of the abrasive is 7%, 50kg of salt per tonne of abrasive is sufficient to prevent freezing if thoroughly mixed.
7. At temperatures below -7˚C, treatments with dry salt or salt pre-wetted with only sodium

chloride brine are likely to melt ice at a slower rate than salt pre-wetted with the alternative de-icers. To increase the rate of ice melting with dry salt or salt pre-wetted with only sodium chloride brine the recommended spread rates can be increased.

8. Higher spread rates may require more than one pass to achieve, and Authorities should take account of this with regard to treatment response times.

For treatment of thin layers of ice (not exceeding 1mm thick):

9. Consider follow-up treatments at 50% in light traffic when there are few vehicles to assist the dissolution of the salt e.g. certain slip roads

For treatment of layers of compacted snow and ice more than 1mm thick:

10. Plough to remove as much material (e.g. slush, snow, compacted snow) as possible from the top of the compacted layer before applying de-icer
11. When using solid de-icers they should have a low fines content whenever possible, i.e. with less than 20% by weight passing a 1mm sieve, and less than 10% passing a 600µm sieve.
12. If ice or compacted snow is thicker than about 10mm, it may not be possible to penetrate the layer, undercut it and debond it from the road surface. The critical thickness is dependent on the road surface temperature and de-icer concentration and particle size.
13. When it is not possible to remove compacted snow and ice because of their thickness, or de-icers are ineffective, abrasives should be used as follows until the conditions are more favourable for de-icing:

    For initial treatment, spread:

    - 40g/m² of abrasives only

    For successive treatments, spread:

    - 20g/m² of abrasives only

H13 EXERCISES

Purpose and Types of Exercise

H13.1 Exercises should be carried out in advance of the winter season. Exercises vary in scale and complexity but fundamentally serve to test arrangements in an environment where lessons can be safely identified and subsequent improvements made. A Winter Service exercise aims to achieve confidence that processes and equipment will meet the requirements for service delivery set out in the Winter Plan.

H13.2 When developing an exercise programme Authorities should aim to target at all levels of the Winter Service from senior management and decision makers through to operatives delivering the service. It is vitally important to regularly test the decision making and escalation approach, particularly given that this is a subjective matter and that there is no formal qualification for decision makers. It is good practice to carry out some form of exercise in advance of each winter season. The structure of these exercises can vary significantly and the delivery of these need not be costly.

H13.3 The Cabinet Office's 'The Exercise Planners Guide' provides further information regarding the types of exercises and their respective merits.

http://www.cabinetoffice.gov.uk/ukresilience/preparedness/exercises/plannersguide.aspx

H13.4 The guidance identifies four types of exercise and these can be applied to Winter Service as follows:

- Table-top Exercise
    - This is generally the most cost effective method of delivering an exercise and can be delivered to a small number of staff (5-10) in the Authority's own premises. These can be run to a larger number of participants, particularly where multiple authorities are participating.
    - The approach is generally to lead participants through a developing scenario over a period of time with added complications developing throughout the event.
- Seminar
    - A seminar exercise tends to be less realistic than other types of exercise. However, it promotes liaison with a range of stakeholders and organisations. The costs of running a seminar exercise will depend heavily on the number of people attending and the venue used. Significant planning can be required as the number of attendees at events like this can be in excess of 100 with wider stakeholders such as Police and Emergency Planning Teams included.
    - The scenario for an event like this will generally be delivered in a smaller number of elements and is aimed to promote discussion rather than detailed operational planning. An event like this can be particularly

useful in the development of a multi-agency response to severe weather conditions.

- Control Post
  - A control post exercise is much the same as a table-top exercise, but with staff undertaking the role in their normal place of work. In Winter Service delivery this approach may not offer any significant benefit over a table-top exercise, however it will require a significant amount of prior planning, can be disruptive to other operations and will often cost significantly more to run.
- Live
  - A live exercise in Winter Service terms would generally be much the same as a control post, but extended to include operations on the road network. This would be an expensive event to undertake in its entirety with little benefit, however two cost effective live tests can be employed:

H13.5 A phone contact check is a good and cost effective approach to ensure that contact can be made with staff on duty out of hours and is a very basic form of live exercise. This approach could be expanded to involve a multitude of stakeholders and test relationships, communication and technical knowledge.

H13.6 A more comprehensive operational, live exercise is to undertake a dry treatment run during the early part of the season. This can be used to check the communication, routes undertaken, information recorded and actions undertaken in the event of a failure such as a spreader breakdown.

Delivery of Exercises

H13.7 Delivering exercises need not necessarily be a costly task. The Cabinet Office guidance provides useful information regarding the development and delivery of exercises. It is designed to allow exercises of any scale to be delivered, so it would not be wholly applicable for a small scale operational test.

H13.8 The Cabinet Office guidance advises that those involved in planning the exercise should not participate directly. Some smaller organisations may seek help from external organisations in running the exercise. In addition, advice on the delivery of the exercise can be sought from organisations such as forecast suppliers, contractors, neighbouring authorities and the emergency services.

H13.9 Exercise development should always start with the agreement of the aim and objectives. These will shape the scenario and delivery method to be employed. An example could be to satisfy the aim of “confirming communication links are functional”. The exercise could be developed to make check calls to various staff / stakeholders to confirm the arrangements in place are adequate.

H13.10 A structured approach to any exercise should be adopted to lead staff through a realistic, but challenging, scenario that tests as many elements of the Winter Service as possible. This should include decision making, communication and delivery of the service during difficult conditions. Factors to consider should extend beyond the weather itself to include scenarios that impact on operation of

the road network such as congestion and traffic incidents.

H13.11 To develop a complete test of arrangements, the planning process is more involved. It is important to consider scenarios to test specific elements of the plan whilst attempting to keep the situation plausible and realistic. Keeping the scenario aligned to events that have happened in the past will assist in retaining realism.

H13.12 Recent experience suggests that delivery of a simple table-top exercise based around discussion will deliver a holistic test of a plan. If a specific element requires testing, then a concentrated test to mimic a live event will push staff members to perform as they would in a real situation.

H13.13 To minimise costs and also to increase the opportunity for learning, authorities could consider collaborating to deliver joint exercises. The scenario should then be written to test cross boundary issues in addition to the standard response within each respective Authority's boundary.

H13.14 Collaborative approaches will also increase the credibility of the exercise through increased independence. If planning an exercise "in house" it is important that the participants do not have sight of the scenario before the event. This will ensure that the test is realistic and delivers accurate learning points. Two authorities could write scenarios for each other to show independence or a third party organisation could be employed.

H13.15 It is essential that the resulting learning and good practice is recorded, acted upon and disseminated. Following an exercise it is important that a report is written and is circulated to attendees.

H13.16 Staff training should also be considered by Authorities for testing through exercising. Once staff training has been delivered, this should be tested to ensure it is adequate and that any shortcomings or good practice influences future winter and training plans.

H1 PUBLIC INFORMATION LEAFLETS

H14.1 Public information leaflets provide a useful means of providing information to drivers on travelling in winter conditions and roles and responsibilities of an authority in delivering Winter Service. Authorities should consider emphasising key messages in their leaflets. Typical contents of such a leaflet could include the following:

H14.2 Winter travelling advice to address issues, such as:

- The need to travel;
- Using public transport;
- Drivers should never assume a road has been salted;
- Adding extra time to journeys;
- Reducing speed;

- Hazards of black ice;
- Using lights in poor visibility;
- Extra care for cyclists pedestrians and horse riders;
- Giving snow ploughs and gritters plenty of room;
- Parking where it may block a salting route;
- Skidding and stopping distances;
- Condition of vehicle and appropriate personal provisions and equipment.

H14.3 Information on network treatments, such as:

- Map of normal treatment network;
- Map of Minimum Winter Network;
- When salting takes place;
- Showers or rain may wash salt off roads;
- Salting will not stop ice forming in very cold weather;
- Times to treat the network;
- Snow clearance;
- Salt bins.

H14.4 Further advice and contacts

- Telephone and email and website details.

H14.5 Authorities should consider as wide a distribution of the leaflets as possible through public and private outlets such as council offices, shops, petrol stations and service areas. Leaflets should also be available from authorities' websites.

Warnings

Warning 1

Pre-wetted salting

- If the brine concentration exceeds 23%, there is a risk of salt re-crystallising within the pumps, pipes and nozzles of the spreader, particularly at very low temperatures.

Warning 2

Salt moisture content:

- Whatever type of salt is being used, tunnelling (the formation of large voids resulting in salt not falling onto the distribution mechanism) can occur in the spreader hopper if the moisture content of the salt is too high. Tunnelling must be avoided because it can result in uneven spreading or large areas of the road being left untreated.

Warning 3

Outside protected salt:

- If water enters a stockpile, a cover may prevent subsequent drying in fine weather. If this happens the condition of the stockpile will deteriorate rapidly and the stockpile should be considered effectively uncovered. Water must be prevented from entering a covered stockpile.

- Walking on covers must never be allowed without adequate precautions and equipment for health and safety reasons. Apart from the potential for slips and falls, a ‘swallow-hole’ in the stockpile may entrap anyone walking on the cover. A full risk assessment must be carried out and a proper process put in place.

Warning 4

Calibration of spreaders:

- There is a risk of under or over spreading if the spreader is not calibrated for the salt being spread.

- The potential consequences of under spreading are higher when the spread rate is low.

Warning 5

Calibration procedure:

- Carrying out an indirect check of the spreader settings, the belt speed, gate height and spinner speed is not sufficient.

- The amount of salt being discharged must be measured**.**

Warning 6

Weather and road surface conditions:

- A very significant quantity of salt is required to prevent freezing if water has ponded on or is flowing across a road surface. Spreaders can be operated in blast mode, but this is often insufficient to prevent freezing. N.B. Approx. 100g/m² of rock salt is required to prevent the freezing of water of depth 2.5mm (or 1kg/m² for 25mm of ponded water) at road surface temperatures down to only -2˚C. Where water is flowing onto the carriageway (or up through porous surfacing, cracks, etc.) it will remove the salt solution. Thus spreading at high rates or in blast mode may be ineffective no matter how much salt is spread.

Warning 7

Ploughing:

- Records of raised manholes, traffic calming measures, and level crossings that may be damaged, or damage the plough, should be taken into account when ploughing.

Warning 8

Good ploughing practices:

- Run-off from windrows and piles of snow may enter the carriageways and refreeze to form sheet ice, particularly where drainage is blocked or piles of snow are to the high side of the road.

Warning 9

Treatments during snowfall:

- Applying salt alone to compacted snow and ice can produce dangerously slippery conditions if a weak brine film is formed on top of the ice/snow layer.

- De-icer should not be spread alone without abrasives to anything other than a thin layer of ice or compacted snow when snowfall has ceased or future snowfall will be less than 10mm.

Warning 10

Treatment of thin layers of ice:

- Care is needed when salt is mixed with abrasives. Checks should be made that the mixture is free flowing, does not clump and can be spread effectively.

Warning 11

Treatments of medium or thick ice and compacted snow:

- Applying salt alone to compacted snow and ice can produce more dangerously slippery conditions if a weak brine film is formed on top of the ice/snow layer.

Warning 12

Liquid only spreading equipment:

- Liquid de-icers should not be spread „uniformly" onto an existing layer of ice or compacted snow without penetrating into it. If they melt the surface and form a liquid film on top of the layer of ice or compacted snow this may well result in more dangerously slippery conditions.

Warning 13

Spreading without pre-wet or liquid spreaders:

- Dry salt that has been wetted with alternative de-icer during loading into spreading vehicles will demonstrate a potentially poorer spread distribution, and spread rates may be inaccurate. The salt may suffer from tunnelling within the vehicle hoppers, which could potentially result in sections of road not being treated.

- Routes treated in this manner should be monitored after treatment and suitable warnings issued to drivers regarding potentially unsafe driving conditions.

Recommendations

RH.1

Minimum Winter Networks:

- As part of their contingency planning, authorities should define a minimum winter network

RH.2

Winter Resilience Standard:

- Authorities should consider, consult on and formally adopt local service standards for resilience of their winter service in terms of number of days continuous severe conditions salting on a defined Minimum Winter Network for the Overall Winter Period and for the Core Winter Period.

- A resilience benchmark of 12 days/48 runs should be adopted for full pre-season salt stockholding by 1 November for English local highway authorities.

RH.3

Salt composition:

- The soluble chloride content of rock salt, expressed as sodium chloride, should not be less than 90%

- The purity of marine salt should not be less than 99%.
- The soluble sulphate compounds expressed as calcium sulphate, should not be more than 2.5%.
- The insoluble content should not be more than 7.5%.
- High purity salts such as marine salt and vacuum or PAD salt should be used to manufacture brine (except in saturators specifically designed for rock salt).
- The sodium chloride content and percentage of impurities in a salt need to be considered when purchasing and when determining appropriate spread rates.

RH.4

Salt grading:

- The grading of salts, including imported salts should comply with BS 3247 which specifies the range of acceptable particle sizes for salt used in the UK.
- The grading of some types of salt can vary significantly from one delivery to another and therefore it is important to check the grading regularly, and particularly when salt is obtained from a new source or supplier. Spreaders should always be calibrated for the salt being used.
- Pressure dried vacuum salt and PAD or vacuum road salt can be used alone or mixed with other salts, but only if the mixture complies with BS 3247.

RH.5

Moisture content for salt:

- Salt should be stored such that its moisture content is maintained within an optimum range for the spreading technology used.
- The salt moisture content should be kept at a consistent level and should not differ from that used for spreader calibration by more than 1.5% or be outside the range shown in Table H2.
- Where salt moisture content is outside the optimum range consider remedial action as discussed in H6.70

RH.6

Salt storage:

- Storing salt is in a salt barn or dome will help to maintain the salt in optimum condition
- Fabric covered structures can be considered as an economical option for salt storage. Consideration should be given to them as they may offer similar protection to the salt and control of its condition as barns or domes

- When it is necessary to store salt outside, stockpiles should be covered by waterproof sheeting or a suitable weather proofing system

- The key areas of good practice (covered in this guidance) should be followed whatever storage method is used

- The requirements of the relevant environmental agency and environmental legislation for the area where the salt is stored should be noted and followed

RH.7

Storage space:

- The storage area must be large enough to contain the salt stockpile and provide room for vehicles to safely manoeuvre when unloading/loading and maintaining the stockpile

- If changing to a different salt type, the effect on the storage area requirements or amount of salt that can be stored should be reviewed

- Different types of salt should be properly and clearly segregated in storage to prevent contamination or loading of the wrong type of salt

RH.8

Safety:

- Salt stockpiles can become dangerous if the salt is piled too high. Vertical or very steep faces also present a danger due to the risk of collapse. The risk will increase dependent on the quality of the material and storage method i.e. barns or domes generally present a lower risk than open storage.

- The maximum stockpile height should not exceed the ability of the loader to push up salt from solid ground

- All faces should be sloped to the natural angle of repose to reduce the risk of collapse

- Salt should be handled by machine including when taking samples

- Stockpiles must not be walked on without adequate precautions and equipment for health and safety reasons and lone working should be prohibited when working manually at stockpiles. Proper procedures with risk assessments should be put in place.

- Operators of machines involved in handling salt, spreader drivers, etc., should not leave the vehicle to carry out any manual operation on the stockpile without a proper procedure and risk assessment having been put in place. Such procedures should not permit lone working.

RH.9

Construction:

- All buildings and storage structures must meet UK building design codes and be constructed of materials not subject to corrosion e.g. timber, high grade concrete(C50).

- All of the walls within a barn or dome must be designed to withstand the maximum possible loads caused from salt stored against them and the dynamic forces from loading the salt

- Salt stockpiles should be kept on a concrete (preferred) or a bituminous base sloped to allow water to drain away, prevent ingress of water from the ground, contamination and facilitate loading.

- Stockpile bases should be designed to prevent salt contaminated water flowing from the stockpile directly into the ground or any untreated drainage system. They should also prevent ingress of water flowing into the stockpile.

- For salt stored outside (covered or uncovered), the hard standing should have a slight cross-fall and drainage to disperse precipitation quickly and prevent water accumulation at the base of the stockpile.

- An impervious base must be provide to meet environmental requirements

- Adequate drainage must be provided which meets environmental requirements/agreements

RH.10

Position/orientation of salt barns and domes

- Doors will assist in maintaining the salt condition, in particular where openings face the prevailing weather

- To minimise weather ingress and where practical, openings should face away from the prevailing wind and weather where practical

RH.11

Drainage and environmental requirements:

- The requirements of the relevant Environmental Agency for the area where the salt is stored should be noted and followed

- Where pre-wetted salt is used, there may be a business case for the recycling of drainage water from stockpiles and the washing down of spreading equipment, as well as the collection of rainwater for brine production (brown water recycling)

EA recommendations are that:

- Salt stores should be roofed or covered with an impermeable membrane
- Salt stores should be sited on an impervious base and sited at least 10m away from the nearest watercourse or drain inlet/access
- Drainage from stores and loading areas should pass to a suitable system or a sealed tank – not to a watercourse or soakaway
- If the above drainage requirements cannot be met, consent from the appropriate agency will be needed which may contain strict quality conditions
- Salt from stores should not encroach onto the open yard

RH.12

Outside unprotected storage:

- EA recommendations are that salt stores are roofed or, if this isn't practicable, covered with an impermeable membrane
- The stockpile should be left undisturbed to keep the thatch intact, apart from the working face
- The thatch on rock salt should not be used
- The thatch on a stockpile of marine or pad salt with high purity can be used if it is regraded
- The stockpile should be profiled such that water runs off and does not pool on the surface
- The base to the stockpile should be impervious and designed to prevent water running into the base of the stockpile

RH.13

Stockpile rotation

- Salt should be stored such that its condition is maintained throughout the season
- Where practical, the priority should be to use any externally stored unprotected salt first, and then externally stored covered salt before salt stored in barns and domes
- Salt should be used in order of delivery (oldest first)
- Salt should not be externally stored unprotected for more than one winter season
- Salt should not be externally stored undercover for more than three years unless it can be confirmed that the salt remains in good condition

- Handling of salt for dry salting should be kept to a minimum

RH.14

Method of working stockpiles:

- Salt should only be removed from a single working face at any one time
- Where practical, the stockpile should be worked fully to the back of the pile before moving the working face
- External stockpiles should take the form of an extended pyramid or trapezoid
- The size of the working face should be kept to a minimum, for example by making the working face the short side of the pile

When there is insufficient covered storage capacity for all salt stocks, the priority for storing under cover should be as follows:

- Highest priority: High purity/low insoluble content salt e.g. Marine salt
- Lowest priority: UK rock salt

RH.15

Monitoring of salt condition:

- Authorities should regularly check the salt condition, by testing samples taken from existing stockpiles as well as new deliveries
- A regime of testing should be developed in consultation with the salt supplier
- Salt samples can be sent to a UKAS accredited laboratory and analysed.
- Simple checks on moisture content can be carried out locally at reduced cost but should be supplemented and verified by UKAS accredited laboratory tests
- Independent testing should be compared with certificates provided by suppliers

RH.16

Actions when salt moisture content is outside the optimum range:

- Review spread rates when salt is not in the optimum moisture content range
- Recalibrate spreaders where moisture content varies significantly from that at previous calibration

RH.17

Storage of strategic stocks:

- Recommendations for preparing and maintaining stockpiles given in this section apply equally to strategic stockpiles
- Salt should not be stored outside undercover for more than three years unless it can be confirmed that the salt is in good condition
- Consider replacing strategic stocks of salt on a rotating basis every three years.
- Strategic stocks of salt should be inspected regularly and samples taken to monitor the salt condition. More frequent checks should be made for stockpiles over three years old

RH.18

Loading spreaders:

- Do not load thatch or large aggregations ('lumps') of salt
- Care should be taken to avoid contamination of the salt with detritus when removing from the base level of the stockpile
- Salt spreaders should be sheeted during spreading. This will protect the salt from snow and rain and prevent it being lost from the hopper during spreading

RH.19

Calibration of salt spreaders:

- Spreaders should be calibrated for each type of salt they are to spread using salt in the expected condition for normal operations
- Any variation in the condition of the salt from the condition at calibration must be minimised if re-calibration is to be avoided
- The performance of spreaders should be routinely monitored after calibration and checked if necessary
- Significant changes in performance, salt type or salt condition should trigger re-calibration or at least a review of the need for re-calibration
- Spreaders should be calibrated regularly and following any maintenance or incident that has the potential to affect spreader performance
- Calibration records should be retained in accordance with the Authority's policies regarding the retention of other important documents

RH.20

Calibration procedure:

- Calibration should be carried out for every spreader in a fleet and should check:

    3. That the total amount of salt being discharged is within acceptable tolerances

    4. That the salt is being spread to the target area

- Calibration should always involve a direct measurement of the amount of salt being discharged and where it is being spread

- Calibration must be carried out by a competent and trained person

RH.21

Pre-calibration checks:

- Check and record the salt moisture content ensuring that it is in an acceptable range*

- Check the condition of the spreader, particularly the hopper, chute and salt distribution mechanism and controls.

    * The salt moisture should be within the optimum range. However, the vehicle should be calibrated for the actual salt that it will be using, no matter the state of the salt.

RH.22

Timing of calibration:

- Spreaders should be calibrated:

    - Just before the start of the season

    - Mid-season

    - Whenever significant changes in performance are noted

    - Whenever significant changes are made to the spreader (maintenance, repair, etc.)

    - When salt type or condition changes

RH.23

Monitoring spreader performance after calibration:

- Spreader performance should be routinely monitored throughout the season

- Spreaders should then be recalibrated when any significant change in the spreaders performance is noted

- Regular spreader checks should form part of the Winter Service plan

- Recalibration should always be instigated where the performance checks show this is required

RH.24

Weather and road surface conditions:

- Accurate forecasting of road and weather conditions will allow spread rates to be optimised and give decision makers confidence in selecting the lowest spread rates for those forecast conditions

- Information should be obtained concerning predicted precipitation type, intensity and timing, as well as the predicted road surface temperature in order that the timing of treatments and spread rates can be optimised

- Weather stations and live data should be used when possible

- Forecasts and treatments based on climatic domains (where practical) may enable more efficient and economic spreading

- When the weather and road surface conditions are suitable, consideration should be given to treating only the known wet and cold spots, rather than full routes. However, when undertaking 'spot' treatments such as these, good records need to be kept regarding which locations were treated, when they were treated, why they were treated and the spread rate used. These records should be used to aid future decision making in similar conditions

- Highway drainage systems need to be adequately maintained to prevent water ponding or flowing on to the road. Information concerning locations where water is flowing onto the highway or failing to flow away from it should be reported to the appropriate maintenance team for remedial action and/or the erection of temporary warning signs

- Higher spread rates should be used in high wind (greater than 20mph average wind speed) if wind compensation of the spreader settings is not possible

RH.25

Porous Asphalt:

- Porous asphalt surfacings require particular attention

- Precautionary treatment rates at least 25% higher should be considered for porous asphalt

- Since porous asphalt cools more rapidly than denser surfaces, treatments should be made in good time to avoid ice forming, These treatments must also remain effective for longer as porous asphalt is slower to warm

- Spread rates should be increased for a distance of at least 100m before a change from dense surfacing to porous asphalt and, after a contiguous section of porous asphalt, the spread rate should remain at the elevated level for at least 1km after the surface change. ; The distance can be shorter than 1km with a low level of traffic. This is due to a reduction in the amount of salt carried forward by traffic from the porous asphalt to the dense surfacing

RH.26

Negatively textured thin surfacings :

- The spread rate for negatively textured thin surfacing (other than porous asphalt) should remain as for hot rolled asphalt (see Treatment Matrices A to C)

- Winter service practitioners should aim to apply treatment as close as possible to the forecast time of freezing, within the limits of practicality

- The common practice of applying treatment during the early evening to protect against a forecast of ice forming in the early hours of the following morning may not be economical or effective. Where this practice is employed, accurate historical records of the decision making process are important to provide confidence that appropriate levels of service are met. These records should be used to aid future decision making in similar conditions.

RH.27

Residual salt:

- To reduce the number of treatments and minimise spread rates, residual salt levels may be considered when possible

- However, residual salt levels should only be taken into account for routes where good information is available, conditions are favourable and historical evidence has been gathered to support decision making (see below). It is important that the possible variation of residual salt levels over the whole length of treatment routes is considered

- Reliance should not be placed on residual salt levels on negatively textured thin surfacing

- Less reliance should be placed on residual salt levels as lower spread rates are introduced

- If a salting operation is not instructed or if a salt spread rate is reduced on the basis of the residual salt level, it is crucial that the information utilised regarding this issue is accurate. Whilst normally providing useful information on conditions, residual salt measurements from roadside weather stations should be treated with some caution

- For decision making purposes, residual salt readings (or calculated ‘Freezing Temperatures’) from individual sensors should not be solely relied upon, and other information such as knowledge of previous salting operations, actual weather and road conditions during the intervening period etc. should also be

utilised. Furthermore, it is recommended that this information is supplemented by visual inspection.

- It is important that good records are kept on the decision making process involved in determining the effect of residual salt on spreading operation and rates.

RH.28

Traffic levels:

- Actual traffic levels should be used
- Where actual traffic levels are not known the decision making process should consider both the low/medium and high traffic levels, then take the highest spreading rate applicable for the known conditions
- Spreading in heavy traffic should be avoided where possible as conditions for spreading will be less than optimal
- Spreading carried out at a time of lower traffic will help reduce losses before the salt has dissolved
- Ideally, there should be reasonable trafficking after spreading to facilitate dissolution, especially when spreading dry salt and even more so for dry 10mm salt
- Treatments after rainfall should be delayed to allow traffic to disperse as much water as possible, when operational considerations and the weather allows
- Treatments on roads with low traffic may need to be increased or carried out earlier to allow sufficient time for dissolution to take place before the forecast conditions.

RH.29

Target spread rates for precautionary treatment:

- When precautionary treatments are carried out, sufficient salt should be spread, based on the forecast conditions, to prevent frost and ice formation and/or to prevent ice or snow from bonding to the carriageway
- Spread rates should be kept as low as possible for the forecast conditions, routes and road surfaces considered. This is in order to optimise salt usage, improve stock resilience, and reduce the impact of salt on vehicles, infrastructure and the environment

RH.30

Preparation before ice, snow and freezing rain:

- Forecasting and timing are critical to the efficient treatment of snow and freezing rain conditions. Decisions should be based on the best available

forecast information and treatments carried out as close to the optimum time as is practicable

RH.31

Effect of trafficking:

- The effect of trafficking should be considered when planning treatments relating to snowfall events as, depending on the prevailing conditions, it can be beneficial in aiding the melting or dispersing of snow or have the dis-benefit of compacting existing layers of snow making them harder to remove

- For the above reasons careful consideration needs to be given to the closing of roads in snow conditions or the timing of closing and opening

- If trafficking is not able to be accounted for, treatment rates should be those provided for light traffic conditions

- When traffic levels are light, and where practicable, the number of trafficked lanes should be reduced, as this concentrates the traffic and helps to disperse the snow more rapidly

RH.32

Ploughing:

- When snow is forecast, ploughs and snow blowers should be made ready to allow snow clearance to commence without delay as and when required.

- Drivers and staff required to carry out ploughing should be ready to start operations when needed and not be delayed due to travelling to depots etc. when snow has started to settle.

- When carrying out treatments after snowfall, as much snow and slush as possible should be removed from the road surface by ploughing, before the application of de-icer and/or abrasives

- During and after snowfall, for efficiency and environmental reasons it is best that only the ploughed lane is treated if other lanes have still to be ploughed. The spread width settings may be adjusted accordingly to maximise effectiveness

- Actions to remove snow should be taken as early as practicable to prevent compaction by traffic

- Subsequent ploughing can be carried out when necessary to prevent a build-up of snow (this may require continuous ploughing in certain conditions)

- Ploughing is most effective when down to the road surface

- Ploughs are best operated at a steady speed which is effective for the plough and conditions

- Ploughing should be with a loaded vehicle, to aid traction and allow a steady ploughing speed to be maintained

- When fitted, a plough blade float mechanism should always be used

- If available, snow blowers can be used for particularly deep snow or where there is insufficient width at the side of the road to store the ploughed snow

- Snow ploughs should always be operated in accordance with the manufacturer's instructions

RH.33

Types of plough:

- Plough blades should be designed to minimise distortion during ploughing. They should have special wearing edges to prevent damage and ensure low friction

- In addition to the spreader fleet, consideration should be given to the fitting of ploughs to other suitable vehicles

- Authorities should consult manufacturers, to ensure that ploughs are suited to the operational conditions and requirements

RH.34

Good ploughing practices:

- Plans should be drawn up for each ploughing route to inform drivers where ploughed snow can and cannot be moved to

- Snow should be ploughed to the low side of carriageways and the build-up of snow in the centre of a single carriageway should be avoided. This is to avoid the later run-off from windrows or piles of snow from entering the traffic lanes, where it may dilute treatments and/or refreeze

- Drainage should be kept clear, and windrows or piles of snow should be removed or be positioned to allow melt water to reach the drains

- Piles of snow should be removed, where possible, so that melt water does not overload drainage systems or run back onto the road

- Windrows must be avoided at level crossings. Before ploughing commences on roads that include level crossings, contact should be made with Network Rail.

- Windrows should be removed or ploughed back when further periods of heavy snow are anticipated. This will provide space to plough the further snowfalls

- Accumulations of snow at central reserves, especially those with vertical concrete barriers, should be cleared where they create a hazard or impede drainage

- Where possible, multi-lane dual carriageways should be ploughed in one pass, either by:

- Ploughing just one lane

- Ploughing all lanes using ploughs working in echelon formation

- Appropriate traffic management should be considered

RH.35

Precautionary treatments before snow or freezing rain:

- If light snow is forecast that will be of insufficient depth to require ploughing, then sufficient salt should be spread to melt the snow aided by the action of traffic

- If moderate or heavy snow is forecast, sufficient salt should be spread to provide a debonding layer

RH.36

Treatments during snowfall

- Ploughing is most effective when started as soon as possible for the conditions and, where required, is continuous or sufficient to prevent a build-up of snow

- Salt spreading should be considered after ploughing to provide a new debonding layer to facilitate further ploughing of fresh snow and the break up and dispersal of compacted snow

- On heavily trafficked roads it is preferable (where practicable) to prevent a build-up of more than 10mm depth of snow. The build-up should be no more than 50mm in depth where there is a risk of compaction by traffic

RH.37

Treatment of slush on the carriageway:

- If freezing conditions are expected, it is important to remove as much slush as possible by ploughing to reduce the amount of material available to form ice when temperatures drop, as well as to reduce the amount of salt required for subsequent treatments

- If freezing conditions are not expected and the slush will melt and be dispersed under the action of traffic, no action is required

RH.38

Treatments of medium or thick ice and compacted snow:

- For high thicknesses of compacted snow and ice (i.e. greater than 5mm), treatments should be with salt and abrasive mixture or abrasive only.

Treatments with a significant amount of salt should not be considered because they may leave the surface uneven. Any brine formed on the surface may collect in hollows and deepen them further, which can lead to a very uneven surface

- When using abrasives alone, sufficient salt should be added to the abrasive to prevent freezing of the water within it. If the moisture content of the abrasive is 7%, 25kg of salt per tonne of abrasive is sufficient to prevent freezing if thoroughly mixed

RH.39

Use of alternative de-icers - Environmental considerations:

- Authorities should obtain a full specification and Material Safety Data Sheet (MSDS) detailing the types and amounts of chemicals contained in any de-icer used. Authorities should carry out an impact assessment for the specific products used

- Authorities should follow the guidance in this document to reduce the risk of any significant environmental impacts from storage and spreading of alternative de-icers. When proposing to use any de-icer other than rock salt, authorities should contact the relevant national environmental agency to agree their use, including advice on special restrictions due to potential impacts on environmentally sensitive locations

RH.40

Use of alternative de-icers - Storage capacity requirements:

- A severe weather plan (winter service plan) should be produced that identifies the network to be treated using the alternative de-icers in extreme cold conditions

- Authorities should plan to provide sufficient de-icers to give the necessary resilience. However, the likelihood of extreme events occurring in their particular geographic areas should be considered

- Authorities should calculate the amount of de-icer required to be stored, based on the route length to be treated, the spread rates required under different weather conditions and the number of treatments for which a reserve is considered necessary

RH.41

Use of alternative de-icers - Types of storage container:

- When choosing the type of container the following factors need to be considered:

    - Total storage capacity

    - Requirements for storage container construction

  - Requirements for preparing the storage area

- Materials must be capable of withstanding corrosion from stored chemicals and resistant to degradation from external factors. Recommended materials for storage container construction are polypropylene, polyethylene, glass reinforced plastic (GRP) or stainless steel

- Container walls must be thick enough and plastics be of a suitable grade to withstand the weight of dense de-icing liquids.

- Storage containers should have the facility to prevent the build-up of pressure within the container

RH.42

Use of alternative de-icers - Storage area:

- Storage areas for liquid de-icers should be bunded or storage tanks have a secondary containment system to contain any leaks and spills and to aid any clean up

- The containment capacity of the bund should be large enough to hold at least 110% of the capacity of the largest tank or 25% of the total storage capacity if in multiple tanks, whichever is the greater

- Storage should be sited on an impermeable surface, to prevent any leakage soaking into the ground

- Drainage from the store or loading area must not be allowed to soak away and must not pass into the surface water system or to soakaways. Foul drainage cannot be used without the prior permission of the drainage service provider. Discharge to a sealed tank equipped with a level alarm could also be considered

- Liquids should not be stored where spillage could enter adjacent surface water or foul water drainage and the bunded area should not have any drains within it that lead to these systems unless prior permission of the drainage service provider has been granted

- Where practical, preference should be given to indoor and/or covered storage of liquids. This will assist in preventing rainwater from building up in any bunded area, reduce bunding requirements, offer greater protection to the storage containers and associated equipment and fittings and also shading from direct sunlight

- Indoor storage areas should be well ventilated

- Ensure all local and national environmental requirements are met

RH.43

Use of alternative de-icers - Monitoring de-icer condition in storage:

- Procedures should be put in place to properly maintain and monitor the de-icer condition, and to ensure the de-icers remain effective after storage i.e. that they remain adequately mixed and that solid particles do not settle out

- A reference measurement should be made of the de-icer condition for each new delivery and recorded for future monitoring

- De-icers should be regularly stirred or agitated and immediately before each use to reduce any settlement or crystallisation and ensure the liquid does not separate out into layers of different concentrations

- When not in regular use, de-icers should be stirred or agitated at least once every 3 months to help maintain the condition of the de-icer

RH.44

Use of alternative de-icers - Handling liquid de-icers:

- The Material Safety Data Sheet (MSDS) should be consulted for necessary health and safety information. Authorities should carry out a COSHH assessment for the specific products used

- In order to reduce the risk of leaks escaping, as far as issues of practicality allow, all pipes and hoses used for transferring de-icers to the storage tanks and from storage tanks to spreaders should be contained within the bunded area or secondary containment system

- Loading and dispensing areas should not connect to any surface water sewer or soakaway. Foul drainage cannot be used without prior permission of the sewer provider. A sealed tank with level alarm could also be considered.

- All connections and fittings must be constructed of materials resistant to corrosion by the de-icer i.e. polypropylene, polyethylene, GRP, PVC or stainless steel

- All pipes, hoses and connections should be regularly checked for leaks and tight fitting

- In order to load and unload spreaders quickly, a pump of sufficient capacity will be needed to transfer liquid de-icer between the spreader and storage container. In determining the required pump capacity, consideration should be given to the number of spreaders that are to be loaded, the spreader capacity and the number of pumps available

- It is recommended that all wetted parts of the pump should be stainless steel or other suitable materials to provide resistance to corrosion by the de-icers

RH.45

Use of alternative de-icers - Pre-wetted spreading equipment:

- Authorities should ensure that spreaders:
    - Should not be adversely affected by the de-icer
    - Can be set up and calibrated to accurately deliver the proposed spread rates to the defined target areas at the operating temperatures
    - Have the capability to be set up for different salt types and pre-wetting agents
- Drivers (including reserves) should be fully competent in the use and operation of the spreaders
- Regular checks should be made when using the alternative de-icers to ensure they have no additional (as compared to salt) detrimental effect on the following equipment:
    - Spreader body, chassis, electrics and spinner
    - Brine tanks on spreader
    - Spreader brine pumps
    - Spray nozzles on spreader
    - Pumps and other equipment for transferring de-icers to spreaders from storage tank

RH.46

Use of alternative de-icers - Liquid only spreading equipment:

- Liquids should be spread using dedicated liquid spreaders or combination spreaders where available
- If Authorities do not have liquid spreaders, modifications to spreaders or other maintenance vehicles, potentially including equipment for weed control or plant watering, should be investigated to provide an adequate and calibrated liquid spreading capability (N.B. de-icers should not be sprayed onto compacted snow or ice)
- Liquid spreading equipment that can apply de-icer liquid in longitudinal lines no greater than approximately 100mm apart for treatments on ice and snow should be used

RH.47

Use of alternative de-icers - Spreading without pre-wet or liquid spreaders:

- When using the alternative de-icers discussed in this guidance, it is strongly recommended that pre-wet or liquid spreaders are utilised. This section is presented to give guidance to Authorities without these capabilities regarding spreading in extreme cold conditions. However, the treatments are likely to be both less economical and less effective than with pre-wetted or liquid spreading capability

- The options presented in this section should only be considered as a last resort and not as an alternative option to using the preferred spreading methods previously described

- Salt wetted with alternative de-icer liquids before loading onto spreaders can be considered but strictly in accordance with the guidelines given below:

    - Increase the spread rate. This may help in some conditions when no other alternatives are available (see salt spread rates included in the treatment matrices below) but Authorities should consider the probable limited effectiveness, cost, salt stock resilience and environmental implications

    - In extreme cold or low humidity conditions, even at high spread rates salt may not be effective. Authorities must assess the risk and act appropriately. For example consider road closures or clearly warning drivers of unsafe conditions

- The local winter plan should include additional measures for extreme cold conditions beyond treatments. These should include:

    - Provision of timely information and warnings to the public

    - Liaison with the police and other emergency services

    - Additional monitoring of route condition after treatment

RH.48

Use of alternative de-icers - Maintenance of spreading equipment:

- Spreaders should be washed down after use, using high volumes of water with low pressure, taking care that washdown water is handled properly to prevent environmental impacts. Wash bay areas should not be connected to any surface water sewer or soakaway. Refer to the Environment Agency's Pollution Prevention Guideline PPG13 Vehicle Washing and Cleaning for further guidance

- Spreader tanks, pumps and hoses should be rinsed with water before changing the liquid. After rinsing, the brine pump should be operated for a short time to put the new de-icing liquid through the whole system and prevent freezing

- Spreader manufacturers should be consulted to confirm spreaders have adequate protection for mechanical and electrical components:

- Paint work and protective systems should be of an appropriate standard

- Additional protection measures such as wax based coats, plastic chassis canopies and gear box covers should be considered

RH.49

Use of alternative de-icers - Precautionary treatments for extreme cold:

- The guidance given in H9 should be followed for treatments when the salt can enter solution before the minimum of the air or road surface temperatures are at or below -7˚C or -5˚C in low humidity conditions. This is typically when treatments can be made earlier in the day and completed at least 2 hours before the temperatures falls below -7˚C (or -5˚C in low humidity conditions)

- In order to improve stock resilience and reduce the impact of salt and alternative de-icers on vehicles, infrastructure and the environment, spread rates used should not exceed those recommended

RH.50

Use of alternative de-icers - De-icer treatments on snow and ice:

- Where spread rates are given for the application of liquid, this is on the basis that application is only from a dribble bar forming discrete longitudinal lines of de-icer no more than approximately 100mm apart across the carriageway

- Application of liquids in lines can also be in conjunction with dry salt spreading and can be carried out immediately before, after or at the same time as the dry salt application

- Solid de-icer with larger particle sizes will be more effective than a finely graded material, as the larger particles can penetrate further and more quickly into the layer before dissolving to reach the road surface and debond the layer

The road condition should be monitored on all treated routes when ice, snow or compacted snow are present and abrasives should be applied at a rate of 20 to 40g/m2, as outlined in Matrix D, if more dangerously slippery conditions occur

QUICK REFERENCE FOR PRECAUTIONARY TREATMENT DECISION MAKING

Decision making procedure preparation

The following checklists are designed as a quick reference for the delivery of the Treatment Decision. Decision Making Checklist H1 “In advance of forecast” can be used to prepare for the winter season as well as be used in season to confirm that the data has not changed and take action where necessary outside of the individual treatment decision making process required for a weather event.

When this process is used and the results properly documented, when the treatment decision is made it is only necessary to confirm that certain parameters (the base data that may not change at each treatment decision) such as spreaders being in calibration and salt condition (is unchanged), need be confirmed. Furthermore, the number of treatment matrices and columns used within the matrix needed for a particular route can be identified possibly reducing to just one or two for most decisions (provided this base data has not changed).

Decision Making Checklist H2 “At forecast” is the part of the decision making process which is reliant on the forecast and other current conditions such as traffic level, road wetness at time of spreading and wind.

Decision Making Checklist H1 – In advance of forecast of frost		
Item	**Parameters**	**Action**
The following conditions and parameters may be assessed/determined in advance of the treatment decision but must be confirmed within the treatment decision process for each forecast		
Spreader is allocated to route	Yes/No	Check spreader is able to spread de-icer allocated for the route – if not do not use or treat as poor spreading capability and increase spread rate to next largest rate in appropriate matrix. Monitor route during and after spreading – See Section H7.24
Spreader is in Calibration	Yes/No	Use Poor Spreading capability if No providing spreader is capable of spreading de-icer to the minimum level required [*1]. See Section H7.18
Is the same spreading technology used as when calibrated?	Yes/No	If No confirm spreader is capable of spreading de-icer to the minimum level required *[1]. Use spread rate matrix consistent with the actual technology to be used. See Section H10.22
Is de-icer the same type and grading as calibration (Normal and/or extreme cold alternatives need to be considered)	Yes/No	Is spreader capable and calibrated for de-icer if Yes OK – if No do not use or treat as poor spreading capability (poor coverage) and increase spread rate to next larger rate in appropriate matrix. Monitor route after during and spreading – See Section H7.24
Has de-icer been tested within allowable period (Table H5)	Yes/No	If No reduce spreading capability (coverage) to next lesser level of capability if above Poor Capability. Take remedial action (See H6.70) where salt exceeds maximum allowable m/c – See Section H6.8
Is de-icer within 1.5% of calibrated m/c and not above maximum allowable m/c	Yes/No	If No reduce spreading capability (coverage) to next lesser level of capability if above Poor Capability. Take remedial action (See H6.70) where salt exceeds maximum allowable m/c – See Section H6.8

*[1] Note the minimum requirements for spreading capability when using the spreading matrices in this guidance are set out in Section H10.22. These must be met at all times for the rates to be valid.

Decision Making Checklist H2 – At forecast of frost or ice		
Item	**Parameters**	**Action**
The following conditions and parameters are assessed/determined when the treatment decision is being made for the forecast conditions		
Obtain forecast conditions (from forecast provider)	Temperature and precipitation	Use values to determine road surface wetness and appropriate row in spread rate matrix for salting technology for wetness and RST [*1]
Assess salt distribution	Good/Fair/Poor	Use results of distribution assessment if known and spreader is in calibration. Otherwise use Poor – See Flowchart H1
Assess traffic level	High/Medium	Use known traffic levels at time of/immediately after spreading. If traffic levels are not known carry out the full decision making process for both High and Medium/Low traffic levels and take higher spread rate. See Table H11
Assess road surface wetness at time of spreading	Dry/Damp/Wet Or Very Wet	See Table H10 and use appropriate value to determine both losses and spread rate for combined RST and wetness in appropriate decision matrix for salting technology used. For a very wet road (in excess of Wet as defined in Table H10 refer to Table H13 for appropriate action
Assess loss after spreading	High/Normal	Use Flowchart H2
Assess road surface wetness at forecast point	Dry/Damp/Medium	Assess from forecast of precipitation See Table H10
Assess road surface temperature	°C (from forecast) [*1]	Use along with road surface wetness to determine appropriate row in spread rate matrix.
Determine spread rate from appropriate spread rate matrix for technology and de-icer used	Using information assessed above	Use Table H12 to identify appropriate Matrix column. For normal or extreme cold conditions.
Check special conditions which may require increase in treatment rate, etc.	Surfacing, wind, traffic.	See Table H13
Record of decision process		Record all information and communicate to appropriate parties for service delivery, management and audit of the service.

*1 – Forecast conditions may be modified by additional historical data, thermal mapping information, sensor information and other sources of local knowledge where these are available. This should only be done where well defined processes aligned with the Treatment Decision and understanding of the information along with its impact on the decision and associated risks are understood and risks mitigated.

Table H2 – Optimum salt moisture content

Salt type	Technolog	Optimum range
UK rock salt	Dry salting	2 to 3.5%
UK rock salt	Pre-wetted	Less than 3.5%
UK rock salt	Treated	2 to 3.5%
Marine salt*1	Dry salting	1.5 to 4%
High purity imported rock	Dry salting	2 to 3.5%

*1 Includes Vacuum and PAD salt.

Table H5 – Salt testing frequency

Storage type	Frequency of testing (per month)
Outside unprotected	2
Outside covered *1	1
Barn or dome *1	1

*1 Use appropriate level for Fabric covered structures depending on specification

Table H6 – Assessment of Uniformity of Salt distribution from stationary test

Salt type	Uniformity	Minimum spread rate in a lane (% of the target amount)
Treated and pre-wetted	Good	90
	Fair	70
	Poor	60
Dry	Good	80
	Fair	60
	Poor	50

Table H7 – Assessment of Uniformity of Salt distribution from observed run		
Salt type	**Uniformity**	**Observation of distribution to two lanes**
Treated and pre-wetted	Good	Distribution appears uniform between the lanes Wastage assessed to be less than 5%
	Fair	Up to 50% more salt assessed to be in one lane than the other Wastage assessed to be less than 10%
	Poor	Up to 75% more salt assessed to be in one lane than the other Wastage assessed to be less than 15%
Dry	Good	Up to 20% more salt assessed to be in one lane than the other Wastage assessed to be less than 10%
	Fair	Up to 75% more salt assessed to be in one lane than the other Wastage assessed to be less than 15%
	Poor	Up to 90% more salt assessed to be in one lane than the other Wastage assessed to be less than 20%

<table>
<tr><th colspan="5">Table H9 – Sample Precautionary Treatment Decision Guide</th></tr>
<tr><td rowspan="2">Road Surface Temperature</td><td rowspan="2">Precipitation</td><td colspan="3">Predicted Road Conditions</td></tr>
<tr><td>Wet</td><td>Wet Patches</td><td>Dry</td></tr>
<tr><td>May fall below 1°C</td><td><u>No</u> rain
<u>No</u> hoar frost
<u>No</u> fog</td><td rowspan="3">Salt before frost</td><td rowspan="2">Salt before frost (see note a)</td><td rowspan="2">No action likely, monitor weather (see note a)</td></tr>
<tr><td rowspan="3">Expected to fall below 1°C</td><td><u>No</u> rain
<u>No</u> hoar frost
<u>No</u> fog</td></tr>
<tr><td><u>Expected</u> hoar frost
<u>Expected</u> fog</td><td colspan="2">Salt before frost (see note b)</td></tr>
<tr><td><u>Expected</u> rain <u>BEFORE</u> freezing</td><td colspan="3">Salt after rain stops (see note c)</td></tr>
<tr><td><u>Expected</u> rain <u>DURING</u> freezing</td><td colspan="3">Salt before frost, as required during rain and after rain stops (see note d and H11.35)</td></tr>
<tr><td><u>Possible</u> rain
<u>Possible</u> hoar frost
<u>Possible</u> fog</td><td colspan="2">Salt before frost</td><td>Monitor weather conditions</td></tr>
<tr><td colspan="2"><u>Expected</u> snow (See H11.35)</td><td colspan="3">Salt before snow fall</td></tr>
<tr><td colspan="5">The decision to undertake precautionary treatments should be, if appropriate, adjusted to take account of residual salt.
All decisions should be evidence based, recorded and require continuous monitoring and review.
Decision on treatment timing should account for traffic and road surface wetness at time of treatment and after, as well as forecast conditions.</td></tr>
</table>

Notes:

(h) Particular attention should be given to the possibility of water running across or ponding on carriageways and other running surfaces e.g. off adjacent fields after heavy rains, washing off or diluting salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning and possible other occasions. See Warning 6.

(i) When a weather warning contains reference to expected hoarfrost, considerable deposits of frost may occur. Hoarfrost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective. Close monitoring is required under this forecast condition which should ideally be treated just as the hoarfrost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to and as close as possible to the

expected time of the condition. Hoarfrost may be forecast at other times in which case the timing of salting operations should be adjusted accordingly.

(j) If, under these conditions, rain has not ceased by early morning, crews should be called out and action initiated as rain ceases.

(k) Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period. Service Providers should be aware of the health safety implications of ice forming during freezing rain events, both to the travelling public and winter maintenance personnel carrying out treatments. They should be prepared to make follow up treatments on any ice that has formed or to take suitable actions such as road closures.

(l) By using domain-based forecasting, consideration can be given to differing actions from each depot.

(m) Where there is any hint of moisture being present, a pessimistic view of the forecast should be taken when considering treatment to negatively textured surfaces. See Warning 6

(n) Spreading salt alone at temperatures below about -7°C (the lower of air or road surface at time of spreading) or below about -5°C in low humidity conditions (relative humidity less than 80%) may not be practically effective. High spread rates will be required and even then salt may not enter solution quickly enough to prevent freezing or be able to melt ice or compacted snow. Consideration should be given to spreading at least 2 hours before the temperature reaches these values to allow salt to enter solution, or the use of alternative de-icers. See Section H12.

Table H10 – Road Surface Wetness		
Definition	**Description**	**Water film thickness (mm)**
Dry road	A road that shows no signs of water or dampness at the surface but may be just detectably darker (however it may have moisture contained in pores below the surface that is not 'pumped' to the surface by traffic)	0 to 0.03mm
Damp road	A road which is clearly dark but traffic does not generate any spray. This would be typical of a well-drained road when there has been no rainfall after 6 hours before the treatment time.	0.03 to 0.05mm
Wet road	A road on which traffic produces spray but not small water droplets. This would be typical of a well-drained road when there has been rainfall up to 3 hours before the treatment time.	0.05 to 0.1mm

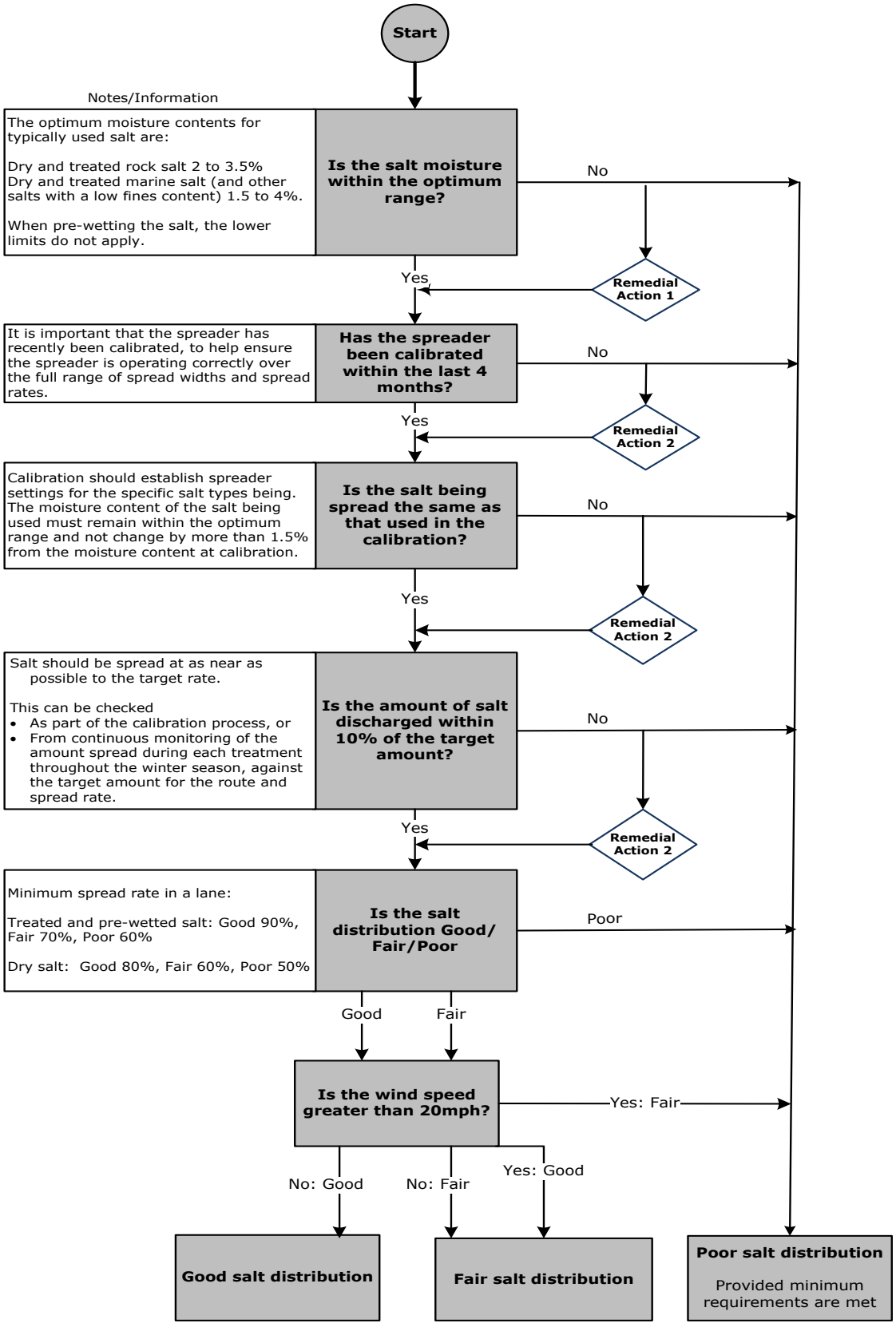
Treatment decision making procedure

Table H12 - Treatment matrix & column for different non-forecast conditions			
Spreading Technology		**Treatment Matrix**	
Dry Salting		Treatment Matrix A	
Pre-wet Salt Spreading		Treatment Matrix B	
Treated Salt Spreading		Treatment Matrix C	
Salt distribution	**Traffic level**	**Losses**	**Treatment matrix column**
Poor	High	Normal	**A**
Poor	High	High	**B**
Poor	Medium/Light	Normal	**C**
Poor	Medium/Light	High	**D**
Fair	High	Normal	**E**
Fair	High	High	**F**
Fair	Medium/Light	Normal	**G**
Fair	Medium/Light	High	**H**
Good	High	Normal	**I**
Good	High	High	**J**
Good	Medium/Light	Normal	**K**
Good	Medium/Light	High	**L**

Table H13 - Change in spread rates	
Condition	**Increase in spread rate or action**
Spreading when there is no or very little traffic	25%
Porous asphalt	25%
Dense surfacing after change from porous asphalt	25% for 1km
Areas prone to surface water	See Warning 6
Spreading in very heavy traffic (e.g. peak traffic times) if unavoidable	Consider treatment in 2 runs
Spreading in high winds (greater than 20 mph)	Consider continuous spreading or second treatment where spreader can be set (effectively) asymmetrically into the wind
Concrete roads after prolonged cold spell	25%
Spreading in low humidity (less than 80%)	Consider an additional precautionary treatment earlier in the day [*1]
Spreading in dry conditions in advance of heavy hoar frost	Consider an additional precautionary treatment earlier in the day [*1]

[*1] The treatment should be timed to allow the maximum time for dissolution taking into account the likely losses due to traffic especially when using dry salt only.

Assessing salt distribution



Flowchart H1 – Salt Distribution Flowchart

A Service Provider can improve its spreading capability by considering the remedial actions below.

Action1

Mix the salt with drier or wetter salt (as appropriate to decrease or increase the moisture content). Use salt from the stockpile or from new deliveries.

A simple test for moisture is outlined in H6.69

Action 2

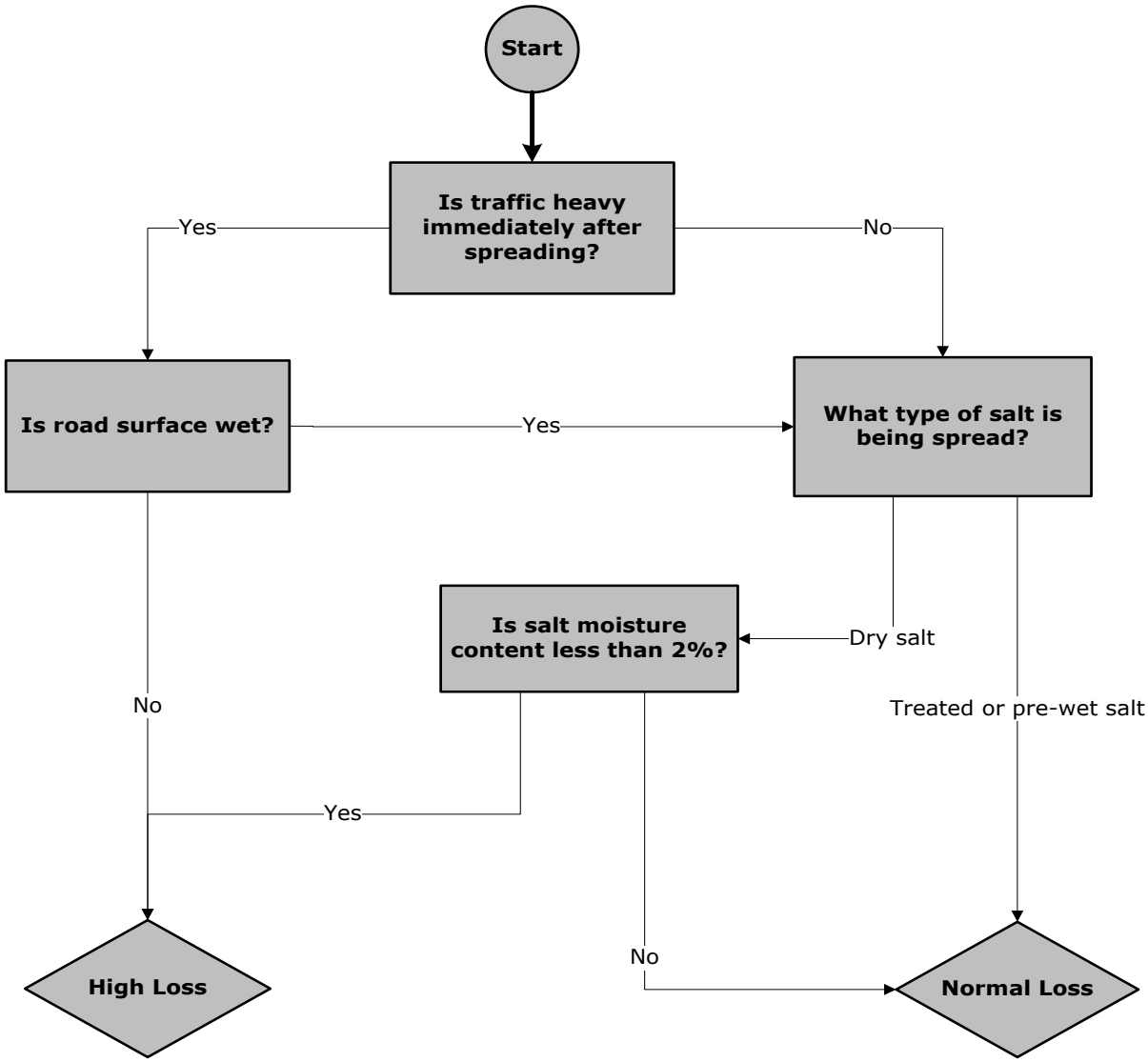
Calibrate the spreader using the salt being spread.

Assessing traffic level

Table H11 – Traffic Level	
Level	**Vehicles/hour/carriageway**
Heavy	250 or more
Low/Medium	Less than 250

Table H8 – Effect of trafficking		
Traffic Level & Timing	**Pros**	**Cons**
Before treatment High	Removes water from wet road surfaces Reduces water film thickness on damp roads	None
Before Treatment Low/Medium	None	Little water removed from a wet road surface Higher water film thickness for damp and wet roads
At Treatment High	None	May deflect salt from target areas, vehicle draughts may remove salt from road, particularly in dry conditions. Operation of spreader may be less than optimal in slow moving or stop/start conditions
At Treatment Low/Medium	Little loss due to traffic Salt spreading unhindered by vehicles adjacent to spreader	None
Shortly After Treatment High	Will help dissolution by crushing salt grains and reduce loss due to wind	Much salt may be removed from road by tyres and vehicle draughts before it enters solution
Shortly After Treatment Low/Medium	Less losses due to traffic	Dissolution may be slow particularly for dry roads and low humidity conditions. Some salt will be removed from the road before dissolution takes place.

Assessing salt loss immediately after spreading



Flowchart H2 – Salt Loss Flowchart

TREATMENT MATRIX A **DRY SALTING (De-icer spread rates in g/m^2)**													
Frost or forecast frost Road Surface Temperature (RST) and Road Surface Wetness	**Column** **Cvrg** **Traffic** **Loss**	**A** **PC** **HT** **NL**	**B** **PC** **HT** **HL**	**C** **PC** **MT** **NL**	**D** **PC** **MT** **HL**	**E** **FC** **HT** **NL**	**F** **FC** **HT** **HL**	**G** **FC** **MT** **NL**	**H** **FC** **MT** **HL**	**I** **GC** **HT** **NL**	**J** **GC** **HT** **HL**	**K** **GC** **MT** **NL**	**L** **GC** **MT** **HL**
RST at or above -2˚C and dry or damp road conditions		8	8	8	8	8	8	8	8	8	8	8	8
RST at or above -2˚C and wet road conditions		10	13	13	16	8	11	11	13	8	8	8	10
RST below -2˚C and above -5˚C and dry or damp road conditions		15	20	17	20	13	17	14	17	10	13	11	13
RST below -2˚C and above -5˚C and wet road conditions		25	2 x 17	2 x 17	2 x 20	21	28	28	2 x 17	16	21	21	25
RST at or below -5˚C and above -10˚C [*1] and dry or damp road conditions		29	2 x 19	2 x 16	2 x 19	24	32	27	2 x 16	18	24	20	24
RST at or below -5˚C and above -10˚C [*1] and wet road conditions˚		2 x 24	2 x 32	2 x 32	2 x 39	2 x 20	2 x 27	2 x 27	2 x 32	30	2 x 20	2 x 20	2 x 24
Please see Table H13 for variations to the rates given above													

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

[*1] Refer to Section H10.21 Notes 3, 4 & 5 when spreading at temperatures at or below -5^{o}C

TREATMENT MATRIX B **PRE-WETTED SALTING (De-icer spread rates in g/m^2)**													
Frost or forecast frost Road Surface Temperature (RST) and Road Surface Wetness	**Column Cvrg Traffic Loss**	**A PC HT NL**	**B PC HT HL**	**C PC MT NL**	**D PC MT HL**	**E FC HT NL**	**F FC HT HL**	**G FC MT NL**	**H FC MT HL**	**I GC HT NL**	**J GC HT HL**	**K GC MT NL**	**L GC MT HL**
RST at or above -2˚C and dry or damp road conditions		8	8	8	8	8	8	8	8	8	8	8	8
RST at or above -2˚C and wet road conditions		8	10	12	14	8	9	10	12	8	8	8	9
RST below -2˚C and above -5˚C and dry or damp road conditions		13	16	16	18	11	14	14	16	9	11	11	12
RST below -2˚C and above -5˚C and wet road conditions		21	26	2 x 16	2 x 18	18	22	27	31	14	17	21	24
RST at or below -5˚C and above -10˚C [*1] and dry or damp road conditions		26	2 x 16	2 x 16	2 x 18	22	27	27	31	17	21	21	24
RST at or below -5˚C and above -10˚C [*1] and wet road conditions˚		2 x 21	2 x 26	2 x 31	2 x 36	2 x 18	2 x 22	2 x 27	2 x 31	28	2 x 17	2 x 21	2 x 24
Please see Table H13 for variations to the rates given above													

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

[*1] Refer to Section H10.21 Notes 3, 4 & 5 when spreading at temperatures at or below -5^{o}C

TREATMENT MATRIX C **TREATED SALTING (De-icer spread rates in g/m^2)**													
Frost or forecast frost Road Surface Temperature (RST) and Road Surface Wetness	**Column Cvrg Traffic Loss**	**A PC HT NL**	**B PC HT HL**	**C PC MT NL**	**D PC MT HL**	**E FC HT NL**	**F FC HT HL**	**G FC MT NL**	**H FC MT HL**	**I GC HT NL**	**J GC HT HL**	**K GC MT NL**	**L GC MT HL**
RST at or above -2˚C and dry or damp road conditions		7	7	7	7	7	7	7	7	7	7	7	7
RST at or above -2˚C and wet road conditions		7	8	10	11	7	7	8	10	7	7	7	7
RST below -2˚C and above -5˚C and dry or damp road conditions		10	13	12	14	9	11	11	12	7	9	8	10
RST below -2˚C and above -5˚C and wet road conditions		17	21	24	28	15	18	21	24	11	14	16	19
RST at or below -5˚C and above -10˚C [*1] and dry or damp road conditions		19	24	23	27	17	21	20	23	13	16	15	18
RST at or below -5˚C and above -10˚C [*1] and wet road conditions˚		2 x 16	2 x 20	2 x 23	2 x 27	2 x 14	2 x 17	2 x 20	2 x 23	22	27	30	2 x 18
Please see Table H13 for variations to the rates given above													

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

[*1] Refer to Section H10.21 Notes 3, 4 & 5 when spreading at temperatures at or below -5^{o}C

TREATMENT MATRIX D – Precautionary Treatments Before Snow Or Freezing Rain		
Weather conditions	**Light or medium traffic**	**Heavy traffic**
Light snow forecast	Spread: • 40g/m^2 of dry salt, or • 40g/m^2 of pre-wetted salt, or • 30g/m^2 of treated salt	Spread: • 20g/m^2 of dry salt, or • 20g/m^2 of pre-wetted salt, or • 15g/m^2 of treated salt
Moderate/Heavy snow forecast	Spread: • 20-40g/m^2 of dry salt • 20-40g/m^2 of pre-wetted salt • 15-30g/m^2 of treated salt (see Note 1)	Spread: • 40g/m^2 of dry salt, or • 40g/m^2 of pre-wetted salt, or • 30g/m^2 of treated salt
Freezing rain forecast	• 40 or 2x20g/m^2 of dry salt, or • 40 or 2x20g/m^2 of pre-wetted salt, or • 30 or 2x15g/m^2 of treated salt	
Note 1: The lower rates (e.g. 20g/m^2 for dry salt) can be used if the snow is likely to settle quickly, e.g. when the road surface temperature is below zero, the road surface is not wet and the snow is not wet, and/or there is little traffic after snowfall begins and settles. Note 2: Spreading salt before freezing rain can have a limited benefit and Service Providers should be prepared to make follow up treatments on any ice that has formed.		

Appendix I
Backlog Calculation

I1 INTRODUCTION

I1.1 The 10 Year Plan set targets to arrest deterioration of the local road network by 2004. The NRMCS report published in 2004 indicates that these targets have largely been met.

I1.2 The Roads Board is developing a methodology to use road condition data to calculate the road maintenance backlog for the UK as a whole, which it hopes will be adopted across the whole of the UK.

I1.3 *Maintaining Scotland's Roads* produced by Audit Scotland describes the approach adopted in Scotland to the calculation of the maintenance backlog. The following section, including the recommendations, is an extract from this report.

I2 SCOTTISH ROAD MAINTENANCE BACKLOG

I2.1 The cost of bringing the road network up to standard has been estimated at £1.7 billion, but further work is needed to improve the accuracy of the estimate.

I2.2 Several different methods have been used to calculate the size of the road maintenance backlog. These include:

- the cost of improving the condition of the roads network to a 'steady state' where a fixed percentage of the network (around 8%) requires maintenance each year;
- applying an average unit cost to the length of the road network needing repair;
- the expenditure required to bring the network to a condition where the maintenance cost can then be minimised over the long term;
- the cost of bringing the network to the standard expected by road users.

I2.3 The maintenance backlog also includes items other than the road itself, including: footways, street lighting, drainage, bridges and traffic signals. The simplest method of taking into account these items is by multiplying the road maintenance backlog by a factor representing the relative weight of these items compared to that of the road pavement.

I2.4 Different methods of calculating the backlog can lead to widely differing results. This means it is important that the methodology adopted is widely accepted and provides a consistent measure of the backlog. Using the 'steady state' method outlined above, SCOTS provided evidence to the Scottish Parliament's Local Government and Transport Committee that the first estimate of the backlog of structural maintenance emerging from SCRMS information was a requirement for repair work of £1.5 billion, including £900 million for road repairs. The Executive,

using more detailed information than that available from the SRMCS, has calculated that the structural maintenance backlog for trunk roads is around £100 million, with a further £72 million required for routine repairs and £60 million for bridges.

I2.5 The structural maintenance backlog is less of a problem in some areas than in others. For the trunk roads managed by the Scottish Executive and for roads maintained by five councils (Aberdeenshire, Angus, Eilean Siar, Orkney Islands and West Lothian), the proportion of the road network requiring repair appears to fall below the 8% threshold. The majority of the maintenance backlog is therefore likely to be found mainly in the remaining 27 councils.

I2.6 The methodology used to produce the estimate is still a matter of debate among roads engineers, and SCOTS is actively pursuing a more robust basis for assessing the cost. The UK Roads Board is developing a methodology to use road condition data to calculate the road maintenance backlog for the UK as a whole, which it hopes will be adopted across the whole of the UK.

I2.7 The results of the improved methodology will also benefit from the additional information available from progress with the SRMCS, both in terms of greater coverage of the road network and developments in the technology, for example, to allow it to measure edge deterioration in rural roads.

I3 RECOMMENDATIONS

I3.1 Councils should use the information from the SCRMS to calculate the size of the structural maintenance backlog in their area using a common accepted methodology.

I3.2 Councils and the Scottish Executive should monitor and report publicly on the condition of their road network and their road maintenance backlog on an annual basis.

I4 METHODOLOGY

I4.1 The Audit Scotland Report was based on a methodology developed by a SCOTS working group. This methodology is described in detail in the following section.

What is the Overall Asset?

I4.2 During the course of the assessment a lot of consideration was given to what the asset is. The previous study in 1997 compared the funding awarded to local authorities and considered this against the whole life cost for road infrastructure. However, the working group considered there was a need to extend the scope of the previous work to include parts of the asset that were coming under greater scrutiny, e.g. drainage, bridging, footways. For this reason a catalogue of elements was developed. This included the immediately identifiable parts of the infrastructure, as the public would recognise it, i.e. carriageway, footway, street lighting, and the unseen or minor elements which as a result of increased spending over the past 10 years through central government targeted expenditure, have become more apparent i.e. road related structures, drainage, intelligent traffic systems, and public realm.

Quantification of Available Information

I4.3 It was immediately appreciated by the working group that not all authorities would have information on the condition of the entire infrastructure within their responsibility. This may seem rather odd given that in most cases it will have been the authority or its predecessors who would have built or managed the network over many years. However, while there were some who had detailed knowledge of what existed and what condition it was in, the majority were not in this position, with some having very little detailed condition information preferring to spend their increasingly limited resources 'on the ground' rather than on management systems.

I4.4 In order to ascertain the situation across Scotland, a short questionnaire was sent to all authorities seeking information on the data held and the quality of the data i.e. desktop assessment, visual surveys, detailed surveys along with any estimated costs for repairs. The majority of authorities provided feedback to the survey. As each authority had agreed to contribute to the gathering of machine based condition information for carriageways this was omitted from the questionnaire.

I4.5 Three elements were to be established by other means. The backlog of carriageway repairs was to be developed through the use of the results from the Scottish Road Maintenance Condition Survey (SRMCS), to which all councils and agreed to participate. However, there would be a need to establish the costs of different treatments to allow the overall backlog to be calculated.

I4.6 The condition of road structures is updated on a regular basis by the bridges working group of SCOTS. The intention therefore was to use the most up to date figure from their work and to modify it to reflect any major works that had been completed or had commenced since its calculation.

I4.7 The final element in this category was street lighting. At a national level the backlog of street lighting was being established by the UK Lighting Board, a group created to consider issues relating to street lighting across the UK. Since this work would produce an overall figure for the UK, and a methodology for its calculation, it was agreed that this would be adopted for the SCOTS calculation.

Establishing Family Groupings

I4.8 While the survey had revealed that there was information available, how to use the available data was a key issue, especially where information was available for differing authorities. The group agreed that in order to make best use of the information, authorities had to be grouped on a like for like basis. This led to five groups being established: Cities; Urban; Semi-Urban; Rural and Islands. The definition of each group is given in Table I1 below.

Table I1 – Groups	
Group	**Definition**
Cities	The four historic cities in Scotland
Urban	An authority with>70% of its roads being classed as urban
Semi-Urban	An authority with>70% but >30 of its roads being classed as urban
Rural	An authority with 30% of its roads being classed as urban
Islands	The three island authorities, with possible input from the Highland Council and Argyll and Bute Council as they had islands within their area of responsibility

I4.9 The groupings established had similarities with work undertaken by Audit Scotland in relation to refuse collection based on six groupings and population dispersal, and were therefore felt to be on a sound footing.

I4.10 The groupings had many benefits to the calculation of an overall backlog. They allowed direct comparisons to be made between authorities in the group, especially where the backlog on a particular piece of the infrastructure differed markedly between Councils. It also allowed comparisons to be made between groups e.g. rural and semi-rural for not just the quantity of repairs required but also the costs.

Role of the Groups

I4.11 The groups were established to perform two key functions:

- to identify the costs of defined repairs to the different elements of the infrastructure e.g. carriageway treatments, footways etc.
- to compare the estimated backlog per authority in the group and then to develop an estimate for any Council who did not have such information.

I4.12 This process was important as it ensured that abnormal quantity or costs of outstanding defects could be challenged and amended to reflect the results from other group members.

I4.13 An initial list of items was developed and each group tasked with collating and developing an initial backlog calculation. During the development of this exercise it became clear that some of these elements should not be collected, e.g. items relating to car parking as these would tend to be addressed through the wider corporate property portfolio or would be funded through other budgets other than those specifically related to roads infrastructure.

I4.14 Some of the items were, even with a description of the method or item coverage, difficult to assess and ultimately to compare across groups. One area was in regard to drainage. This is a vast area where most authorities had little detailed knowledge of the condition of the infrastructure. In an urban context the most obvious backlog is to deal with defective gullies. However, in a rural situation the method of dealing with a drainage problem could vary from location to location and it was therefore difficult to identify backlog and costs.

I4.15 Throughout the process the one defining issue was ‘what constituted a backlog?’. There has been an inclination in the past to look at the life expectancy of a piece of the infrastructure and to assume that there was a backlog if it was not replaced at the end of the specified time. Clearly, while this may be appropriate if considerably larger sums of funding are available for replacement, in a situation where there is limited funding, there is a need to prioritise replacement. It is therefore not uncommon to have parts of the infrastructure lasting well beyond its theoretical replacement date. So for some elements the backlog would be based on known construction date, or in others, where no date was available, a ‘gut feel.’ Items such as retaining walls tend to have sudden failure and while it was appreciated that this was not allowing whole life solution, it was based on a reasoned way forward in line with how Councils were operating in stringent funding situations.

FINDINGS

The Backlog Calculation

I4.16 This part of the study utilised the information that had been collated in the family groups and through other sources identified earlier in this report. For this reason, this part of the report is split into two distinct sections, carriageway backlog, and other associated infrastructure.

The Carriageway Backlog

I4.17 Having gathered costs for various treatments of the carriageway, the results from the SRMCS were used to calculate the carriageway backlog.

The Associated Infrastructure

I4.18 Having gathered information from each of the groups on the quantity of defective infrastructure in each category and the average costs of repairs, it was possible to develop a preliminary backlog figure for each group. At this point, it was evident how important the family groupings had become. Not only did it give a comparison between authorities in each group, but it also allowed comparisons to be made across each of the groups. A quick comparison between the groups, excluding the islands, reveals that while there are considerably different overall road lengths, there are roughly the same quantities of urban roads in each of the four groups (see table I2 below).

Table I2 – Comparison Between groups

Group	Total Road Length (km)	Total Urban Road Length (km)
Cities	4,632	4,335
Urban	4,369	3,940
Semi-urban	10,304	5,407
Rural	21,341	4,257

I4.19 So while there was little comparison between the groups for some areas e.g. Intelligent Transport Systems, there were opportunities to compare estimates for other items e.g. street lighting.

I4.20 The methodology adopted has scope for incremental improvement which will increase the accuracy of the estimates.

Appendix J
Customer Relationships

J1 INTRODUCTION

J1.1 Customer Relationship Management (CRM) is a business strategy aimed at understanding and anticipating the needs of an organisation's current and potential customers. It is about maintaining a complete and single view of the relationship between council and customer, available to all appropriate authority staff. CRM systems enable councils to use core data to support service delivery across multiple channels, and to create the single view of customer relationships. Successful implementations of CRM systems help councils to improve customer service and service efficiency. Further information on the measurement of customer service is given in Section 11 and Appendix F of this Code respectively.

J1.2 Customers of most local authority services, and the highways service in particular, are not customers in the traditional sense of paying for services at the point of delivery. Their payment tends not to be optional and often made well in advance of the point of delivery. They may not even receive a service in the traditional sense, but be affected by the delivery of the service to others as, for example in the case of residents affected by a new road scheme.

J1.3 As a result they are often referred to as service 'users' and communities (who may be users but also may be affected by use). These groups, together with the wider representative groups serving special interests, are often collectively referred to as stakeholders.

J1.4 This Code generally refers to 'users and communities' but considers both of these as customers. They each are affected by the actions (or inactions) of the authority and need to be engaged with the authority in precisely the same way as if they were a 'paying' customer. They need consultation on things that affect them, information to enable them to accommodate changes in levels of service, and effective means of complaint and redress when things go wrong.

J1.5 Establishing a strong customer focus and putting customers first is the foundation of business success, a crucial driver for continuous improvement and the core requirement of Best Value.

J1.6 This appendix sets out information and good practice on the three main aspects of customer care:

- consulting customers;
- responding to customers;
- informing customers.

J1.7 Delivering good practice on each of these three aspects is a key requirement for success in achieving a Charter Mark Award. Information on authorities who have received awards is available at the (www.chartermark.gov.uk) together with information on expected standards.

J2 CONSULTING CUSTOMERS

J2.1 This section of the appendix provides advice on consultation methods and indicates those particularly relevant to highway maintenance. The Improvement and Development Agency (IDeA) is a useful source of advice on consultation methods. The publication 'Feeling the Pulse II' prepared by MORI on behalf of the IDeA published in July 2003 is available as a free download (www.idea-knowledge.gov.uk).

J2.2 This new version of the guide is divided into three parts, each covering a particular theme:

- reviewing your consultation – the 'scrutiny and scoping phase', revisiting the aims and objectives, looking at how the work has been carried out, and thinking about how the findings can be used;
- analysing the findings – ensuring that appropriate techniques are being adopted to help identify what the results mean, and how priorities for the future can be established;
- communicating the implications – developing steps to ensure that the findings and implications are reaching those people with responsibility for the service or issue in question.

Quantitative and Qualitative Consultation

J2.3 There are two types of consultation process, quantitative and qualitative:

- quantitative consultation is designed to produce data of how many people do or think something. It is intended to be statistically reliable and something that can be extrapolated from;
- qualitative consultation is not intended to be statistically reliable, but instead provides an in-depth understanding of why people hold particular views, and how they make judgements. Some types of qualitative consultation (for example citizens juries) attempt not just to understand, but also to inform participants views by supplying them with information to enable them to form a more considered view.

J2.4 Both these types of consultation are relevant to highway maintenance. It is important to find out what people know about the service and how satisfied they are with it through qualitative consultation. Many aspects of highway maintenance policy and practice however, for example the selection of schemes to optimise whole life cost, or the benefits of surface dressing are relatively complex and not well understood by customers. Qualitative consultation including provision of information in these cases, should result in a more considered view.

Quantitative Consultation

J2.5 This type of survey is usually used by authorities to evaluate the performance of services and/or the authority as a whole. To provide results which are statistically reliable a reasonably large and representative sample is required. There are three main types of quantitative consultation:

- face to face or telephone surveys;
- self-completed postal questionnaires;
- citizens' panels whose members take part in regular surveys to provide tracking or benchmark data.

J2.6 The accuracy of such surveys depends on a range of factors, including the overall sample size and percentage result being considered.

Table J1 – Sampling Tolerances

Sample Size	**Sampling tolerances applicable to results at or near percentages (based on 95% confidence level**		
	10/90%	30/70%	50%
	±%	±%	±%
100	6	9	10
300	3	5	6
600	2	4	4
1000	2	3	3
1500	2	3	3
2000	1	2	2

J2.7 Table J1 shows, for example, that if the results of a representative sample of 1,000 customers shows that 50% are satisfied with a particular service, the range within which the true figure would lie would be ±3 points 95 times out of 100.

J2.8 Questions for qualitative surveys need to be carefully drafted, preferably with professional assistance to provide the necessary detail but to avoid too long an interview period. It is difficult to maintain concentration from respondents in telephone interviews of over 10 minutes and cost is also an important consideration. A 10 minute interview would provide for approximately 20-30 questions, a 15 minute one 30-35.

J2.9 The cost of surveys depends on the eventual length of the interviews based on the approved questionnaire, but the following fully inclusive quotations are indicative of the cost range for 500 interviews:

- for a 10 minute telephone interview including survey design, all data processing and analysis about £15,000 (+VAT);

- for a 15 minute telephone interview including survey design, all data processing and analysis about (+ £20,000 +VAT).

J2.10 For surveys relating to highways and highway maintenance it is useful to group the questions into the following categories:

- getting around the area;
    - importance of particular aspects of service
    - satisfaction with these aspects
- looking after the highway network;
    - importance of particular aspects of highway maintenance
    - satisfaction with these aspects
- getting things done;
    - information about roadworks
    - planning and co-ordination of works
    - speed and efficiency of completion
    - quality of temporary signing
- getting in touch;
    - how well informed about roadworks
    - speed of response to enquiries or complaints
    - quality and helpfulness of response
- space for freeform comments.

J2.11 A number of authorities can provide further advice on the detailed wording of questions, including Leicestershire, Hampshire, Suffolk and Shropshire.

Telephone and Face to Face Surveys

J2.12 Telephone or face-to-face surveys have been used extensively in Best Value Reviews of highway maintenance. Their strengths are:

- they are statistically reliable if properly conducted;
- can compare views by any sub group or area (may be useful for highway maintenance);
- findings are relatively easy to communicate;

- they allow for comparison with surveys conducted elsewhere (may be useful for Best Value Reviews), previous findings (useful for monitoring improvements in service), and targets.

J2.13 The weakness of telephone and face-to-face surveys are:

- responses to telephone surveys and face-to-face surveys are not comparable;
- if not combined with some qualitative work, you may not ask all the relevant questions;
- little time for respondents to consider responses and may not get a considered response;
- respondents attention may decline during later questions and questions will need to be rotated to compensate for this.

Citizens' Panel Surveys

J2.14 Results from Citizens' Panel surveys are also regularly used to inform Best Value reviews of highway maintenance. Their strengths are:

- once set up it provides cost-effective resource for all types of consultation;
- panel members may become advocates for the authority;
- a tangible resource to work with;
- able to track individual views.

J2.15 The weaknesses of Citizens' Panel surveys are:

- panel members become atypical so tracking is not advisable over a long period;
- panel members may be self-selecting and unrepresentative without careful checking and weighting of results;
- attrition can mean ad hoc research is less costly than maintaining a representative panel.

Self Completion Questionnaire Surveys

J2.16 Self completion questionnaires are relatively inexpensive and have been used by some authorities in connection with highway maintenance. Their strengths are:

- they are relatively inexpensive to conduct and analyse;
- they are 'visible' and enable the authority to be 'seen' to consult large numbers of people.

J2.17 The weaknesses of self completion questionnaire surveys are:

- they can often be unrepresentative. Respondents are self-selecting and may be atypical of the wider population. They are particularly likely to under-represent the views of young people, ethnic minorities, those on low incomes and those who do not have strong views on an issue;

- often suffer from poor response rates;

- no control over who completes questionnaire or over the order in which questions are answered;

- get little supplementary information.

Qualitative Consultation

J2.18 There are four main types of qualitative consultation:

- depth interviews and Focus Groups - Depth interviews involve one-toone contact with respondents for about 45-60 minutes providing more scope and flexibility for the interviewer. Focus groups typically involve 610 people for a period of 1-2 hours;

- Citizens Juries - which involve a larger number of people, typically 12-20, take place over a considerably longer period of time (between 2-4 days) and discuss issues in far greater detail. They receive information from 'expert witnesses who can be cross examined and a formal report is written which feeds directly into the authority's decision making process;

- Citizens Workshops - which provide a less expensive way of involving local people. They involve about 20-30 people usually for a single day on a specific issue;

- Stakeholders 'Visioning' Workshops - These involve large groups of stakeholders coming together' en masse' to discuss a big policy or strategic issues. Involves the use of smaller 'break out' groups and needs high quality facilitation.

Depth Interviews and Focus Groups

J2.19 Depth interviews are not regularly used in connection with highway maintenance but one-to-one depth interviews can be useful in dealing with specialist areas, for example environmental issues. Focus groups are used more often and the strengths are:

- enables people to express 'why' not just 'what';

- in groups respondents can use each other as springboards to generate new ideas;

- useful for evaluating communications materials;

- useful for in depth analysis of how users make judgements about standard of service;

- helpful in exploring priorities for improvement.

J2.20 Weaknesses of Qualitative 'Depth' and Focus Groups are:

- cannot be used to extrapolate results to population as a whole;
- not statistically reliable;
- usually meet for about two hours which is not enough for complex issues.

Citizens Juries

J2.21 Citizens Juries are a useful method of addressing major areas of policy and are ideally suited to looking into the whole area of highway maintenance funding. Strengths of Citizens Juries are:

- enables participants to make an informed judgement;
- empowers, involves and informs participants;
- dynamic interactive process (valuable for officers and politicians);
- formula could be adapted for working with Member Groups.

J2.22 Weaknesses of Citizens Juries are:

- small numbers of participants are involved;
- can be difficult to get truly representative group;
- long period of 2-4 days may inhibit participation;
- participants views may become unrepresentative as a result of information provided;
- participants may feel constrained in what they say in order to reach consensus;
- recommendations may not be higher quality than those elected members would make with the same information.

Citizens Workshops

J2.23 Citizens Workshops are particularly useful in developing individual schemes in partnership with the local community. This is more usually adopted for highway improvement schemes but can also be used for more complex highway maintenance schemes. The strengths of Citizens Workshops are:

- cross section of public or stakeholders work together for one day;
- participants develop stronger more relaxed working relationships than in a focus group;

- helpful means of getting service managers to meet the public or stakeholders in a relaxed setting. Can clear out the usual 'negatives' and focus on the key issues.

J2.24 Weaknesses of Qualitative Citizens Workshops are:

- relatively small numbers are involved;
- participants' views become unrepresentative as a result of being provided with information.

J2.25 Stakeholder 'Visioning' Workshops are mainly used to address 'big picture' issues and are particularly relevant to the development of the Local Transport or Development Plan. They are less used in connection with highway maintenance but could be useful for example in the development of new long term procurement arrangements including PFI. The strengths are:

- officers and politicians actively involved;
- free-ranging discussion;
- allows two way interchange of views;
- lack of structure can allow new ideas to emerge.

J2.26 Weaknesses of Qualitative Stakeholder 'Visioning' Workshops are:

- not representative or statistically reliable;
- activists get over represented because they are more organised than less vocal groups and are easier to speak to;
- needs careful facilitation.

Consultation with Members and Employees

J2.27 Members and employees of authorities are also users of the highway network and can provide a useful source of information, relatively easy and inexpensive to access. For employees self completion questionnaires are particularly appropriate as for this group many of the weaknesses can be relatively easily overcome. The questionnaire can be e-mailed to employees or placed on intranet bulletin boards and completed on line so that the response rate is higher than the wider population. Any questions from respondents can be emailed to the survey organiser and dealt with immediately.

J2.28 Similar arrangements can be adopted for Members, with questionnaires being dealt with either electronically or by post.

J3 RESPONDING TO CUSTOMERS

J3.1 There is extensive evidence from all industrial sectors that the speed and efficiency with which organisations respond to enquiries and complaints from customers significantly influences their opinion of, and commitment to, that

organisation.

J3.2 Section 6 of this Code stresses the importance of authorities adopting systems to ensure that all customer compliments, service requests, complaints, or claims are recorded, together with any action taken, including nil returns. This will enable the regular review of all customer contacts as a driver for continuous improvement.

J3.3 Good practice in this area is continuing to evolve and six authorities were awarded Beacon Council Status in 2003 for Street and Highway Works. This theme had a particular emphasis on good practice, in responding to and informing customers. The authorities have undertaken to provide information and assistance to others as part of the Beacon Council award. These authorities are:

- Barnsley;
- Birmingham;
- Cornwall;
- Corporation of London;
- Hammersmith and Fulham;
- Kirklees.

J3.4 Some authorities including a number of the above have adopted 'Contact Centres' for the management of all service requests and complaints for the authority as a whole. In these circumstances it is important that all personnel involved, where not experienced in highway maintenance have immediate access to advice and support to assess and rectify potential Category 1 defects.

J4 INFORMING CUSTOMERS

J4.1 The new responsibilities to 'secure the expeditious movement of traffic' under the Traffic Management Act 2004 has placed new emphasis on the need not only to minimise disruption but to provide effective information to customers to enable them to adjust their arrangement where necessary.

J4.2 Guidance issued by DfT on the Network Management Duty states that authorities should give consideration to the methods of sharing the information with road users. As well as being well received, timely and readily accessible information can result in better use of the network through influencing journey choice. In the case of organisations such as the emergency services and public transport operators, adequate notice of activities that can affect their operations is vital.

J4.3 The guidance indicates that authorities should establish the needs of different user groups and consider how best to disseminate information available to them, to deliver improved management of the network. Processes should be put in place to deliver this.

J4.4 Information on roadworks and streetworks combined with accurate and timely information about events and incidents on the network, provide a good source of travel information. This can be transmitted to the public by the use of variable

message signs, radio and television travel reports, travel information providers and the internet. Authorities should work with a variety of media providers to provide such services, which may allow road users to choose a different route or mode of travel or to delay or defer their proposed journey.

J4.5 Many authorities have developed or are developing comprehensive customer information arrangements. Cornwall County Council has introduced special arrangements for managing seasonal traffic flows and providing information to customers on holiday routes.

Appendix K
Maintainability and Sustainability

K1 MAINTAINABILITY CHECKLIST

K1.1 The following checklist is provided to assist designers in giving adequate consideration to future maintenance requirements of schemes during the design process. The check list is not exhaustive but includes most of the key issues that need to be addressed. Authorities are encouraged either to adopt this checklist or to develop their own local version and apply it as a matter of routine to a sample of highway schemes.

Table K1 – Maintenance Checklist

Ref	DESIGN CHECKLIST FOR FUTURE MAINTENANCE		
	Issue	**Check**	**Action**
1	**Scope and Scale**		
1a	Intended life of scheme	Is the scheme long life or 'temporary' and likely to be affected by future redevelopment?	Choose materials and products relevant to the life of scheme.
1b	Nature of scheme	Is the scheme a 'unique' prestige project or a 'routine' standard one?	Choose materials and products relevant to the type of scheme.
1c	Scope of scheme	Has the scheme been 'value-managed' to take in all possible marginal benefits?	All 'significant' schemes should be value managed.
1d	Use of scheme	Is the scheme likely to be subjected to particularly 'heavy duty' traffic use with high rates of wear?	Select design and materials to mitigate these affects so far as possible.
1e	Cost of scheme	Have the costs of future maintenance been calculated and included in future budgets?	Identify any extraordinary maintenance costs and report these alongside construction costs.

Continued

Table K1 – Maintenance Checklist continued			
Ref	**DESIGN CHECKLIST FOR FUTURE MAINTENANCE**		
	Issue	**Check**	**Action**
2	**Design Aspects**		
2a	Pedestrians and cyclists	Do footways and cycle routes fit the actual paths used?	Redesign to reflect actual paths to avoid erosion and later replacement.
2b	Heavy goods vehicles	Is footway paving likely to be over-ridden by HGV or other parked vehicles?	Where necessary use heavy duty paving or prevent over-riding to avoid frequent costly replacement.
2c	Grassed and planted areas	Are grassed and planted areas of a size and position to be effectively maintained?	Redesign or remove where necessary to avoid future poor appearance and later resign.
2d	Trees	Have trees been selected and positioned to avoid future problems with roots, obstruction or leaf fall?	Reselect or reposition where necessary to avoid potentially expensive future problems.
2e	Traffic signs	Do traffic signs need to be illuminated or can they be reflectorised?	Maximise use of reflective signs to reduce energy costs.
3	**Maintenance Operations**		
3a	Maintenance regime	Does the scheme require specialist maintenance regime?	Identify cost of specialist regime and where appropriate consider cheaper alternatives.
3b	Cleansing	Does the scheme require specialist cleansing regime?	Identify cost of specialist regime and where appropriate consider cheaper alternatives.
3c	Traffic management	Will maintenance require special traffic management?	Identify traffic management costs and minimise wherever possible, possible through co-ordination with other works.
3d	Maintenance access	Is there safe and convenient access for plant and personnel?	Redesign scheme to provide safe and convenient access.

Continued

Table K1 – Maintenance Checklist continued			
Ref	**DESIGN CHECKLIST FOR FUTURE MAINTENANCE**		
	Issue	**Check**	**Action**
4	**Materials and products**		
4a	Specialist materials	Are the materials used for the scheme of standard or specialist nature?	If specialist materials used ensure availability of future replacements.
4b	Durability of materials	Does the durability of the materials provide substandard, oblique, sufficient or excessive life?	Select materials relevant to the intended life and nature of the scheme.
4c	Failure mechanism	How will material/product approach the failure condition – slowly/quickly?	Programme safety and service inspections on basis of risk assessment.
4d	Life extension	Are they any processes which could be used to extend useful service life at economic cost?	Investigate cost benefit of using life extension products.
4e	Replacement practicability	Are there likely to be any difficulties in replacing failed sections?	Undertake risk assessment and plan for the likely difficulties.
4f	Replacement cost	Is the cost of replacement likely to be disproportionately high?	Consider alternative materials or products.
5	**Reuse and Recycling**		
5a	Practicability of reuse	If the schemes is a short life scheme what is the scope reusing materials and products?	Choose re-useable materials and products wherever possible.
5b	Practicability of recycling	What is the scope for recycling materials and products?	Where re-useable materials and products are not appropriate, use recyclable wherever possible.

K2 SUSTAINABILITY CHECKLIST

K2.1 The following checklist is provided to assist maintenance engineers and practitioners in undertaking a sustainability appraisal either of individual maintenance schemes or of the maintenance service as a whole. In this case the actions to be taken to address each of the issues is not specified but should be determined locally taking into account local priorities and constraints. The check list is not exhaustive or too detailed but includes all of the key issues that need to be addressed. Authorities are encouraged either to adopt this check list or to develop their own local version and to apply this routinely to a sample of local schemes. Durham County Council is actively involved in such a process and has developed check lists for various stages of the design process.

K2.2 The adoption of Environmental Management Systems such as ISO 14001 and the Eco-Management and Audit Scheme (EMAS) will assist in the development and operation of sustainability appraisal. It will be important to involve all employees and provide training to meet requirements of management systems.

K2.3 Table K2 includes a column to record whether the issue applies to the particular service or scheme (yes/no) and also whether the affect is considered to be positive or negative (+or -). Depending on the nature and reliability of information these basic criteria can be extended or subdivided. Where an issue is identified as having a negative affect, appropriate actions to mitigate the affect should be considered locally.

Table K2 – Sustainability Checklist

Ref	Issue	Check	Affect yes/no +/	Action (determine locally)
1	**Local Economy**			
1a	Viability and vitality	Does the service or scheme affect the vitality and viability of the local community?		
1b	Local employment	What contribution is made to local employment by the service or scheme?		
1c	Local materials	Does the service or scheme fully make use of opportunities to use local materials?		
2	**Community Value**			
2a	Community engagement	Does the service engage well with all sections of the local community?		
2b	Meeting community needs	Does the service or scheme meet the needs of all sections of the local community?		
2c	Quality of public space	Does the scheme make an effective contribution to the quality of public space?		

Continued

Table K2 – Sustainability Checklist continued				
Ref	**Issue**	**Check**	**Affect yes/no +/**	**Action (determine locally)**
3	**Noise Pollution**			
3a	Offices and depots	Are all opportunities realised to minimise noise pollution at offices and depots?		
3b	Works sites	Are all opportunities realised to minimise noise from vehicles and plant at works sites?		
3c	Traffic	Are locations of high traffic noise identified and mitigation measures included in schemes where appropriate?		
4	**Air Pollution**			
4a	Vehicles	Is there a policy and programme for vehicle replacement and modification to minimise air pollution (with targets)?		
4b	Plant and machinery	Is there a policy and programme for plant replacement and modification to minimise air pollution (with targets)?		
5	**Water Management**			
5a	Offices and depots	Are there arrangements in all offices and depots to minimise water use (with targets)?		
5b	Works sites	Are there arrangements in all works sites to avoid water wastage (with targets)?		
5c	Pollution control	Are there policies and procedures in place at all depots and works sites (with targets) to avoid water pollution especially from oil spills and salt leachate?		
5d	Flood management	Are locations of high flood risk identified and mitigation measures included in schemes where appropriate?		

Continued

Table K2 – Sustainability Checklist continued				
Ref	**Issue**	**Check**	**Affect yes/no +/**	**Action (determine locally)**
6	**Visual Intrusion**			
6a	Depots	Are all depots located and designed to minimise visual intrusion?		
6b	Works sites	Are all works sites located to minimise visual intrusion?		
7	**Materials Utilisation**			
7a	Location	Does the materials selection criteria give priority to local sources?		
7b	Design	Does the design process include consideration of minimum materials?		
7c	Performance	Do the design criteria allow for reduced specification in order to mitigate environmental affects?		
8	**Waste Management**			
8a	Minimisation	Do the design process and criteria facilitate the designing out of waste?		
8b	Reuse	Does the design process encourage the use of re-used materials as the first option?		
8c	Recycling	Does the design process encourage the use of recycled materials as the second option?		

Continued

Table K2 – Sustainability Checklist continued				
Ref	**Issue**	**Check**	**Affect yes/no +/**	**Action (determine locally)**
9	**Energy Management**			
9a	Offices and deports	Are there policies and procedures in place at all offices and depots (with targets) to minimise energy usage?		
9b	Works sites	Are there policies and procedures in place at all offices and depots (with targets) to minimise energy usage?		
9c	Schemes	Do all works and schemes maximise the use of cold rather than hot technology?		
10	**Biodiversity**			
10a	Policies	Has the service adopted biodiversity policies and procedures?		
10b	Trees and landscaping	Are all policies and practices for maintenance of trees and landscaping designed to maximise nature conservation value?		
10c	Works programmes	Are works programmes adjusted to assist biodiversity requirements?		

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Disclaimer

Whilst every care has been taken in the preparation of this Code, the authors stress that it is intended for guidance purposes only. The code aims to reflect practice in England, Scotland, Wales and Northern Ireland. The views expressed therein are those of the steering group, project team and technical advisors. No legal liability is accepted for its contents and the code is not intended as a substitute for legal advice. The views expressed do not necessarily reflect those of the sponsoring organisations.

HIGHWAY SAFETY INSPECTION MANUAL

October 2018

DRAFT 4

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Highway Safety Inspection Manual

CONTENTS **Page No.**

1.0 INTRODUCTION

1.1 This Safety Highway Inspection Manual supersedes the Highway Safety Inspection Manual published in April 2013 and all previous versions.

1.2 This manual sets the standards for highway inspection on the publically maintained highways of Somerset and is designed to give guidance on Somerset County Council's policy and procedures relating to Highway Safety Inspections.

1.3 As the Highway Authority, Somerset County Council has a statutory duty under the Highways Act 1980 to maintain the highway network, ensuring that the highways are safe and that the public can use them without obstruction.

1.4 To ensure a consistent countywide approach a formalised Inspection System that prescribes the frequency of inspections and the method of assessment, recording and actioning of defects has been adopted. The Safety Inspection regime provides the basic information for addressing the first core objective of highway maintenance, network safety.

1.5 The inspection system and maintenance regime also assists in providing the evidence for a defence in any case of litigation brought against the County Council where lack of adequate maintenance has been alleged by a third party (Section 58, Highways Act 1980).

1.6 This Manual has been developed taking into account:

- Somerset County Council's Highways Infrastructure Operational Asset Management Plan;
- The vision and priorities of the Corporate Plan;
- Objectives of the Local Transport Plan;
- Legislation, particularly the Highways Act (1980) and New Roads and Street Works Act (1991);
- Well-Managed Highway Infrastructure – A Code of Practice (October 2016);
- Well Managed Highway Liability Risk (March 2017).
- Rights of Way Improvement Plan 2

1.7 National recommendations for the provision of highway maintenance have, until now, been defined within three specific Codes of Practice, namely Well-Maintained Highways, Well-Lit Highways and the Management of Highway Structures. The content of these three Codes of Practice is now brought together under a new overarching Code of Practice entitled Well-Managed Highway Infrastructure which was published in autumn 2016. Somerset County Council chose to continue with existing practices during the interim period, in which case the existing Code of Practice (2013) remained valid until October 2018.

1.8 The Well-Managed Highway Infrastructure A Code of Practice encourages the development of a locally determined risk-based approach to highway maintenance, aligned to central governments expectation that local highway authorities will adopt appropriate asset management.

1.9 The Well-Managed Highway Infrastructure A Code of Practice is not a statutory document but comprises a framework of guidance and standards for the highway maintenance service. As a national document, the Code of Practice has recognised that there has been increasing divergence from the principles and practices

recommended in the aforementioned three Codes of Practice due to the need for local discretion and diversity in service provision and differing local service user's priorities.

1.10 Those undertaking Highway Safety Inspections or managing the inspection process will need to refer to this document, which forms part of the Council's Asset Management Plan.

2.0 LEGISLATION

2.1 Section 41 of the Highways Act (1980) states that "the authority who are for the time being the highway authority for a highway maintainable at the public expense are under a duty to maintain the highway"

2.2 The majority of claims against a local highway authority arise from an alleged breach of Section 41. If a local authority is deemed to have breached Section 41 it may have a defence under Section 58. Section 58 of the Highways Act (1980) states that a statutory defence against third party claims is provided where the Highway Authority can establish that reasonable care has been taken to "secure that the part of the highway to which the action relates" to a level commensurate with the volume of ordinary traffic such that it "was not dangerous to traffic".

2.3 Section 130 of the Highways Act (1980) places a general duty on the Highway Authority to "assert and protect the rights of the public" in their lawful use of the highway.

3.0 SCOPE OF THE HIGHWAY INSPECTION MANUAL

3.1 This Highway Safety Inspection Manual details the process for the identification and repair of highway safety defects. This manual excludes policy requirements for:

- Emergency plans
- Winter maintenance
- Highway Lighting
- Traffic Signals
- Street works e.g. Section 81 notices
- Structures
- Un-metalled Public Rights of Way
- Development control

3.2 The appropriate policy documents should be referred to for these items.

3.3 It should be noted that the M5, A303 and A36 are operated and maintained by Highways England and therefore do not form part of the network which Somerset County Council is responsible for. Enquiries relating to Motorways and Trunk Roads should therefore be referred to Highways England.

4.0 THE PURPOSE OF HIGHWAY SAFETY INSPECTIONS

4.1 Safety inspections are designed to identify defects likely to create danger or serious inconvenience to users of the network or the wider community. The risk of danger is assessed on site and the defect identified with an appropriate response.

4.2 The purpose of Highway Safety Inspections is therefore:

- To identify defects which are hazardous to highway users and which must be dealt with as a priority;
- To ensure safe passage on the highway for all users;
- To identify potential defects that may become hazardous prior to the next planned inspection;
- The safety inspection regime forms a key aspect of Somerset County Council's strategy for managing liability and risk;
- To collect condition data of the network in order to assist the asset management of the highway network and future maintenance programmes;
- To provide evidence that Somerset County Council has fulfilled its statutory obligation to maintain the highway in a safe condition.

5.0 SAFETY DEFECT: INVESTIGATORY CRITERA

5.1 Section A.5.8 of the Code of Practice – Well Managed Highway Infrastructure states that:

"Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. Such defects should include those that are considered to require urgent attention as well as those where the locations and sizes are such that longer periods of response would be acceptable."

5.2 Appendix A provides a list of the main features to be inspected followed by advice on defect types and investigatory levels.

5.3 This Manual is a guide to assist the Highways Officer in undertaking a risk assessment of the defect. It provides a framework which links investigatory levels to response times and covers a number of examples which act as a starting point in the decision making process. Highways Officers are expected to use their judgement to assess the risks that apply to the particular onsite circumstances and use their expertise to select the most suitable priority for repair. As a result there will be circumstances where the priority assigned is different to that given in this Manual. The reasons for this decision should be recorded at the time of the inspection.

5.4 Where defects with potentially serious consequences for network safety are made safe by means of temporary signing or repair, arrangements are made to ensure the continued integrity of the signing or repair is maintained, until a permanent repair can be made.

5.5 Many highways have been dedicated and adopted with historic features that would not be acceptable in a current highway design. This might include steps, cellar openings or drainage arrangements that present potential trip situations worse than the investigatory suggested in this document. These should not be recorded as defects, as in law the highway has been adopted with these encumbrances and the public must take appropriate care.

6.0 RISK MANAGEMENT

6.0.1 Degree of Deficiency and Nature of Response

6.0.2 Defects are assessed based upon hierarchy, investigatory level, response time and the likelihood of predictable deterioration.

6.0.3 The investigatory levels, the making safe and the permanent repair times for each item have been determined for each category of the network by evaluating the likely impact (should the risk occur) and the probability of it actually occurring. The resulting risk factor determines the category and timescale to rectify the defect. Having identified a particular risk, assessed its likely impact and probability and calculated the risk factor, the category and the timescale to rectify the defect can be defined as a Category 1.0 or 1.1 response or allocated to locally determined Category 2.0 or 2.1 defects. The response category is represented by the coloured cells in Table 1 below:

Probability → Impact ↓	Very Low (1)	Low (2)	Medium (3)	High (4)	Very High (5)
Negligible (1)	1	2	3	4	5
Low (2)	2	4	6	8	10
Noticeable (3)	3	6	9	12	15
High (4)	4	8	12	16	20
Extreme (5)	5	10	15	20	25

Category 2.1 Low Risk **(28 days)** Repair within 28 calendar days	**Category 2.0** Medium Risk **(7 days)** Repair within 7 calendar days	**Category 1.1** High Risk **(24 hours)** Make safe or repair within 24 hours	**Category 1.0** Extreme Risk **(Immediate)** Make safe or repair within 1 ½ hours

6.0.4 A Category 1.0 and Category 1.1 defect is defined as requiring prompt attention because they represent an imminent or immediate hazard with a corresponding high level of probability that an incident may occur with a consequential high level of impact should it actually happen.

6.0.5 Category 2.0 and Category 2.1 defects have safety implications less significant than a Category 1, or have an effect on the reliability, quality, comfort, and ease of use of the highway network.

6.0.6 Other defects may be noted for monitoring or information purposes as potentially desirable works to the network and are not programed for repair within a specific time period. They are normally placed on a programme of future works depending on availability of finance and resources.

6.0.7 Risk Register

6.0.8 Although it is not possible to identify every risk, the hazards identified within the Risk Register for Highway Safety Defects (Appendix D) encompass a wide range of risks likely to be encountered on the highway. This provides a robust and auditable framework for inspectors and superintendents to assess the majority of hazards encountered on the highway.

6.0.9 The Risk Register is the fundamental component of the risk management process in that it incorporates:

- Hazard description
- Extent of defect
- Assessment of impact
- Assessment of probability
- Risk factor
- Defect categorisation and response

6.0.10 The Somerset County Council Risk Register for Highway Safety Defects is for guidance only. The risks contained within the register sets out the minimum investigatory level based upon the highest assumed risk attributable to the type of defect, position and assessed type of usage. The benefit of local knowledge could assess the risk differently and staff have the flexibility to vary the provided framework.

6.0.11 The inspector or superintendent will therefore assess risks with the benefit of local knowledge and this could result in a different risk factor from that contained in the Risk Register. In such cases, the reasons for the variation must be recorded.

6.0.12 The principles for risk impact and probability in the register are:

- The greater the extent of defect, the higher the impact
- The greater the highway usage, the higher the probability.

6.0.13 The register incorporates defects that may not be the responsibility of the highway authority such as utility trench reinstatements and iron work (Section 81 New Roads and Street Works Act (NRWSA) 1991, developer works, or hazards caused by third parties such as obstructions in the highway. Although the inspector must ensure that all relevant information is notified either directly to the third party concerned or to the appropriate person/section responsible for dealing with the defect, they must also satisfy themselves that the authority's obligations in respect of duty of care are fully met. This means that when such hazards are deemed dangerous, the inspector must ensure that the site is made safe by the highway authority.

6.0.14 The Index of Safety Defects (Appendix A) details defects that are likely to be encountered on the network and applies the risk management principles contained within the Risk Register.

7.0 NETWORK HIERACHIES

7.1 The network maintenance hierarchy is the foundation for the system of routine safety inspection.

7.2 The maintenance hierarchy adopted by the Council reflects the needs, priorities, strategic importance and actual use of each highway element on the network. The dynamic nature of the network is taken into account and hierarchies are reviewed on a regular basis.

7.3 The network maintenance hierarchy currently serves to inform the frequency of inspection and is also used as a weighting factor to inform the response times for routine and reactive maintenance in accordance with the risk based approach recommended by the Code of Practice.

7.4 The network hierarchies adopted by Somerset County Council are as follows:

7.4.1 **Carriageway Hierarchy**

Highway Authorities in South West England have agreed and adopted a carriageway hierarchy based on the recommendations contained within Well-Managed Highway Infrastructure, as detailed below:

No.	Carriageway Hierarchy	General Description	HSIM Description
1	Motorway	Limited access motorway regulations apply.	Routes for fast moving long distance traffic. Fully grade separated and restrictions on use.
Note: Not applicable to Somerset County Council – Motorway Network is operated and maintained by Highways England			
2	Strategic Route	Principal 'A' Roads between Primary Destinations. (Trunk roads in Somerset i.e. A303 and A36, are operated and maintained by Highways England).	Routes for traffic travelling long distances, often with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are often prohibited. Not always National Speed Limit.
3	Main Distributor	Major Urban Network and Inter-Primary Links. Short - medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network often with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is often restricted at peak times and there are positive measures for pedestrian safety.
4	Secondary Distributor	B and C class roads and some unclassified urban routes carrying bus, HGV and local traffic with frontage access and frequent junctions	In rural areas these roads link the larger villages, industrial sites and commercial sites to the Strategic and Main Distributor Network. In urban areas these roads usually have

			30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings.
5	Link Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions.	Roads interconnecting the Secondary Distributor Network with collector roads and Local Access Roads with frontage access and frequent junctions. In rural areas these roads link the smaller villages to distributor roads. In urban areas these for residential, industrial and public transport interconnecting roads, usually with a 30 mph speed limit and pedestrian movements.
6	Local Link Road	Roads connecting Link Roads and other Distributor Roads. Local Link Roads usually have frontage access and junctions onto Local Access Roads.	These roads are residential interconnecting roads, usually with uncontrolled pedestrian movements. They provide well used vehicular links within the local access roads.
7	Local Access Road	Roads serving limited numbers of properties carrying only access traffic.	In rural areas these roads serve small settlements and provide access to a number of properties or land. In urban areas they are often residential streets, cul-de-sacs or small industrial estates.
8	Minor Road	Local roads serving an extremely limited number of properties or agricultural land.	In rural areas these form minor access roads to houses and farms. In urban areas these form minor side roads and vehicular alleyways
9a	Lanes		In rural areas these often narrow metalled roads serving isolated agricultural buildings In urban areas they are often metalled no through lanes serving garages or the rear of properties.
9b	Minor Lanes	Minor lanes and low use tracks that provide access to field entrances only and/or Rights of Way.	In rural areas these are often narrow metalled and are usually only used by 4WD or agricultural vehicles.
10	Green Lanes and Tracks	Lanes and tracks that are unsuitable for vehicular traffic.	Lanes and tracks that are unsuitable for vehicular traffic but may be used as a footpath, part of a Cycle Trail or by horse riders, generally for leisure purposes.
11	Disused Tracks	Un-metalled tracks that are unrecognisable as a road.	Roads that have become unrecognisable as such, having fallen into disuse through regression or agricultural use.

7.4.2 **Footway Hierarchy**

No.	Footway Hierarchy	Description
F1	Prestige Walking Zones	Very busy areas of towns and cities with high public space and street scene contribution.
No Prestige Walking Zones have been identified within Somerset		
F2	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
F3	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
F4	Link Footways	Linking local access footways through urban areas and busy rural footways.
F5	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.
F6	Minor Footways	Little used rural footways serving very limited numbers of properties.

7.4.3 **Cycleway Hierarchy**

No.	Cycleway Hierarchy	Description
1	Cycle lane forming part of the carriageway, commonly a strip adjacent to the nearside kerb	Cycle gaps at road closure point (no entry to traffic but allowing cycle access)
2	Cycle Track	A highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.
3	Cycle provision on carriageway, other than a marked cycle lane or marked cycle provision, where cycle flows are significant.	
4	Cycle trails, leisure routes through open spaces.	These are not necessarily the responsibility of the Highway Authority but may be maintained by an authority under other powers or duties.

8.0 HIGHWAY SAFETY INSPECTION FREQUENCIES

8.1 The inspection frequencies for highway inspections are detailed below and are based upon the network hierarchy (as defined in 7.0 above) and takes into account the following considerations:

- Traffic/pedestrian use, characteristics and trends
- Incident and inspection history
- Characteristics of adjoining network elements
- Local knowledge

8.2 Consultation with our neighbouring highway authorities has been undertaken to ensure a consistent approach has been applied to roads which traverse county boundaries.

8.3 Carriageway safety inspection frequencies

Carriageway Hierarchy		**Inspection Frequency and mode of Inspection**
2	Strategic Route	12 times per year (monthly) - Driven
3	Main Distributor	12 times per year (monthly) - Driven
4	Secondary Distributor	12 times per year (monthly) - Driven
5	Link Road	4 times per year (3 monthly) - Driven
6	Local Link Road	2 times per year (6 monthly) – Driven
7	Local Access Road	9 Monthly - Driven
8	Minor Road	Once per year (Annually) - Driven
9a	Lanes	Once per year (Annually) - Driven
9b	Minor Lanes	Once per year (Annually) - Driven
10	Green Lanes and Tracks	Once per year (Annually) - Driven
11	Disused Tracks	Reactive only

8.4 Footway safety inspection frequencies

Footway Hierarchy		**Inspection Frequency and Mode of Inspection**
F2	Primary Walking Routes	12 times per year (monthly) – Walked, with associated carriageway inspected at the same time
F3	Secondary Walking Routes	4 times per year (3 monthly) - Walked, with associated carriageway inspected at the same time
F4	Link Footways	2 times per year (6 monthly) - Walked, with associated carriageway inspected at the same time
F5	Local Access Footways	2 times per year (6 monthly) - Walked, with associated carriageway inspected at the same time
F6	Minor Footways	Once per year (Annually) - Walked, with associated carriageway inspected at the same time

8.5 Cycleway safety inspection frequencies

Cycleway Hierarchy		**Inspection Frequency and Mode of Inspection**
1	Cycle lane forming part of the carriageway, commonly a strip adjacent to the nearside kerb	2 times per year (6 monthly) – Cycled or Walked
2	Cycle Track	2 times per year (6 monthly) – Cycled or Walked
3	Cycle provision on carriageway, other than a marked cycle lane or marked cycle provision, where cycle flows are significant.	As per Carriageway inspection frequency
4	Cycle trails, leisure routes through open spaces.	Reactive

8.6 Inspection Frequency Tolerances

8.6.1 One of the purposes of defining inspection frequencies is to be able to demonstrate to a court of law that the County Council has taken due care to maintain its highways. From time to time it will not always be possible to undertake an inspection exactly on the due date. Somerset County Council will always endeavour to undertake inspections before or on the due date, however it has been accepted that this is not always possible and inspection tolerances have therefore been adopted as follows:

Inspection Frequency	**1 Month**	**3 Monthly**	**6 Monthly**	**9 Monthly**	**Annual**
Tolerance on Due Date	Plus or minus 7 calendar days	2 weeks early, 1 week late	4 weeks early, 2 weeks late	4 weeks early, 2 weeks late	4 weeks early, 2 weeks late
Max period between inspections	38 days	15 weeks	30 weeks	43 weeks	56 weeks

8.6.2 The due date for each inspection is set at the beginning of the financial year (1st April).

8.6.3 The minimum number of planned safety inspections to be completed each year (1st April to 31st March) will be:

- Monthly – 12 per year
- 3 Monthly – 4 per year
- 6 monthly – 2 per year
- 9 monthly - 1 or 2 per year
- 12 monthly – 1 per year

8.6.4 If, and for reasons beyond the control of the Highways Authority (e.g. substantial snow fall) an inspection cannot be carried out by the Due Date, then an entry will be made to document the circumstances. An inspection will be programmed to be undertaken once the highway is accessible.

8.6.5 Due to the nature of the weather in the UK it is probable that carriageway, footway and cycleway surfaces will be wet with some elements of standing or running water whilst an inspection is in progress. However if the quantity of water is excessive, or across the full width of the highway, then the inspection should be abandoned and an entry made to document the circumstances. An appropriate order will be raised to make the situation safe. As soon as possible following the above events an ad-hoc safety inspection will be carried out on the effected length of highway.

9.0 INSPECTION PROGRAMMING

9.1 Planned Inspections

9.1.1 The Highway Information System contains details of all highways to be inspected including its maintenance category. Using this information the frequency of inspection is determined in accordance with the inspection frequencies detailed above in 7.0.

9.2 Reactive Inspections

9.2.1 Inspections may also be initiated by an Enquiry from many sources, for example a member of the public, the emergency services or a County Councillor. Inspections generated in this way are recorded as ad-hoc inspections within the Highway Information System and a record kept of any actions taken.

9.2.2 Defects that are reported via an Enquiry will be inspected within a timescale relevant to the severity/location of the defect, but within a target of 3 working days.

9.2.3 Additional inspections may be necessary in response to user or community concern as a result of incidents, extreme weather conditions or monitoring information.

9.3 Programme of Inspections

9.3.1 Interested parties shall be issued with the indicative annual planned inspections programme by 1st April.

9.3.2 The weekly planned inspection programme will be issued to interested parties by the preceding Thursday. The Planned Inspections Manager will notify interested parties of any variation to the daily programme.

10.0 INSPECTION METHODOLOGY

10.1 General

10.1.1 Planned Inspections are managed by the Highway Inspections Manager based in County Hall and the Planned Inspections are undertaken by Highway Inspectors.

10.1.2 Reactive Inspections are managed by the Area Highways Manager and undertaken by Area Superintendents who are based in the 5 Area Offices**.**

10.2 Planned Inspections

10.2.1 The Highway Inspector shall inspect the whole of the area or route to be inspected in an appropriate manner.

10.2.2 Planned inspections are driven, walked or cycled, dependant on the inspection type.

10.2.3 Urban carriageway inspections will be undertaken on foot if the adjacent footway is being inspected at the same time.

10.2.4 Driven safety inspections are undertaken in accordance with the Inspections Project Method Statement/Safe System of Work. Main points to note are:

- Driven safety inspections are always undertaken by 2 persons (one inspector, one driver);
- Driven safety inspections shall generally be carried out at a speed of 20mph or less, or appropriate to the location and the requirement to ensure accurate recording of safety defects;
- Where the whole highway cannot be seen from a vehicle, e.g. footway hidden behind a grass verge, the inspector will walk the area on foot, particularly where a rural route is inspected annually.

10.2.5 Walked inspections are undertaken in accordance with the Inspections Project Method Statement/Safe System of Work. The main point to note is:

- Where practical, ironwork within footways on hierarchy F2 and F3 routes will be stepped on to ensure its stability.

10.2.6 Carriageways shall be subject to the same investigatory levels as Footways at all defined pedestrian crossing points. Defined pedestrian crossing points can be identified by tapered and dropped kerb units, often accompanied by tactile paving. The width of carriageway subject to footway investigatory levels shall be that width between opposing sets of tapered kerb stones.

10.2.7 If for any reason the inspector cannot inspect any of the required highway for reasons such as flooded road, highway works, road closures etc, the inspector must record this information, including the reason for not inspecting. The Planned Inspection Manager will then arrange for the highway to be re-programmed for inspection at the earliest opportunity.

10.2.8 It is important to be as accurate as possible when recording the size of the safety defect for insurance claim purposes. The exact size of the defect must be recorded. If the anticipated size of repair differs from the defect size, then both must be recorded.

10.2.9 Where the replacement of the highway asset is required, e.g. signs, kerbs, slabs, the specific type and size shall be recorded to enable the proper replacement at the first attempt.

10.3 Reactive Inspections

10.3.1 A reactive inspection is generally undertaken in response to an enquiry from a third party, e.g. member of the public, emergency services, etc.

10.3.2 Carriageways shall be subject to the same investigatory levels as Footways at all defined pedestrian crossing points. Defined pedestrian crossing points can be identified by tapered and dropped kerb units, often accompanied by tactile paving. The width of carriageway subject to footway investigatory levels shall be that width between opposing sets of tapered kerb stones.

10.3.3 It is important to be as accurate as possible when recording the size of the safety defect for insurance claim purposes. The exact size of the defect must be recorded. If the anticipated size of repair differs from the defect size, then both must be recorded.

10.3.4 Where the replacement of highway inventory is required, e.g. signs, kerbs, slabs, the specific type and size shall be recorded to enable the proper replacement at the first attempt.

11.0 RECORDING OF INSPECTIONS AND DEFECTS

11.1 Planned Inspections

11.1.1 The results of planned inspections are downloaded to the EHAMS database following completion of the inspection. This will include a record of sections that have been inspected (including those with no defects found) and a record of defects.

11.1.2 Immediate response defects will be telephoned through to the Service Provider by the Inspector when found. The defect will also be recorded through the normal inspection recording system.

11.1.3 A 24 hour response defect will be telephoned through to the Service Provider if the inspection being undertaken does not usually require a 24 hour response. The defect will also be recorded through the normal inspection recording system.

11.2 Reactive Inspections

11.2.1 If a safety defect is identified as a result of an enquiry this will be recorded in the EHAMS database.

11.2.2 Immediate and 24 hour response defects will be telephoned through to the service provider by the Superintendent when found. The defect will also be recorded through the normal inspection recording system, with a note to record any action already taken.

11.3 Insurance Claim Inspections

11.3.1 A Superintendent will respond to insurance claims as an ad-hoc inspection, and if a safety defect is identified this will be recorded in the Electronic Highways Asset Management System (EHAMS).

11.4 Statutory Undertakers Apparatus

11.4.1 Section 81 of the New Roads and Street Works Act (1991) places a duty on statutory undertakers (utility companies) to maintain their apparatus to the reasonable satisfaction of the Highway Authority.

11.4.2 When an inspection identifies statutory utility apparatus that is deemed unsafe and requiring attention, notification will be sent to the appropriate party requiring them to undertake remedial action under Section 81 of NRSWA (Defective Apparatus procedure is attached as Appendix D).

11.4.3 If remedial action is not carried out within a reasonable time period, the Highway Authority may undertake repairs and recharge their reasonable costs.

11.4.4 If remedial action is urgently required i.e. an emergency situation, the statutory undertaker must be given the opportunity to rectify the defect prior to the Highway Authority affecting a repair. The immediate hazard will be protected by SCC staff until it is made safe by the statutory undertaker or Somerset County Council's contractor.

11.5 Highway Improvement Schemes

11.5.1 Where safety defects are identified on the public highway within the extents of a highway improvement scheme, the works promoter will be contacted to make safe or undertake a permanent repair within a specified response time.

11.5.2 If remedial action is not carried out within a reasonable time period, the Highway Authority may undertake repairs and recharge their reasonable costs.

12.0 REPAIR OF SAFETY DEFECTS

12.1 The Service Provider shall ensure that the works resulting from Highway Safety Inspections is undertaken within the response time specified by the Inspector or Superintendent.

12.2 The standards and specification for the repair of safety defects are determined within the current Highways Improvement Term Service Contract.

13.0 TRAINING AND COMPETENCY

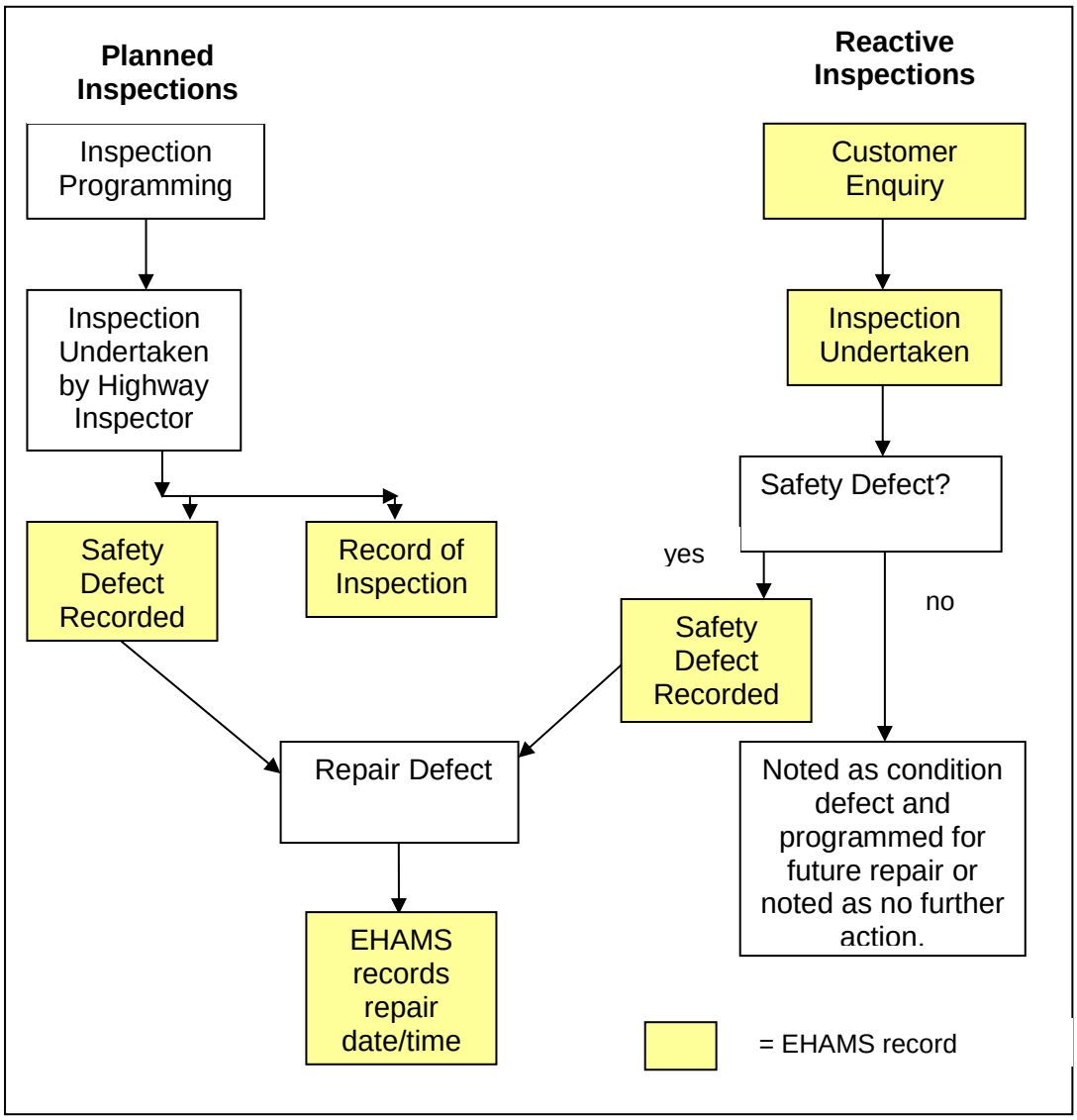
13.1 All personnel involved in safety inspections must be competent and have successfully completed, or working towards, the UK Highway Inspectors training and certification scheme approved by the UK Roads Board in 2010 or any subsequent revision.

13.2 It is desirable that all personnel involved in safety inspections will be included on the National Register of Highway Inspectors currently held by the Institute of Highway Engineers (http://www.theihe.org/registers/highway-inspectors-register/)

13.3 All personnel undertaking a safety inspection must demonstrate competency in the current Chapter 8 Safety at Street Works and Road Works. The majority of personnel will be qualified to the City & Guilds Street Works standard.

14.0 USE OF THE ELECTRONIC HIGHWAY ASSET MANAGEMENT SYSTEM (EHAMS)

14.1 The process for Highway Inspections using EHAMS is produced below:



APPENDICES

Appendix A – Defect Investigatory Criteria

A1.1 The following defect descriptions are used to determine potential safety defects within the highway network which require investigation.

A1.2 The investigatory criteria has been developed using a mixture of best practice, risk assessment, case law and benchmarking against other local authorities.

A1.3 Defects take into account policies of neighbouring highway authorities and where possible similar parameters have been adopted to ensure consistency.

A1.4 Defects are listed below and will be applied to the appropriate element of the highway regardless of position. A more detailed description of each defect and the position within the highway is provided within each defect description.

A1.5 It should be noted that the investigatory criteria is for guidance only. If a defect is determined to be below investigatory levels and requires investigation or assessment it will be recorded.

A1.6 If a defect/hazard is identified then the officer will decide upon the likely **impact** (if the risk were to occur) and the **probability** of it actually happening, using the matrix below:

Probability → Impact ↓	Very Low (1)	Low (2)	Medium (3)	High (4)	Very High (5)
Negligible (1)	1	2	3	4	5
Low (2)	2	4	6	8	10
Noticeable (3)	3	6	9	12	15
High (4)	4	8	12	16	20
Extreme (5)	5	10	15	20	25

Category 2.1 Low Risk **(28 days)** Repair within 28 calendar days	**Category 2.0** Medium Risk **(7 days)** Repair within 7 calendar days	**Category 1.1** High Risk **(24 hours)** Make safe or repair within 24 hours	**Category 1.0** Extreme Risk **(Immediate)** Make safe or repair within 1 ½ hours

INDEX OF SAFETY DEFECTS

54	A1.41	Electrical Items	Damage
55	A1.42	Road markings	Missing / Worn
56	A1.43	Road studs	Missing / Worn
57	A1.44	Vehicle Restraint Barriers	Damaged
58	A1.45	Pedestrian Guardrail	Damaged
59	A1.46	Fences and Barriers	Not Stockproof / Damaged
60	A1.47	Obstruction	Debris
61	A1.48	Obstruction	Standing Water / Flooding
62	A1.49	Arrester Bed	Defective
63	A1.50	Highway Trees / Hedges	Dangerous
64	A1.51	Highway Trees	Dead, Dying or Diseased.

A1.5	Carriageway - POTHOLE	Defect Code: CPOT

Investigatory Criteria

An area anywhere in the carriageway where part, or all, of the bituminous/concrete layers have been removed to leave a sharp edged depression. The definition includes carriageway collapses/voids, potholes in surrounds to ironwork and due to missing cat's eyes.

Minimum dimension (where applicable)

At or greater than 40mm deep and 150mm in any horizontal direction.

Potholes within defined crossing points (such as pedestrian refuges, pedestrian crossings and dropped crossing points with tactile paving) will become a safety defect when it is of depth greater than or equal to 20mm and it is greater than or equal to 50mm in diameter.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair pothole (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.6	Carriageway - STEP IN LEVEL	Defect Code: CSTS

Investigatory Criteria
Any trench reinstatement or patch in the carriageway, where all or part of the surface has abruptly sunk or heaved compared with the adjoining carriageway.

Minimum dimension (where applicable)
At or greater than 40mm difference in level.

A step in level within defined crossing points (such as pedestrian refuges, pedestrian crossings and dropped crossing points with tactile paving) will become a safety defect when it is of depth greater than or equal to 20mm and it is greater than or equal to 150mm in diameter.

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Repair step in level (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.7	Carriageway - DEPRESSION	Defect Code: CDEP

Investigatory Criteria

A local depression forming a pothole type defect.

Minimum dimension (where applicable)

At or greater than 40mm deep measured over a distance not exceeding 1200mm in direction of travel along the carriageway but more than 300mm wide.

A depression within defined crossing points (such as pedestrian refuges, pedestrian crossings and dropped crossing points with tactile paving) will become a safety defect when it is of depth greater than or equal to 50mm and it is greater than or equal to 300mm in diameter.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair depression (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

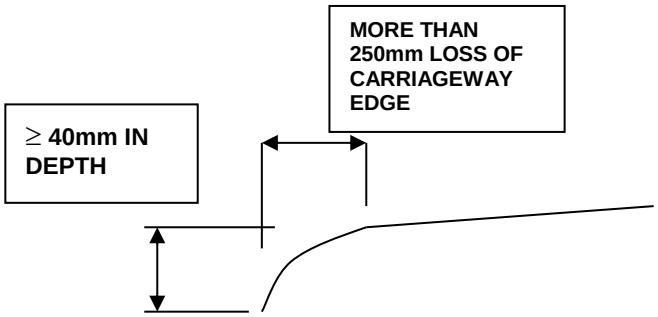
A1.8	Carriageway - EDGE LOSS	Defect Code: CEDG

Investigatory Criteria

A location where there is a loss of metalled carriageway from the intended line of road edge and a depth loss. This may be formed by carriageway edge potholes or carriageway edge depressions.

Minimum dimension (where applicable)

A location where there is 250mm or more loss of metalled carriageway from the intended line of road edge and a depth loss greater than or equal to 40mm.



Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair edge loss (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

This defect should not be used where the highway verge has eroded to form a depression off the carriageway.

A1.9	Carriageway LONGITUDINAL CRACK	Defect Code: CLCK

Investigatory Criteria

A longitudinal crack in the carriageway, including surfacing joints.

Minimum dimension (where applicable)

Where the crack gap is greater than or equal to 40mm with a depth greater than or exceeding 40mm and greater than 300mm in length.

A longitudinal crack within defined crossing points (such as pedestrian refuges, pedestrian crossings and dropped crossing points with tactile paving) will become a safety defect when it is of depth greater than or equal to 20mm and it is greater than or equal to 300mm in diameter.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair cracking (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.10	Carriageway SETTS, COBBLES, MODULAR & IMPRINT SURFACING	Defect Code: CPOT, CEDG, CDEP

Investigatory Criteria

Defective carriageway which is surfaced with setts, cobbles, modular or imprint surfacing.

Minimum dimension (where applicable)

Subject to the same investigatory levels as a bituminous or concrete carriageway.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.11	Carriageway HIGH FRICTION SURFACING	Defect Code: N/A

Investigatory Criteria

A loss of aggregate or fatting up within a high friction surface.

Minimum dimension (where applicable)

>30% of high friction surface defective

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Raise an “Enquiry” to appropriate action officer so that defective area can be added to the High Friction surfacing Programme.

Notes

Permanent action to be undertaken in accordance with the Council’s skidding policy.

A1.12	Carriageway - CHANNEL BLOCKS DISPLACED / DAMAGED	Defect Code(s): CCHV, CCHP

Investigatory Criteria

A channel block with a vertical displacement or has become damaged.

Minimum dimension (where applicable)

Any channel block with a vertical displacement greater than or equal to 40mm
Any channel with a chip greater than or equal to 40mm depth.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Replace/rebed or repair channel block.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.13	Carriageway – LAYBY SURFACE CONDITION	Defect Code(s): CPOT, CDEP, CEDG

Investigatory Criteria

A metalled/concrete layby is assessed using the same criteria as carriageway defects.

Minimum dimension (where applicable)
Surface defects which have a depth of 40mm or more will be investigated. Consideration will be given to the amount of pedestrian movements in the layby when assessing response times.

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Repair (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.14	Footway and Cycleway - POTHOLE	Defect Code: FPOT

Investigatory Criteria

An area where part or all of the bituminous layers have been removed or sunk to leave a sharp edged depression. This definition includes potholes in surrounds to ironwork.

Minimum dimension (where applicable)

At or greater than 20mm deep over a minimum horizontal measurement of 50mm.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair pothole (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.15	Footway and Cycleway - DEPRESSION	Defect Code: FDEP

Investigatory Criteria

An area anywhere in the footway where part or all of the bituminous surface or modular paving has sunk. A rapid change in footway profile.

Minimum dimension (where applicable)

When the vertical displacement is greater than or equal to 50mm over a horizontal measurement of 300mm or less.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair depression (cut and patch), or take up/re-level, re-lay (modular)

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.16	Footway - TRIP BEHIND KERB	Defect Code: FTKB

Investigatory Criteria

An area anywhere in the footway where part or all of footway surface has sunk behind a kerb line (slabs, modules, concrete or bituminous).

Minimum dimension (where applicable)

When the vertical displacement to the kerb is greater than or equal to 20mm over a horizontal measurement of 300mm or more.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2 Repair cut and patch (bituminous) or take up/re-level, re-lay (modular)

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.17	Footway and Cycleway - TREE ROOTS	Defect Code: FROT

Investigatory Criteria
A step or heave in the footway being caused by tree roots.

Minimum dimension (where applicable)
A sharp edged step in the footway at or greater than 20mm in height,

Where there is significant heaving of the footway, for example a slope greater than 1 in 3, at or greater than 100mm high, will also be recorded as a safety defect. This would exclude an area within 300mm from the boll of the tree.

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Cut square and patch to appropriate cross fall where raised areas cause a hazard.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

If significant root damage is identified consult the County Arboriculturalist.

A1.18	Footway and Cycleway STEP IN LEVEL	Defect Code: FSTO, FSTS

Investigatory Criteria
An area in the footway where the paved surface has become vertically displaced. This definition includes modules which move (rock) under load.
Abrupt difference in level.

Minimum dimension (where applicable)

Vertical displacement at any point is 20mm or above.

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Replaced/patched with tarmac, except in Conservation Areas where a like for like replacement will be undertaken.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.19	Footway and Cycleway MISSING SLAB / MODULE	Defect Code: FMSB

Investigatory Criteria
An area in the footway where a slab or module is missing.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Replaced/patched with tarmac, except in Conservation Areas where a like for like replacement will be undertaken.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.20	Footway - COBBLED AREAS	Defect Code: FCOB

Investigatory Criteria

An area set aside for cobbles or a cobble effect needs to be considered carefully as to what constitutes a safety defect taking into account its location and accessibility.

Minimum dimension (where applicable)

A safety defect shall normally be recorded if there is a clear tripping hazard greater than 20mm from the general line of the top of the cobbles, or where the cobbles have broken out or have become loose.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Replaced/patched with tarmac, except in Conservation Areas where a like for like replacement will be undertaken.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.21	Kerbs - VERTICAL DISPLACEMENT	Defect Code: CKVD

Investigatory Criteria

A kerb that has become vertically displaced which is acting as part of the footway or hardened traffic island.

Minimum dimension (where applicable)

Vertical displacement greater than or equal to 20mm, within F2 and F3 routes.

Vertical displacement greater than or equal to 30mm, within F4 and F5 routes.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Lift kerb and re-bed.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.22	Kerbs - HORIZONTAL DISPLACEMENT	Defect Code: CKHD

Investigatory Criteria

A kerb that has become horizontally displaced which is acting as part of the footway or hardened traffic island.

Minimum dimension (where applicable)

Horizontal displacement greater than or equal to 20mm, within F2 and F3 routes.

Horizontal displacement greater than or equal to 30mm, within F4 and F5 routes.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Re-locate kerb to align with adjacent concrete kerbs. If this is not possible due to obstructions other than footway then saw cut kerb vertically to reduce horizontal displacement to less than 20mm.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

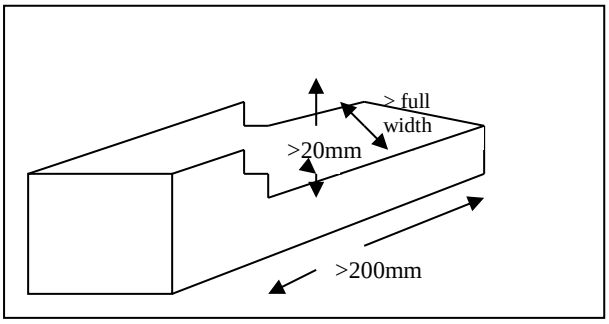
A1.23	Kerbs - DAMAGED / CHIPPED	Defect Code: CBKB, CKBC

Investigatory Criteria

A kerb that has become damaged or chipped which is acting as part of the footway or hardened traffic island.

Minimum dimension (where applicable)

Any kerb acting as part of the footway or hardened traffic island with damage (chipped) within the length of the kerb, greater than or equal to 20mm depth, 200mm long and full width of kerb from external face.



Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Replace kerb.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.24	Kerbs - MISSING	Defect Code: CKMS

Investigatory Criteria

A kerb that is missing which is acting as part of the footway or hardened traffic island.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Replace kerb.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.25	Kerbs - ROCKING	Defect Code: CLKB

Investigatory Criteria

A kerb that is rocking or loose acting as part of the footway or hardened traffic island.

Minimum dimension (where applicable)

Kerb rocking by 20mm or more.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Rebed kerb.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.26	Kerbs - JOINT OPENING	Defect Code: COJT

Investigatory Criteria

Kerbs that have a gap between the joints.

Minimum dimension (where applicable)

A joint greater than or equal to 80mm width (gap) and full kerb depth.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Install drainage extension where appropriate. Patch in accordance with “concrete patch” technique.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.27	Gully / Manhole Cover - MISSING	Defect Code: GMIS, PMSC

Investigatory Criteria

Missing ironwork.

Minimum dimension (where applicable)

Any grating or cover that is missing.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Replace missing ironwork.
3. Instigate Section 81 procedure if related to a statutory undertaker.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.28	Gully / Manhole Cover - DAMAGED	Defect Code: GDBG, PDBC

Investigatory Criteria

Damaged ironwork.

Minimum dimension (where applicable)

Any cover or grating that is damaged to an extent that it is structurally unsound, in danger of collapse or presents a significant hazard.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Replace damaged ironwork.
3. Instigate Section 81 procedure if related to a statutory undertaker.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.29	Gully / Manhole Cover - DIFFERENCE IN LEVEL / ROCKING	Defect Code: GDIL, PDLC, PDLF

Investigatory Criteria

A high or low frame or cover when the cover within the frame or the frame it, is above or below the immediate surrounding carriageway/footway level.

A rocking cover.

Minimum dimension (where applicable)

Any cover, grating, frame or box whose component levels are displaced greater than or equal to 40mm in the carriageway and 20mm in the footway/cycleway or at Pedestrian Crossing Points.

This definition includes ironwork that is rocking greater than or equal to 40mm or more in the carriageway and 20mm or more in the footway/cycleway or at Pedestrian Crossing Points.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Rebed ironwork.
3. Instigate Section 81 procedure if related to a statutory undertaker.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.
Rocking covers in urban areas that move less than 40mm but under traffic cause noise levels unacceptable to persons living in the vicinity, are not a safety defect but should be rectified as soon as possible, using the S.81 notice if appropriate.

A1.30	Manhole Cover / Box - SMOOTH SURFACE	Defect Code: PMSH

Investigatory Criteria

Any cover anywhere in the highway that has a polished, smooth surface.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Anti-slip material to be applied. Replace cover if appropriate.
3. Instigate Section 81 procedure if related to a statutory undertaker.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.31	Footway Manhole Cover / Box - MISSING FILLET OR EDGE SUPPORT	Defect Code: PMRT

Investigatory Criteria

Any cover or box in the footway that has lost all or part of the fillet surround.

Minimum dimension (where applicable)

A depth at or greater than 20mm, at or greater than 50mm in width and at or greater than 150mm long.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Clean out loose material and re-mortar around cover.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.32	Footway Manhole Cover / Box - ENCASED PAVING BECOMING LOOSE OR UNEVEN	Defect Code: FMSB, FSTO, FSTS

Investigatory Criteria

Where the paved areas have become vertically displaced or loose within an encased cover**.**

Minimum dimension (where applicable)
Vertical displacement at any point is at or greater than 20mm.

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Take up and re-bed paving modules.
3. Instigate Section 81 procedure if related to a statutory undertaker.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.33	Grass, Hedges and Trees - OBSTRUCTED VISIBILITY SPLAY	Defect Code: CRVS

Investigatory Criteria

Any growth from grass, hedge or trees that obstructs a visibility splay (including forward visibility splays) for a road user, pedestrian, cyclist or motorist.

Minimum dimension (where applicable)

Visibility splay obstructed by growth

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Cut back overgrowth as appropriate.
3. Initiate SCC noticing procedure for overgrown vegetation if appropriate.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

Responsibilities for landowners/occupiers with hedges, trees & bushes adjacent to the highway, and the powers of the County Council in this respect, are contained in section 154 of the Highways Act. Where possible the landowner/occupier should be given the opportunity to undertake the appropriate remedial work and retain ownership of any waste material.

A1.34	Grass, Hedges and Trees - OVERHANGING / OVERGROWTH	Defect Code: FVEG, new code

Investigatory Criteria

Any hedge, tree or bramble that obstructs or encroaches the highway.

Minimum dimension (where applicable)

Carriageway - Overgrown trees, hedges and bushes are a defect when obstructing the highway user; or obstructing the clear passage of the highway user or it is forcing vehicles, cyclist or pedestrians away from the nearside of the carriageway by more than 1 m; or vehicles have to cross the centreline marking; or if cyclists have to cross a cycle lane boundary marking.

Footway and Cycleway - Overhanging in sight lines at locations where pedestrians/cyclists are encouraged to cross the carriageway; or it is overhanging the highway and obstructing the clear passage of pedestrians/cyclists forcing them off the footway/cycleway, or it reduces the vertical clearance above the footway to less than 2.1m or 2.5m on a cycleway. Horizontal encroachment of vegetation across footways shall be tolerated providing that a minimum footway width of 1.2m is available for unimpeded use.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Cut back overgrowth as appropriate.
3. Initiate SCC noticing procedure for overgrown vegetation if appropriate.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

Responsibilities for landowners/occupiers with hedges, trees & bushes adjacent to the highway, and the powers of the County Council in this respect, are contained in section 154 of the Highways Act. Where possible the landowner/occupier should be given the opportunity to undertake the appropriate remedial work and retain ownership of any waste material.

A1.35	Non-Illuminated Signs - DAMAGED / MISSING / MISALIGNED / DIRTY / FADED / GRAFFITTI / OBSCURED BY VEGETATION	Defect Code: SDAM, SMIS, SMSA, SDRT, SRGA, SHOS, SFAD

Investigatory Criteria

Any non-illuminated Regulatory or Chevron sign that is not legible such that the signing is not enforcing the regulation that was intended.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Cut back overgrowth/clean sign/realign sign/replace sign.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

All other non-illuminated signs will be referred to the Traffic Engineer to be added to the routine maintenance programme.

A1.36	Non-Illuminated Signs - WRONG HEIGHT / WRONG OFFSET	Defect Code: SWSG, SWOS

Investigatory Criteria

Any non-illuminated sign that has slipped down its post or mounted at the incorrect height.

Minimum dimension (where applicable)

Any non-illuminated sign that is mounted at the wrong height (minimum 2150mm where risk of pedestrians, 1500mm where no/low risk of pedestrians, 2400mm where risk of cyclists).
Where signs are located on footways and the sign offset from the vehicle face of the adjacent kerb is <450mm (30mph) and <600mm (40mph).

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Mount sign at correct height.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.37	TRAFFIC SIGNALS – Obscured by vegetation	Defect Code: new code

Investigatory Criteria

A traffic signal where the forward visibility to it is obscured.

Minimum dimension (where applicable)

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Cut back overgrowth.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.38	Non-Illuminated Signs - SIGN POST DISLODGED / DAMAGED	Defect Code: SDLG, SDSP

Investigatory Criteria

Any non-illuminated sign post that has become dislodged or damaged and poses a hazard to highway users.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Re-bed or replace sign post

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

A1.39	Non-Illuminated Bollard – MISSING / DAMAGED	Defect Code: CDBM, CDBA

Investigatory Criteria

Any non-illuminated bollard that is missing or damaged and poses a hazard to highway users.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Re-insert or replace bollard.

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

Defective verge marker posts are not considered to be a safety defect and should be referred to the Traffic Engineer to be added to the routine maintenance programme.

A1.40	Illuminated Signs, Illuminated Bollards, Streetlighting, Traffic Signals - DAMAGE TO ELECTRICAL INSTALLATIONS	Defect Code: IDBA, ISLD

Investigatory Criteria

Any electrical installation on the highway that has sustained damage or has exposed wiring.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Make safe electrical installation to restrict access by members of the public.
3. Inform responsible SCC contact of electrical installation damage.
4. Instigate Section 81 procedure if related to a statutory undertaker.

Notes

Inform the Highway Lighting Engineer (**0845 6010939**) or the Traffic Control Engineer **(0845 3459155**), who will arrange suitable action

A1.41	Roadmarkings - MISSING / WORN	Defect Code: MMIS, MWRN

Investigatory Criteria

Give Way and Stop road markings on and adjoining Strategic Route, Main Distributor and Secondary Distributor roads, Stop road markings at traffic signals and zig zag lines at pedestrian crossings.

Minimum dimension (where applicable)

When a roadmarking is missing or faded to such an extent that they are no longer adequate for their intended purpose.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Replace roadmarkings

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

All other roadmarkings will be referred to the Traffic Engineer to be added to the routine maintenance programme.

A1.42	Road Studs - MISSING / WORN	Defect Code: CPOT, RLOC

Investigatory Criteria

Missing or worn roadstuds.

Minimum dimension (where applicable)

A missing road stud which leaves a hole in the carriageway will be treated as a pothole.

If more than 10% of the studs are missing or non-functional they will be added to the routine maintenance renewal programme, includes road studs which delineate signal controlled pedestrian crossings.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Repair pothole (cut and patch).

Notes

Defect will be repaired at the first attempt where possible to avoid repeat visits. If a CAT1 defect is made safe with signing/guarding or a temporary repair is undertaken, a permanent repair will be affected within 28 days.

If more than 10% of the studs are missing or non-functional they will be referred to the Traffic Engineer to be added to the routine maintenance renewal programme.

A1.43	Vehicle Restraint Barriers - DAMAGED	Defect Code: ZDSF

Investigatory Criteria

A damaged Vehicle Restraint Barrier.

Minimum dimension (where applicable)

Any Vehicle Restraint Barrier that is damaged, unsupported or does not appear to be at a level of 600mm above edge of carriageway when closer than 1500mm from edge of road and from general ground level when greater than 1500mm,.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Make safe vehicle restraint barrier.
3. Refer to Vehicle Restraint Barrier Inspector

Notes

The Vehicle Restraint Barrier Inspector shall investigate the damaged barrier and decide upon and programme the necessary works e.g. Damaged barrier to be replaced, unsupported barrier to be re-fixed, design level to be reinstated

A1.44	Pedestrian Guardrail - DAMAGED	Defect Code: CDPG

Investigatory Criteria

A damaged Pedestrian Guardrail which poses a hazard to the highway user

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Make pedestrian guardrail safe.
3. Create Works Order for permanent repair

Notes

A1.45	Fences and Barriers - NOT STOCKPROOF / DAMAGED	Defect Code: CNSK

Investigatory Criteria
Any hedge or fence adjacent to the carriageway that is considered to be in a condition that will allow livestock to stray onto the highway.
Any protruding fence rail that is considered by the Inspector as a hazard.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Make defective fence/barrier safe
3. Create Works Order for permanent repair
4. If appropriate the Highway Authority shall inform the Promoter of the hazard as to the remedial actions required

Notes

A1.46	Obstructions - DEBRIS ON THE HIGHWAY	Defect Code: ATRD, CTRA, CDEB

Investigatory Criteria
Any debris deposited on the highway and which is a significant hazard to road users/cyclists/pedestrians. This will include items such as: landslip, fallen trees, gravel, glass, fuel spillage, wall collapses, debris dropped from vehicles, animal carcass, mud, etc.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response
1. Undertake risk assessment to determine response.
2. Make safe by signing and guarding
3. Clear obstruction.
4. If appropriate the Highway Authority shall inform the Promoter of the hazard as to the remedial actions required

Notes
Refer to “Mud Protocol” when dealing with mud on the highway issues.

A1.47	Obstructions - STANDING WATER / FLOODING	Defect Code: CFLD, GBLK, FFLD

Investigatory Criteria

Where water is standing or flowing within the highway.

Minimum dimension (where applicable)

Impeding the highway user or a risk of flooding to property.

Sample Photograph(s)

Response

1. Undertake risk assessment to determine response.
2. Make safe by signing and guarding
3. Clear obstruction – unblock gully/grip.
4. If appropriate the Highway Authority shall inform the Promoter of the hazard as to the remedial actions required

Notes

Where a permanent action requires gully emptying, jetting, camera investigation or investigatory dig this will be funded from the appropriate routine maintenance drainage budget.

A1.48	**Arrester Beds and Escape Lanes – OBSTRUCTIONS etc.**	**Defect Code:** various

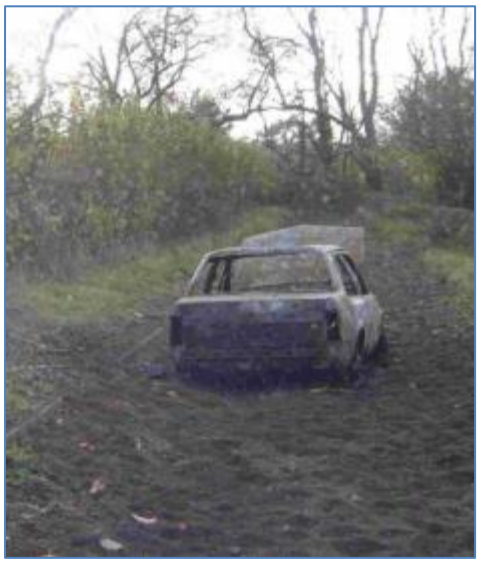
Investigatory Criteria

Any obstruction in or in the vicinity of the arrester bed or escape lane. Any compacted, uneven or contaminated material is a defect as it will affect the arresting capability of the material. Any damage to the associated signs is a defect and must be dealt with as defective road traffic signs.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)



Response

1. Undertake risk assessment to determine response.
2. Repair as appropriate

Notes

The District Councils are responsible for the removal of abandoned vehicles under the Refuse Disposal (Amenity) Act 1978.
The details required to move a vehicle include the make, model, colour, condition, location and whether there is a current tax disc. Currently, the Council respond to these requests within five working days or within 24 hours in a case of emergency.
The police may remove abandoned vehicles if the location of the vehicle is deemed to be dangerous, but each case will be assessed on its merits.

A1.49	Highway Trees / Hedges - DANGEROUS OR OBSTRUCTING	Defect Code: AUTC, AUTF, AUTC

Investigatory Criteria

A tree or hedge that is obviously dead or diseased, leaning precariously towards the highway or it is damaged or has damaged or dead limbs which could fall directly onto the highway user.

Minimum dimension (where applicable)

N/A

Sample Photograph(s)

Response

1. Remove tree or tree limb
2. If appropriate the Highway Authority shall inform the Promoter of the hazard as to the remedial actions required

Notes

A1.50	Highway Trees - DEAD, DYING, DISEASED	Defect Code: N/A

Investigatory Criteria

A highway tree (or a tree on private land within falling distance of the highway) which appears to be dead, dying or diseased.

Minimum dimension (where applicable)

>25% of leaf loss is a good indicator that a tree is defective.

Sample Photograph(s)

Response

1. Refer to County Arborculturalist
2. If appropriate the Highway Authority shall inform the Promoter of the hazard as to the remedial actions required

Notes

A basic inspection of all highway trees that can be seen from the carriageway is included in routine safety inspections.
All safety inspectors receive basic arboricultural training and guidance and a qualified arboricultural advisor carries out an inspection when specialist knowledge is required.

APPENDIX B

Somerset County Council - Highway Safety Inspection Manual

Record of Revisions

Issue Date	Status	Notes
March 1996	Superseded	The first formal Highway Inspection Manual produced by Somerset County Council. Defined safety inspection frequencies, defect types, priorities and investigatory levels
October 2004	Superseded	Revised the March 1996 Inspection Manual as follows: • The Code of Practice for Maintenance Management published in 2001, was used as guidance for drafting this Manual. • Safety defects defined as Category 1 and Category 2 • Hierarchy of safety inspection frequencies defined based on factors such as historical traffic patterns, freight routes, access to local communities and winter maintenance requirements. • SCC introduced new hierarchy for Local Collector Road (4bi) • Tolerances for inspection frequencies introduced • CDM responsibilities defined • Better definition of response times and investigatory levels
January 2006	Superseded	Revised the October 2004 Inspection Manual as follows: • Well Maintained Highways - The Code of Practice for Highway Maintenance Management (The Code of Practice) published in July 2005, was used as guidance for drafting this Manual • Highways with historic features that would not be acceptable in a current highway design are noted. • The response time of "Programme" changed to a specific time e.g. "1month" • New defect inserted: Signs at wrong height/offset • New defect inserted: obstructions within Arrester Bed

		• New defect inserted: apparatus across the highway – wrong height • New defect inserted – cellars under the highway
20 April 2007	Amended page (45) inserted into January 2006 manual Amended page (46) inserted into January 2006 manual	• Damaged concrete kerbs criteria amended. Investigatory criteria only apply to "very busy" and "busy" footways – other footways are referred to HSM. Decision taken following risk v cost analysis. • Kerb joint opening investigatory criteria amended from 50mm wide/20mm deep to 75mm wide/full depth of kerb
December 2007	Superseded	Revised the January 2006 Inspection Manual as follows: • New page inserted for carriageways with special surfacing (e.g. modular, imprint). • Added new response time for ≥.100mm in lay-bys • ≥ 50mm depression in very busy footways, response time changed from 1 month to 7 days. • Trip behind kerb in footway – clarified that all types of footway surfaces are included within the definition. • Edge deterioration or roll-over within footway – response times deleted and action changed to "as directed by Highway Service Manager". • Missing covers/gratings: response times have been defined. • Broken or dislodged covers/gratings: response times have been defined. • The action for an incorrect type of cover has been amended to refer to covers which are within defined crossing points. • Horizontal encroachment caused by vegetation across footways shall be tolerated providing that a minimum footway width of 1.2m is available for unimpeded use (urban and rural locations). • Page removed – unauthorised signs, display goods on the highway.

		• New page inserted for rutting of verges within urban areas.
April 2009	Superseded	• Text re-written to reflect current practices relating to use of Confirm. • Health and Safety issues for Inspectors/Superintendents (method of working/risk assessments have been moved to the Project H&S file. • References to contract arrangements prior to 1st April 2008 have been removed. • References to specific contractors and their working practices have been removed and generic statements inserted. • The "1 Month" response time has been standardised to "28 days" to clarify the actual number of days required to repair safety defects. • Response time for carriageway footway and sign defects which were 3 months now 28 days. • Clarified that Missing/Broken/Dislodged covers. frames and boxes are applicable to carriageway and footway.
April 2011	Superseded	• Page 7 – clarified number of Planned Inspections undertaken during a year. • Page 7 – clarified that Enquiries will be inspected within 3 working days. • Page 8 – statement regarding additional inspections. • Page 8 – statement regarding the suspension of planned inspections due to exceptional circumstances. • Page 10 – References to statutory undertakers have been removed from the individual safety defect actions and a generic paragraph included. • Page 23 – Carriageway setts, cobbles, modular paving - following Somerset County Council's policy decision on 16 Feb 2011, safety defects in all paving, including conservation areas, will be replaced/patched with tarmac.

		• Page 32 – response times for "verge encroachment and other trips" amended for Very Busy (24 hours) and Busy (7 days) footways to be consistent with response times for other footway trips. • Page 33 – Modular footway trips - following Somerset County Council's policy decision on 16 Feb 2011, safety defects in all paving, including conservation areas, will be replaced/patched with tarmac. • Page 34 – Cobbled footway - following Somerset County Council's policy decision on 16 Feb 2011, safety defects in all paving, including conservation areas, will be replaced/patched with tarmac. • Page 51 – Non-illuminated signs – clarified which signs are classed as safety defects and those that can be referred to Traffic Engineer for routine maintenance. • Page 55 – Road markings – clarified which road markings are classed as safety defects and those that can be referred to Traffic Engineer for routine maintenance. • Page 62 - Blocked drainage system - following Somerset County Council's policy decision on 16 Feb 2011, only clear blocked gullies and drains to prevent injury or damage to property from flooding. • Page 69 – Highway trees – clarification of highway tree inspections.
April 2013	Superseded	• Somerset County Council decision to remove 16 defects from the HSIM to be put into routine programmes of work. Appendix C provides more detail. Defects removed are: o Carriageway transverse joint/crack o Debris in footway o Footway edge deterioration / rollover o Flooding in footway

		○ Footway longitudinal crack / joint ○ Footway transverse crack / joint ○ Footway vegetation ○ Damaged sign plate ○ Faded sign plate ○ Damaged sign post ○ Damaged marker post ○ Damaged sign fixings ○ Sign obscured by vegetation ○ Misaligned sign ○ Cycleway edge deterioration / rollover ○ Cycleway transverse crack / joint • Clarified the response times for Town Centre inspections for footway and carriageway safety defects (page 5). • Clarified “pedestrian crossing points” across a carriageway (Page 10) • Risk Management statement added (page 5) • Risk Register explained (page 6) and included as Appendix D) • Amended response times for layby deterioration (page 26).
October 2018		• Incorporates recommendations from Well Managed Highway Infrastructure – A Code Of Practice (October 2016)

APPENDIX C
SOMERSET COUNTY COUNCIL - RISK REGISTER OF HIGHWAY SAFETY DEFECTS
GUIDANCE FOR SCC OFFICERS
OCTOBER 2018

Item	Defect	Extent	Hierarchy*	Probability	Impact	Risk Factor	Response Priority
Carriageway	pothole	>100mm depth x 150mm wide	2, 3, 4	5	5	25	Immediate
		>100mm depth x 150mm wide	5, 6	4	4	16	24 hours
		>100mm depth x 150mm wide	7, 8, 9a, 9b, 10	2	4	8	7 days
		>100mm depth x 150mm wide	11	1	4	4	Consider an appropriate response
		40mm – 100mm depth x 150mm wide	2, 3, 4	4	4	16	24 hours
		40mm – 100mm depth x 150mm wide	5, 6	4	3	12	7 days
		40mm – 100mm depth x 150mm wide	7, 8, 9a, 9b, 10	3	2	6	28 days
		40mm – 100mm depth x 150mm wide	11	1	3	3	Consider an appropriate response
	step in level	>100mm depth x 150mm wide	2, 3, 4	5	5	25	Immediate
		>100mm depth x 150mm wide	5, 6	4	4	16	24 hours
		>100mm depth x 150mm wide	7, 8, 9a, 9b, 10	4	4	16	24 hours

	>100mm depth x 150mm wide	11	1	4	4	Consider an appropriate response
	40mm – 100mm depth x 150mm wide	2, 3, 4	5	5	25	24 hours
	40mm – 100mm depth x 150mm wide	5, 6	4	3	12	7 days
	40mm – 100mm depth x 150mm wide	7, 8, 9a, 9b, 10	3	2	6	28 days
	40mm – 100mm depth x 150mm wide	11	1	3	3	Consider an appropriate response
depression	>100mm deep <1200mm in direction of travel >300mm wide	2, 3, 4	5	5	25	Immediate
	>100mm deep <1200mm in direction of travel >300mm wide	5, 6	4	4	16	24 hours
	≥ 100mm deep <1200mm in direction of travel >300mm wide	7, 8, 9a, 9b, 10	4	3	12	7 days
	≥ 100mm deep <1200mm in direction of travel >300mm wide	11	1	4	4	Consider an appropriate response
	≥ 400mm – 100mm deep	2, 3, 4	4	4	16	24 hours

	<1200mm in direction of travel >300mm wide					
	≥ 400mm – 100mm deep <1200mm in direction of travel >300mm wide	5, 6	4	3	12	7 days
	≥ 400mm – 100mm deep <1200mm in direction of travel >300mm wide	7, 8, 9a, 9b, 10	3	2	6	28 days
	≥ 400mm – 100mm deep <1200mm in direction of travel >300mm wide	11	1	3	3	Consider an appropriate response
edge loss (edge pothole)	≥ 100mm depth x 250mm wide	2, 3, 4	5	5	25	Immediate
	>100mm depth x 250mm wide	5, 6	4	4	16	24 hours
	≥ 100mm depth x 250mm wide	7, 8, 9a, 9b, 10	4	3	12	7 days
	≥ 100mm depth x 250mm wide	11	1	4	4	Consider an appropriate response
	≥ 40mm-100mm deep x 250mm wide	2, 3, 4	4	4	16	24 hours
	≥ 40mm-100mm deep x	5, 6	4	3	12	7 days

		250mm wide					
		≥ 40mm-100mm deep x 250mm wide	7, 8, 9a, 9b, 10	3	2	6	28 days
		≥ 40mm-100mm deep x 250mm wide	11	1	3	3	Consider an appropriate response
	longitudinal cracking	≥40mm deep, ≥40mm wide, ≥300mm length	2, 3, 4	4	4	16	24 hours
		≥40mm deep, ≥40mm wide, ≥300mm length	5, 6	4	3	12	7 days
		≥40mm deep, ≥40mm wide, ≥300mm length	7, 8, 9a, 9b, 10	3	2	6	28 days
		≥40mm deep, ≥40mm wide, ≥300mm length	11	1	3	3	Consider an appropriate response
Channels	vertical displacement	≥40mm	2, 3, 4	4	4	16	24 hours
		≥40mm	5, 6	4	3	12	7 days
		≥40mm	7, 8, 9a, 9b, 10	3	2	6	28 days
		≥40mm	11	1	3	3	Consider an appropriate response
Kerbs	vertical displacement	≥ 20mm	F2	4	4	16	24 hours
		≥ 20mm	F3	4	3	12	7 days
		≥ 20mm	F4, F5, F6	2	4	8	28 days
	horizontal displacement	≥ 20mm	F2	4	4	16	24 hours
		≥ 20mm	F3	4	3	12	7 days
		≥ 20mm	F4, F5, F6	2	4	8	28 days
	damaged	≥ 20mm depth	F1	4	4	16	24 hours
		≥ 20mm depth	F2	4	3	12	7 days

		≥2 0mm depth	F4, F5, F6	2	4	8	28 days
	joint opening	≥ 80mm wide	F1	4	4	16	24 hours
		≥ 80mm wide	F2	4	3	12	7 days
		≥ 75mm wide	F3, F4	3	2	6	28 days
Footway	pothole	≥ 50mm deep, ≥ 50mm wide	F2	5	5	25	Immediate
		≥ 50mm deep, ≥ 50mm wide	F3	4	4	16	24 hours
		≥ 50mm deep, ≥ 50mm wide	F4, F5, F6	3	2	6	28 days
		>20mm deep < 50mm deep	F2	4	4	16	24 hours
		≥ 20mm deep < 50mm deep	F3	4	2	12	7 days
		≥ 20mm deep < 50mm deep	F4, F5, F6	3	2	6	28 days
	depression	≥ 50mm deep, <300mm wide	F2	4	3	12	7 days
		≥ 50mm deep, <300mm wide	F3, F4, F5, F6	3	2	6	28 days
	trip behind kerb	≥ 40mm deep, 300mm wide	F2	5	5	25	Immediate
		≥ 40mm deep, 300mm wide	F3	4	4	16	24 hours
		≥ 40mm deep, 300mm wide	F4	3	2	6	28 days
		≥ 20mm deep <40mm deep, 300mm wide	F1	4	4	16	24 hours
		≥ 20mm deep <40mm deep, 300mm wide	F2	4	3	12	7 days
		≥ 20mm deep	F4, F5, F6	3	2	6	28 days

		<40mm deep, 300mm wide					
	tree roots	≥ 100mm heave	F2	5	5	25	Immediate
		≥100mm heave	F3	4	4	16	24 hours
		≥100mm heave	F4	4	3	12	7 days
		>100mm heave	F5, F6	3	2	6	28 days
		≥ 40mm step	F2	5	5	25	Immediate
		≥ 40mm step	F3	4	4	16	24 hours
		≥ 40mm step	F4	4	4	16	24 hours
		≥ 40mm step	F5, F6	3	2	6	28 days
		≥ 20mm <40mm step	F2	5	5	25	Immediate
		≥ 20mm <40mm step	F3	4	3	12	7 days
		≥ 20mm <40mm step	F4, F5, F6	3	2	6	28 days
	step in level	≥ 40mm deep	F2	5	5	25	Immediate
		≥ 40mm deep	F3	4	4	16	24 hours
		≥ 40mm deep	F4, F5, F6	3	2	6	28 days
		≥ 20mm <40mm deep	F2	4	4	16	24 hours
		≥ 20mm <40mm deep	F3	4	3	12	7 days
		≥ 20mm <40mm deep	F4, F5, F6	3	2	6	28 days
Ironwork	missing	missing	2, 3, 4, 5, 6, 7, 8, 9a, 9b, 10, 11	5	5	25	Immediate
		missing	F2, F3, F4, F5, F6	5	5	25	Immediate
	damaged	damaged	2, 3, 4, 5	5	5	25	Immediate
		damaged	6, 7, 8, 9a, 9b,	4	4	16	24 hours

		10, 11				
	damaged	F2, F3, F4, F5	5	5	25	Immediate
	damaged	F6	4	4	16	24 hours
Difference in level / rocking	≥ 40mm displaced	2, 3, 4	4	4	16	24 hours
	≥ 40mm displaced	5	4	3	12	7 days
	≥ 40mm displaced	6, 7, 8, 9a, 9b, 10, 11	3	2	6	28 days
	≥ 20mm displaced	F2	4	4	16	24 hours
	≥ 20mm displaced	F3	4	3	12	7 days
	≥ 20mm displaced	F4, F5, F6	3	2	6	28 days
Smooth surface	smooth	2, 3, 4, 5, 6, 7, 8, 9a, 9b, 10, 11 F2, F3, F4, F5, F6	3	2	6	28 days
Missing fillet	≥ 40mm deep, >50mm wide, >150mm long	F2	5	5	25	Immediate
	≥ 40mm deep, >50mm wide, >150mm long	F3, F4	4	4	16	24 hours
	≥ 40mm deep, >50mm wide, >150mm long	F5, F6	3	2	6	28 days
	≥ 20mm deep, >50mm wide, >150mm long	F2	4	4	16	24 hours
	≥ 20mm deep, >50mm wide, >150mm long	F3	4	3	12	7 days

		≥ 20mm deep, >50mm wide, >150mm long	F4, F5, F6	3	2	6	28 days
Non-illuminated signs	Wrong height (risk of pedestrians)	Minimum 2150mm	F2	5	5	25	Immediate
		Minimum 2150mm	F3	4	4	16	24 hours
		Minimum 2150mm	F4	4	3	12	7 days
		Minimum 2150mm	F5, F6	3	2	6	28 days
	Wrong height (low risk of pedestrians)	Minimum 1500mm	2, 3, 4, 5, 6, 7, 8, 9a, 9b, 10, 11	3	2	6	28 days
	Illegible Regulatory sign		2, 3, 4, 5, 6, 7, 8, 9a, 9b, 10, 11	4	4	16	24 hours
	Illegible Chevron sign		2, 3, 4, 5, 6, 7, 8, 9a, 9b, 10, 11	4	4	16	28 days
Drainage	Blocked drainage (highway user impeded)		2, 3, 4, 5	5	5	25	Immediate
			6, 7, 8, 9a, 9b, 10, 11	4	4	16	24 hours
Road stud	Missing		2, 3, 4, 5, 6, 7, 8, 9a, 9b, 10, 11	Treat as pothole and apply carriageway definition			
Vehicle restraint	Damaged		2, 3, 4	5	5	25	Immediate

barriers			5, 6, 7, 8, 9a, 9b, 10, 11	4	4	16	24 hours

*Hierarchy key

Carriageway	
2	Strategic Route
3	Main Distributor
4	Secondary Distributor
5	Link Road
6	Local Link Road
7	Local Access Road
8	Minor Road
9a	Lanes
9b	Minor Lanes
10	Green Lanes and Tracks
11	Disused Tracks
Footway	
F2	Primary Walking Routes
F3	Secondary Walking Routes
F4	Link Footways
F5	Local Access Footways
F6	Minor Footways

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UK ROADS LIAISON GROUP

HMEP
Highways Maintenance Efficiency Programme

HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT

GUIDANCE DOCUMENT

MAY 2013

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Comments & Feedback

The HMEP Programme Board would welcome any comments and feedback on this Guidance Document, so that it may be reviewed, improved and refined to give the sector the best support possible. If you wish to make a comment, please send an email to highwaysefficiency@dft.gsi.gov.uk with the header, 'Feedback on the Highway Infrastructure Asset Management Guidance'.

CONTENTS

This Guidance was developed with support from the following organisations:

UK ROADS LIAISON GROUP

FOREWORD

In recent years the investment in highway infrastructure and its performance has been increasingly under the spotlight. The current financial challenges and increased public demands and expectations have meant that we have had to re-think the way we manage our highway infrastructure. Recent severe weather has also provided tangible evidence of the fragility of our highway network, and raised awareness of the financial and other challenges involved in maintaining an ageing infrastructure.

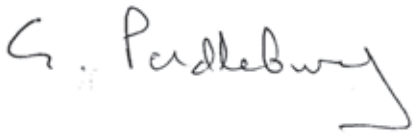
The sector has been working hard to demonstrate that highways are a valuable asset and vital to the economic and social well-being of communities. The implementation of Whole of Government Accounts has proved that the road network is the most valuable asset that many local authorities manage.

Asset management supports business decisions and provides longer term financial benefits. It helps us to understand the asset we have, describe how it performs and determine the funding needed to meet the requirements placed upon it. Much progress has been made in the way asset management is developed and implemented in the UK, it has already been adopted by many highway authorities and is well proven in other sectors, but much more is still to be done.

This Guidance has been developed under the Highways Maintenance Efficiency Programme (HMEP), a sector-led transformation programme designed to maximise returns from highways investment and deliver efficient and effective services. The Guidance will help all those delivering highway services, including senior decision makers, asset managers, service providers and practitioners, to embed asset management principles in their organisations and make the case for funding highway maintenance.

The Guidance consolidates existing documents, builds upon existing good practice and offers a flexible framework that is suitable for all local authorities, wherever they are in terms of implementing asset management. It moves the focus away from developing Transport Asset Management Plans and towards implementing asset management effectively. Its advice should be adopted by all those involved in delivering the highway service to support them in the decisions they make in managing highway infrastructure assets in the UK.

I am therefore pleased to endorse this new Guidance and its recommendations on behalf of the UK Roads Liaison Group.



GRAHAM PENDLEBURY
Chair – UK Roads Liaison Group

EXECUTIVE SUMMARY

THE CASE FOR ASSET MANAGEMENT

Asset management has been widely accepted by central and local government as a means to deliver a more efficient and effective approach to management of highway infrastructure assets through longer term planning, ensuring that standards are defined and achievable for available budgets. It also supports making the case for funding and better communication with stakeholders, facilitating a greater understanding of the contribution highway infrastructure assets make to economic growth and the needs of local communities.

The demand for a more efficient approach to the management of highway infrastructure assets has come to prominence in the light of the fiscal challenges faced by both by central and local government as well as the devolved administrations. Recent developments include:

- The CIPFA *Code for Transport Infrastructure Assets*, provides advice on how asset management must be implemented for local highway authorities to meet Whole of Government Accounts requirements.
- The Audit Commission report *Going the Distance* recommends that local highway authorities in England should adopt the principles of asset management when making investment decisions in order to optimise the use of available resources.
- The *Potholes Review, Prevention and a Better Cure* found that asset management has not been embraced consistently across all authorities in England although it is clearly understood that a more preventative approach to maintenance and long term planning is likely to reduce the occurrence of potholes.
- The Audit Scotland reports *Maintaining Scotland's Roads* and *Maintaining Scotland's Roads – A Follow-up Report* recommends that councils gather better information on the number and condition of road assets to support the allocation of maintenance budget through an asset management approach.
- Scotland's National Roads Maintenance Review recommends a number of options for improving highway maintenance. These rely on the implementation of robust asset management practices.

These developments provide a greater focus on asset management. Although the principles of asset management have been accepted, highway authorities throughout the UK have adopted a wide ranging approach to its implementation. Many authorities have successfully adopted asset management but others are still at an early stage of implementation. Where asset management has been successfully adopted, demonstration of leadership and commitment from senior decision makers in supporting an asset management approach has been fundamental.

In England the Highways Maintenance Efficiency Programme (HMEP) has recognised that better advice and information is required if local authorities are to benefit consistently from the potential that asset management offers. HMEP has prepared this Guidance for local highway authorities, which is endorsed by UKRLG, to support the adoption of asset management principles and enable implementation of the benefits of long term planning. This will support a more effective and efficient approach to the management of highway infrastructure.

PURPOSE OF THIS GUIDANCE

This Guidance is aimed at all of those involved in managing highway infrastructure, including senior decision makers, asset managers and practitioners. Support from senior decision makers is an important factor in implementing asset management, as are the knowledge and skills of those responsible for managing the asset.

This Guidance is not intended to replace approaches that have been successfully adopted by local highway authorities, but to provide the basis for a consistent approach and understanding of the implementation and delivery of the benefits associated with asset management.

This Guidance makes 14 recommendations which are presented as the minimum requirements to achieve a reasonable level of benefit from asset management. The recommendations should be taken as a suite and considered as a whole. The recommendations can be met through adopting a basic approach to asset management, however, further benefits may be achieved through adopting more advanced practices.

As a basis for providing a consistent approach to implementing this Guidance and its recommendations, a Framework for Highway Infrastructure Asset Management has been introduced. This sets out the activities that support asset management as:

- context of asset management;
- asset management planning process; and
- enablers to support implementation of asset management.

Together they provide the basis to progress the asset management journey and support the benefits of taking a long term view of the management of highway infrastructure. They also support the development of an approach for those authorities making the case for funding.

HOW TO USE THIS GUIDANCE

Authorities should review their current asset management practices against the recommendations in this Guidance. Where additional activities are required to meet the recommendations, authorities should develop an Implementation Plan and may also wish to make the case for additional investment. This will require the support of senior decision makers.

This Guidance sets out an approach to deliver asset management. It is not prescriptive or the only approach. It is evidence based from case studies describing lessons learnt and good practice from the implementation of asset management. The approach that may be adopted to meet the recommendations will vary between authorities based on a number of factors, including their current position, the role their highway network plays in the local community and resources.

This Guidance also provides advice for those authorities that are at an early stage of implementation or have just started on the asset management journey, to ensure that they have the information available to maximise the potential benefits of an asset management approach and make the case for investment, as required.

SUMMARY OF RECOMMENDATIONS

ASSET MANAGEMENT FRAMEWORK — RECOMMENDATION 1

An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented.

COMMUNICATIONS — RECOMMENDATION 2

Relevant information associated with asset management should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance.

ASSET MANAGEMENT POLICY AND STRATEGY — RECOMMENDATION 3

An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision.

PERFORMANCE MANAGEMENT FRAMEWORK — RECOMMENDATION 4

A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy.

ASSET DATA MANAGEMENT — RECOMMENDATION 5

The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data.

LIFECYCLE PLANS — RECOMMENDATION 6

Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long term investment.

WORKS PROGRAMMING — RECOMMENDATION 7

A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly.

LEADERSHIP AND COMMITMENT — RECOMMENDATION 8

Senior decision makers should demonstrate leadership and commitment to enable the implementation of asset management.

MAKING THE CASE FOR ASSET MANAGEMENT — RECOMMENDATION 9

The case for implementing the Asset Management Framework should be made by clearly explaining the funding required and the wider benefits to be achieved.

COMPETENCIES AND TRAINING — RECOMMENDATION 10

The appropriate competency required for asset management should be identified, and training should be provided where necessary.

RISK MANAGEMENT — RECOMMENDATION 11

The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included as should appropriate mitigation measures.

ASSET MANAGEMENT SYSTEMS — RECOMMENDATION 12

Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders.

PERFORMANCE MONITORING — RECOMMENDATION 13

The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken.

BENCHMARKING — RECOMMENDATION 14

Local and national benchmarking should be used to compare performance of the Asset Management Framework and to share information that supports continuous improvement.

NAVIGATION GUIDE

The key activities presented in the Highway Infrastructure Asset Management Framework and this Guidance are summarised below. Each Section provides advice on how to meet the recommendations, together with case study examples of where highway authorities have achieved this successfully.

THE RECOMMENDATIONS

This Guidance makes 14 recommendations which are presented as the minimum requirements to achieve an appropriate level of benefit from asset management. These should be taken as a suite and considered as a whole. The recommendation themes are summarised below.

Highway Infrastructure Asset Management Framework	Leadership and Commitment
Communications	Making the Case for Asset Management
Asset Management Policy and Strategy	Competencies and Training
Performance Management Framework	Risk Management
Asset Data Management	Asset Management Systems
Lifecycle Plans	Performance Monitoring
Works Programming	Benchmarking

THE GUIDANCE

The Guidance is presented as described below:

Section 1 – Introduction

Section 2 – A Framework for Highway Infrastructure Asset Management

Sets out the activities and processes necessary to develop, document, implement and continually improve asset management.

PART A – ASSET MANAGEMENT AND THE ORGANISATIONAL CONTEXT

Section 3 – National and Local Transport Policy

Meeting the requirements of overall transport policy and the diverse needs of stakeholders and local communities are essential to setting the direction for asset management.

Section 4 – An Asset Management Approach for Highway Infrastructure

Asset management has been widely accepted by central and local government as a means to deliver a more efficient and effective approach to management of highway infrastructure assets through longer term planning. A well developed approach to asset management will support local highway authorities responding to budget challenges.

Section 5 – Organisational and Management Context

Local highways are the responsibility of local highway authorities. Major decisions, such as setting the annual budget and agreeing key policies are made by the elected members of the authority. Elected members, officers, contractors and others involved in asset management need to understand the extent and nature of the authority's legal obligations, policies and risks in managing the highway network. They also need to appreciate the distinction between duties and powers, and how they relate to their particular responsibilities.

PART B – ASSET MANAGEMENT PLANNING

Section 6 – Asset Management Policy and Strategy

The asset management policy sets out the commitment by senior decision makers to highway infrastructure asset management. The asset management strategy sets out the long term objectives for the highway asset and how they are met, including statutory obligations, stakeholder needs and the overall performance of highway infrastructure within the context of any constraints such as funding.

Section 7 – Setting and Measuring Performance

Authorities should establish levels of service with their stakeholders, senior decision makers and the public. Performance measures and targets should be set to enable monitoring of delivery of the strategy and of performance and to identify the cost of meeting the strategy in the short, medium and long term.

Section 8 – Asset Data

Asset data describes what highway infrastructure assets an authority has, where they are and how they perform. It is used to support the requirements of the asset management strategy and in determination of the approach to deliver the strategy, including performance management, lifecycle planning, forward programming and risk management.

Section 9 – Lifecycle Planning

Development and use of lifecycle plans will demonstrate how funding and performance requirements are achieved through appropriate intervention and investment strategies, with the objective of minimising expenditure while providing the required performance.

Section 10 – Works Programmes

Delivery of the works programme is the tangible outcome of the asset management planning process. The process to develop a works programme for maintenance and renewal of highway infrastructure assets comprises the identification, prioritisation, optimisation, programming and delivery of individual schemes.

Section 11 – The Highway Infrastructure Asset Management Plan

It is important that authorities document their asset management process to provide clarity and transparency. The Highway Infrastructure Asset Management Plan (HIAMP) is one way to record and communicate the approach to asset management in a single document, informing relevant stakeholders and staff how highway infrastructure assets are managed over a period of time. Authorities may however consider it more efficient and effective to document processes separately.

PART C – ENABLERS

Section 12 – Asset Management Leadership and Organisation

Leadership has a strong influence on the culture and behaviour of all organisations. Clear direction and priorities will ensure that both significant and apparently relatively minor decisions taken across an organisation all support a consistent approach to delivering asset management. Time and effort spent on leadership and organisational development will pay dividends in the long-term as the purpose, objectives and responsibilities for asset management will be clearly established and supported.

Demonstrating the benefits that investment in highway infrastructure assets can achieve is required to support decision making and prioritise investment of capital funds and other valuable resources. Many authorities have been successful in making the case for additional investment in the maintenance of their highway infrastructure by adopting asset management principles.

Section 13 – Risk Management

Highway authorities are required to manage a variety of risks at all levels within their organisations. The likelihood and consequences of these risks can be used to inform and support the approach to asset management and inform key decisions on performance, investment and implementation of works programmes.

Section 14 – Asset Management Systems

Good asset management needs to be supported by robust processes for implementation and management as well as good quality, repeatable and reliable data. An asset management system will support decision making through managing information and data to support asset management as well as to record and monitor its implementation.

Section 15 – Performance Monitoring

A well developed approach to performance monitoring will provide authorities with the ability to continuously improve their asset management knowledge, processes and systems to support effective delivery of asset management and to build on lessons learnt to enable them to continuously improve.

Section 16 – Getting Started and Progressing

Authorities have made varied progress implementing asset management. This Guidance can be used to support starting, improving or further developing their approach to asset management. In assessing desired practice, authorities should consider as a minimum their position against the recommendations in this Guidance. In doing so, they should consider their current practice and what asset management practices they wish to adopt, as well as good practice from other highway authorities.

1. INTRODUCTION

1.1 BACKGROUND

1.1.1 The highway infrastructure asset is the most valuable asset owned by the public sector in the UK. Its importance for national and local economic prosperity and the public's quality of life is well documented. The significant levels of funding for the management of this asset are under continuous scrutiny, with increasing pressure from government and the public for transparency, accountability and more efficient use of the limited resources available.

1.1.2 Asset management is a well established discipline, implemented in the UK and internationally for the management of physical assets. Many asset owning organisations have adopted the principles of asset management and as a result, can demonstrate benefits in terms of financial efficiencies, improved accountability and stewardship of the asset, better value for money and improved customer service.

1.1.3 This Guidance is aimed at local highway authorities. It builds on the progress made with asset management and provides consolidated advice on the implementation and continuous development of highway infrastructure asset management. It provides advice on how asset management principles may be used to support a more efficient approach to maintaining highway infrastructure assets - local highway authorities' most valuable assets.

1.1.4 The target audience for the Guidance is local highway authority senior decision makers, asset managers and practitioners involved in managing highway infrastructure. This Guidance may also be useful for providers of highway maintenance services. Advice is given on how the principles of asset management should be applied. A separate companion document *Highways - Maintaining A Vital Asset* (1) provides information for elected members on the value and adoption of asset management.

1.1.5 The Guidance includes a suite of recommendations which are presented as minimum requirements for the implementation and continuous development of asset management. Authorities should adopt these recommendations in their entirety. Case studies are used to support the approach described and demonstrate how the advice can be practically implemented. A full list of case studies is included in Appendix A. Reference is also made to other relevant documents throughout this Guidance.

1.1.6 Advice on getting started is included in Section 16. Authorities should use this Guidance either as a starting point or as a basis from which to review their current approach, develop their asset management practices and, where necessary, to identify and quantify improvements. Improvement actions may be documented in an Implementation Plan.

1.2 HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT

1.2.1 A review of the implementation of asset management in England was carried out by the Department for Transport (DfT) in 2007 to identify where good progress had been made. The report, *Review of Transport Asset Management Plans* (2), found that the majority of local highway authorities were aware of the potential benefits of asset management. However, it found that a lack of both commitment from senior decision makers and availability of resources were the key blockers to implementation. Since that review, additional advice has been provided, as well as support from the DfT and through various regional and national groups who aim to share good practice. Furthermore, the DfT has provided additional funding to kick start asset management.

1.2.2 In England, the DfT works closely with the UK Roads Liaison Group (UKRLG), the Association of Directors for Environment, Economy, Planning and Transport (ADEPT), the Chartered Institute of Public Finance and Accountancy (CIPFA) and others to help spread good practice in asset management, including through the Highways Maintenance Efficiency Programme (HMEP).

1.2.3 In Northern Ireland, the Department for Regional Development is the sole authority for roads and roads functions are delivered on their behalf by the Roads Service. Roads Service, which has a considerable and varied asset portfolio and delivers a wide range of services to the public, is working towards the implementation of asset management.

1.2.4 In Scotland the SCOTS Asset Management Group has led a project on behalf of all Scottish local authorities to produce a common approach for the implementation of asset management. A similar project has been running concurrently in Wales. It has established a common Asset Management Framework for all Scottish and Welsh local authorities.

1.2.5 The Welsh Government's Local Borrowing Initiative, with the aim of improving the local highway asset, has endorsed the work of the CSS Wales Asset Management Group, in particular its Project and Planning Process for highway asset management.

1.2.6 Some authorities in the UK have made significant progress implementing asset management. Many lessons have been learnt, experience has been gained and some of the benefits have been recorded. This Guidance incorporates these lessons.

Reviews of Highway Maintenance Practice

1.2.7 Since 2010 there have been a number of national reviews of highway maintenance in England and Scotland. These reviews have provided essential information on the status of asset management and some of the context for this Guidance.

1.2.8 The Audit Commission published *Going the Distance, Achieving Better Value for Money in Road Maintenance* (3) in 2011. The report recognised that many authorities had traditionally adopted a *"worst first"* approach to maintenance. It recommends that authorities should adopt the principles of asset management when making investment decisions to optimise the use of available resources. Asset management, however, has not been embraced consistently across all authorities, although it is clearly understood that a more preventative approach to maintenance through long term planning may bring efficiency benefits.

A fresh start for the Strategic Road Network, image courtesy of the Department for Transport

1.2.9 T*he Potholes Review – Prevention and a Better Cure* (4) published in 2012, provides a suite of recommendations related to highway management. It reported that highway *"asset management has not been embraced consistently across all authorities, although it is clearly understood that a more preventative approach to maintenance and long term planning is likely to reduce the occurrence of potholes"*.

1.2.10 *A fresh start for the strategic road network* (5) published in 2011, recommends that the Highways Agency should seek accreditation to PAS 55 (6) and a specified level of asset management maturity by 2015 in order to facilitate achievement of significant efficiency savings.

1.2.11 Audit Scotland published *Maintaining Scotland's Roads* (7) in 2004. The report observed *"Many councils had not yet developed up-to-date electronic inventories of the number and condition of road assets to support the allocation of maintenance expenditure."* In 2011 Audit Scotland published *Maintaining Scotland's Roads – A Follow-up Report* (8), which commented *"A longer term road maintenance strategy or plan should be an important component of a more broadly based road asset management plan".* In June 2012 the *National Roads Maintenance Review* (9) was published. It involved all stakeholders who use the road network and identified how those responsible for and working in the roads maintenance sector could deliver maintenance requirements more efficiently. Robust asset management planning was a key theme, together with minimum levels of service for roads in Scotland.

1.3 PURPOSE OF THIS GUIDANCE

1.2.12 This Guidance supports local highway authorities in the development and implementation of highway infrastructure asset management, in order to deliver the potential benefits, including efficiencies that can be gained by taking a long term view. It also supports authorities in embedding the recommendations of the national reviews described above. The purpose of the Guidance is to:

- establish a framework to enable development of asset management;
- provide advice for authorities to interpret the requirements of asset management;
- promote good practice through a common framework for highway infrastructure asset management;
- support efficiency in the delivery of highway maintenance;
- embed the learning from practical application of asset management; and
- enable quick and consistent progress to be made.

1.3.1 Separate advice is provided in the UKRLG Codes of Practice (10, 11, 12 13) on the more operational aspects of asset management.

1.3.2 This Guidance and its recommendations should enable authorities to implement asset management and achieve the associated benefits, including longer term efficiency in delivering highway maintenance, prudent stewardship of their assets and better substantiated funding decisions.

1.3.3 This Guidance replaces the 2004 *CSS Framework for Highway Asset Management* (14) and the series of UKRLG *Asset Management Quick Start Guides* (15, 16, 17, 18) and consolidates advice given in other documents.

1.4 SCOPE OF THIS GUIDANCE

1.4.1 This Guidance covers all highway infrastructure assets in the ownership of local highway authorities. There will be assets that some authorities consider appropriate to include as highway infrastructure assets, whilst others may consider them as part of other management arrangements, for example, public rights of way.

1.4.2 Asset management comprises the whole lifecycle of an asset from construction, through maintenance, to disposal. This Guidance concentrates on the management and maintenance aspects of highway asset management since these are generally the most relevant aspects for authorities.

1.4.3 Some infrastructure assets connected with the highway may be managed by other authorities, depending on the local government arrangements in place in the area. For example, in two tier authorities street furniture could be the responsibility of the District Council, whilst the County Council is responsible for the highway. It is for individual authorities to determine how they manage their assets, but the approach in this Guidance can be applied to a wide range of assets.

1.5 RELATIONSHIP WITH OTHER NATIONAL GUIDANCE

1.5.1 The guidance hierarchy adopted by the UKRLG is shown in Figure 1.

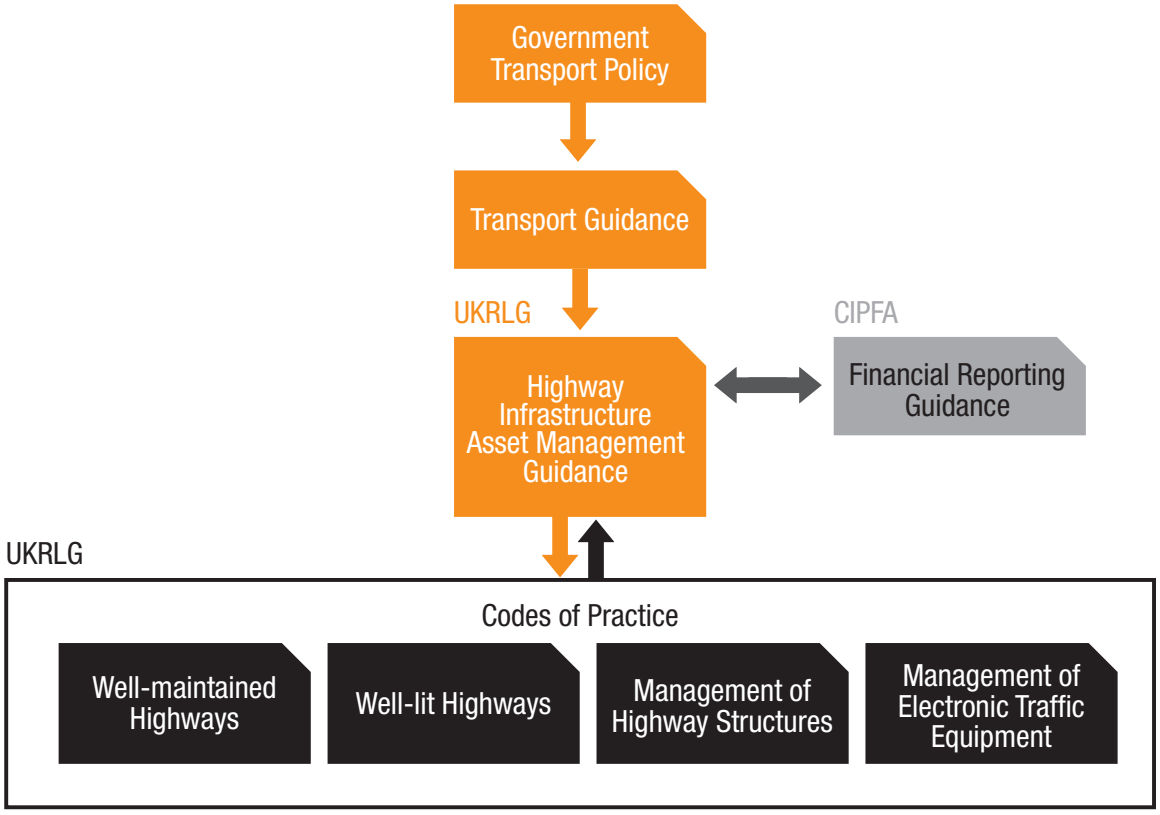


Figure 1 – UKRLG Guidance Hierarchy

1.6 RELATIONSHIP WITH ASSET MANAGEMENT STANDARDS

1.6.1 This Guidance does not replace the British Standards publication *'Optimal Management of Physical Assets'*, 2008, known as Publicly Available Specification 55 (PAS 55) (6), which is available for adoption by all asset owners, including local highway authorities, as they see fit. PAS 55 comprises the following documents:

- Part 1 – Specification for the optimised management of physical assets; and
- Part 2 – Guidelines for the application of PAS 55-1.

1.6.2 At the time of publication of this Guidance the International Standards Organisation (ISO) is drafting a Standard for Asset Management (19) which is due to be published in 2014.

This takes a broad view of asset management of physical assets based on experience from around the world. It is intended that the ISO comprises three documents:

- ISO 55000 Asset Management – Overview of Principles and Terminology;
- ISO 55001 Asset Management – Management Systems and Requirements; and
- ISO 55002 Asset Management – Management Systems - Guidelines on the application of ISO 55001.

1.6.3 The intention is that the ISO provides a common platform and reference point for asset management internationally, across all sectors and industries, and is aimed at all assets, including those in public and private ownership. ISO will specify the requirements or "*what to do*" for asset owning organisations but it will not specify the "*how to do*". The role of this Guidance is to support highway authorities in the UK on the "*how to do*".

1.6.4 Organisations, including highway authorities, may currently seek accreditation against PAS 55 (6) after considering the benefits of doing so for their organisation. In the future, authorities will be able to seek accreditation against ISO 55000.

1.7 HIGHWAYS MAINTENANCE EFFICIENCY PROGRAMME

1.7.1 This Guidance has been produced under the umbrella of the HMEP, a sector-led transformation programme to maximise returns from investment in highways and deliver efficient and effective highway maintenance services.

1.7.2 The programme is sponsored by the DfT who are providing funding to help the highways sector build on existing good practice and develop further tools and opportunities to realise efficiencies. The key themes promoted by the programme are greater collaboration within the public sector and with the supply chain, smarter procurement, adoption of asset management principles, and benchmarking as a means of improving performance.

1.7.3 At the time of publication of this Guidance other related HMEP products include:

- Lifecycle planning toolkit;
- Support and training for the implementation of lifecycle planning;
- Deterioration model for bituminous carriageways;
- Guidance on drainage asset management;
- Collaboration toolkit; and
- Shared services toolkit.

1.7.4 Further information may be found in Appendix B and at:
http://www.dft.gov.uk/hmep/index.php

Screenshot of the HMEP website, image courtesy of the Department for Transport

2. A FRAMEWORK FOR HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT

2.1.1 Authorities in the UK have already embedded some elements of asset management in the way they manage highway infrastructure and some have made significant progress with implementing good practice and realising the benefits. Authorities should build on the work they have already done and use this Guidance and its recommendations to further augment the implementation of asset management.

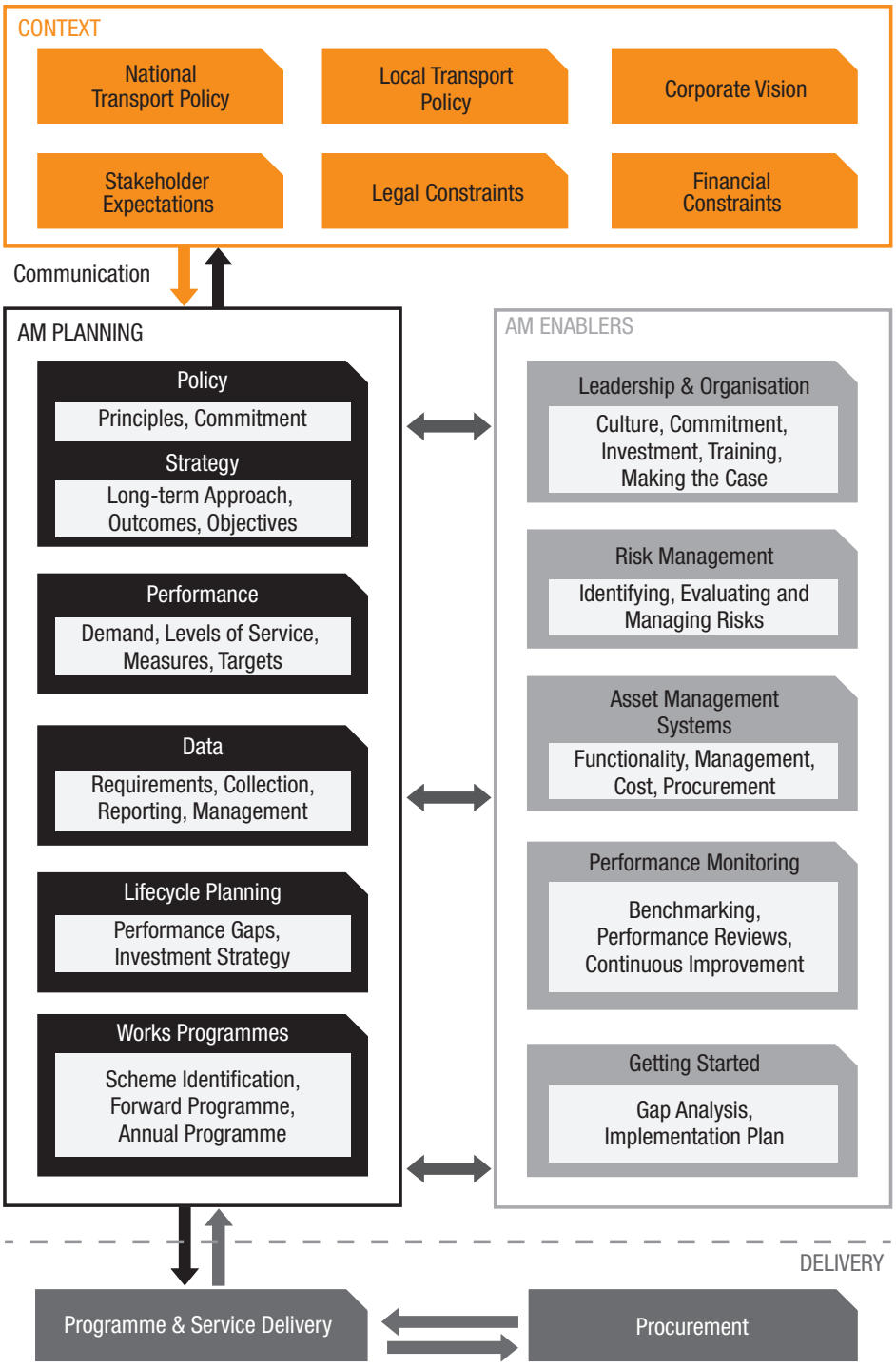


Figure 2 – The Asset Management Framework

2.1.2 The Framework includes all asset management activities normally undertaken by an authority and is flexible to accommodate the requirements of individual authorities. Senior decision makers within authorities should endorse the approach, which should be clearly documented and accessible to relevant stakeholders.

2.1.3 The Asset Management Framework is described in detail in this Guidance and is shown diagrammatically in Figure 2. It comprises the activities and processes that are necessary to develop, document, implement and continually improve asset management. These activities and the approach to their delivery should be clearly documented and accessible to relevant stakeholders.

2.1.4 The Framework is presented in three parts:

- **Context** – Describes the context for highway infrastructure asset management, the organisation and the environment within which the local highway service is delivered, and is covered in Part A;
- **Asset Management Planning** – Describes the key activities and processes for asset management planning and gives advice on how these should be applied to highway infrastructure assets, as covered in Part B; and
- **Asset Management Enablers** – Describes the enablers that support the implementation of the Asset Management Framework and is covered in Part C.

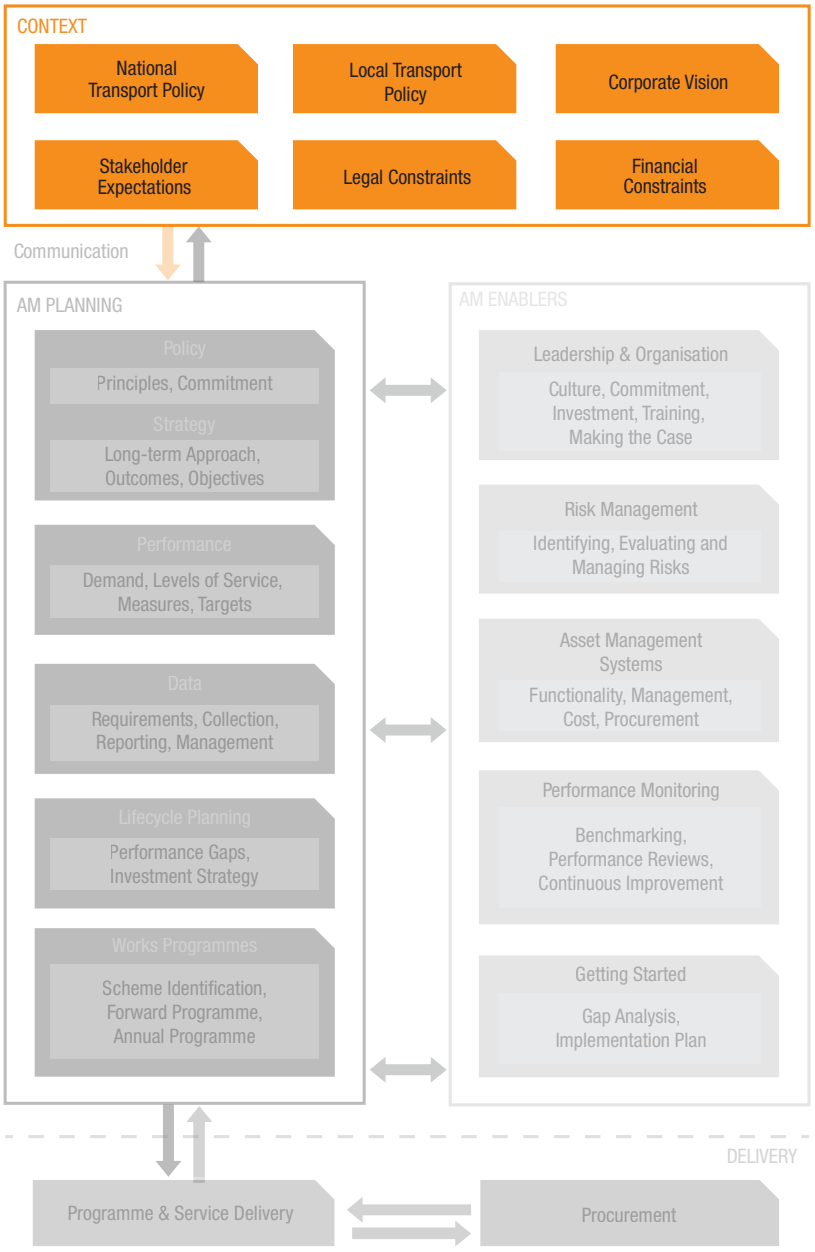
2.1.5 The recommendations in this Guidance all support the Framework and should be considered as the minimum requirements to achieve an appropriate level of benefit from asset management. The recommendations should be taken as a suite and considered as a whole. Many of the recommendations can be achieved through adopting a basic approach to asset management; however, further benefits may be achieved through adopting more advanced practices.

RECOMMENDATION 1

ASSET MANAGEMENT FRAMEWORK

An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented.

PART A – ASSET MANAGEMENT AND THE ORGANISATIONAL CONTEXT



Part A of the Guidance sets the context for highway infrastructure asset management by describing the structure and the environment within which the highways service is delivered.

Delivering highway infrastructure asset management is not a stand-alone activity. It is linked with the organisation's policies and service delivery. It supports the interface with all stakeholders, including elected members, road users, the public and local communities. This Part describes the importance of highway infrastructure, summarises the setting of national and local transport policy, sets requirements for stakeholder communications, and explains the legal and financial constraints.

3. NATIONAL AND LOCAL TRANSPORT POLICY

3.1 TRANSPORT POLICY

3.1.1 Government sets national transport policy and local authorities that have a responsibility for transport develop and set local transport policies which best meet the area's needs. Authorities typically consult stakeholders on key issues and priorities such as public transport, walking, cycling, parking, congestion, rural access, new roads, highway infrastructure condition and spending priorities. Highway asset management policy should be set in the context of overall transport policy.

3.2 THE IMPORTANCE OF HIGHWAY INFRASTRUCTURE

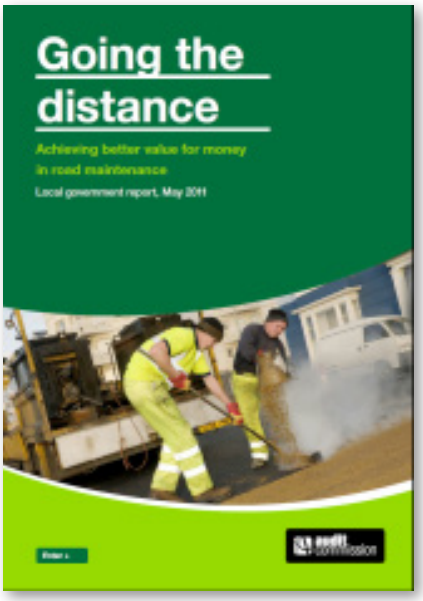
3.2.1 The highway network comprises the strategic network of motorways and trunk roads and both major and minor local roads. It totals some 245,000 miles and includes assets such as carriageways, footways, cycletracks, structures, highway lighting, street furniture, traffic management systems and similar highway infrastructure.

3.2.2 The vast majority of the network is the responsibility of local highway authorities and is the largest, most valuable, and most visible infrastructure asset for which they are responsible. Much of this infrastructure has evolved over a long period of time and was not built to the standards that would be expected of a newly constructed highway. As a consequence, many local highways are less resilient to changing environments and circumstances, such as severe weather events, as described in the *Potholes Review* (4).

3.2.3 Well maintained and accessible highway infrastructure is vital and fundamental to the economic, social and environmental well being of the community. It provides access to business and communities, helps to shape the character and quality of an area, as well as the quality of life of the community and makes an important contribution to wider local authority priorities, including economic activity, regeneration, education, health and community safety. Local highways also provide access to the strategic road network, rail, ports and airports.

3.2.4 It is widely accepted that the performance of the local highway network has a significant impact on the economic development and prosperity of local communities. This is supported by experience from severe winters that have resulted in high economic and social costs from deteriorated and closed highways. Research carried out by the Asphalt Industry Alliance (20) has estimated significant losses to business as a result of poor road condition. Accidents, disruption, increased user costs and vehicle wear and tear are the main contributing factors.

3.2.5 Highway assets, especially carriageways and footways, in poor condition are often the subject of compensation claims against authorities. Direct costs of accidents and vehicle damage to motorists and insurance companies are a real burden on the economy.



Going the distance, image courtesy of the Audit Commission

3.2.6 The economic contribution of highway maintenance is recognised in the Audit Commission report *Going the Distance, 2011* (3). The report highlights that: "Councils must use their road maintenance to support the economic competitiveness of their area. Roads play a critical role in public service delivery and economic growth – both through the increased mobility of citizens, goods and services, and through building and maintaining infrastructure".

3.2.7 As part of the implementation of the recommendations of the *Potholes Review* (4), DfT is undertaking work to enable determination of how investment in improving the condition of the highway network provides economic benefit.

3.2.8 In Scotland, the Transport Scotland report *Economic, Environmental and Social Impact of Changes in Maintenance Spend on Roads in Scotland*, 2012 (21), concludes that there is an overall disbenefit to society from reducing road maintenance expenditure to the extent that for every £1 reduction there is a cost of £1.50 to the wider economy. It also found that the most significant quantified impact of reduced road maintenance is the increase in vehicle operating costs, and that there are wider community effects of road maintenance beyond those on vehicle journeys.

3.3 STAKEHOLDER EXPECTATIONS

3.3.1 People, groups of people, or organisations that can affect or be affected by the policies and actions of the authority are all stakeholders of the highway network. Managing stakeholder expectations and addressing their needs is a key aspect of asset management.

3.3.2 In the context of the highway service, stakeholders are many and diverse and may need to be considered in different ways. They are likely to include local road users, local communities, businesses, services such as emergency services, people travelling through the area, highway maintenance service providers, and organisations that have an impact on the network such as utilities. Government, through HM Treasury, DfT and other Departments, also has an interest through legislation, provision of funding, and support in other ways. There are also a number of national and local interest groups that have an important part to play in raising awareness of issues important to their members. Interest groups are likely to include business groups, freight associations, pedestrian groups, cycling and motorcycling groups, disability and mobility groups, and motoring groups.

3.3.3 There is a widely held expectation that journeys should be reliable. There is also a perception that highway maintenance and utility companies' works cause delay and travel disruption. Research carried out for the DfT on *Highway Levels of Service* (22) provides evidence that stakeholder expectations are influenced by where a route fits within personal hierarchies, which were shown to differ from the national road classification system. *Well-maintained Highways* (10) provides advice on developing network hierarchies for carriageway, footways and cycleways based on the importance and use of the routes.

3.3.4 The condition of many aspects of the highway network is important to road users. In particular, there are generally high expectations and strong views about the surfaces on which the public moves and an expectation that roads, footways and cycleways can be used without actually noticing the surface they are travelling on.

3.3.5 Public perceptions of road and footway surface condition are influenced by the type of user. The vulnerable, including the elderly, whether pedestrians, motorists or passengers, notice surfaces more than any others and they are at a higher risk of being affected by defect hazards and poor quality repairs.

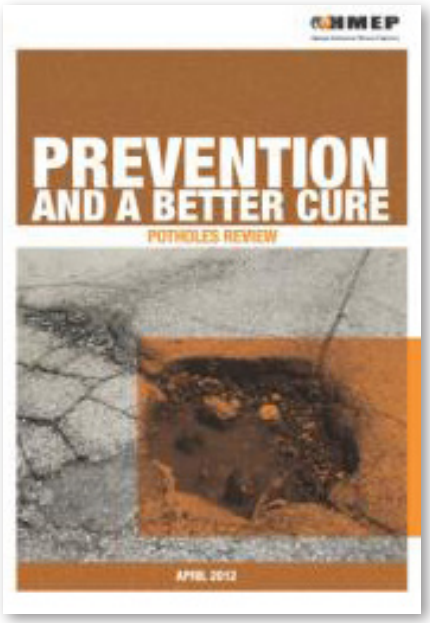
3.3.6 A number of different public opinion surveys demonstrate that overall satisfaction with local highways is low. To improve satisfaction, good information is required at a local level about what is important and how it is perceived. This information should be considered by authorities when developing their approach to asset management and can also be used to benchmark performance against other authorities.

3.3.7 Effective engagement with stakeholders is a key issue in managing expectations and therefore satisfaction with the highway service. Authorities engage with and involve key stakeholder groups such as local communities, local businesses and services such as emergency services, in a variety of different ways.

3.3.8 Stakeholder involvement by means of informed consultation is likely to be beneficial in building understanding and support. Stakeholders need to be engaged at various stages in the asset management process so that they can appreciate the challenges and issues that authorities face. People cannot be expected to understand or accept the level of service provided if they have not been involved in its development or it is not published and transparent.

3.3.9 Public opinion surveys are a good way to establish local views. Authorities may commission their own surveys or subscribe to the National Highways and Transportation Survey (NHT) (23).

3.3.10 The impact of localism may have an effect on delivery of the highway service in that decisions taken at local community level could easily give different priority to the works programme from that closely aligned to an asset management approach. This may create a tension as a reactive approach to repairs is not efficient asset management. The *Potholes Review* (4) recommends that *"local highway authorities should adopt the principle that 'prevention is better than cure' in determining the balance between structural, preventative and reactive maintenance activities in order to improve the resilience of the highway network and minimise the occurrence of potholes in the future"*.



HMEP Potholes Review, image courtesy of the Department for Transport

3.3.11 There is a need for local engagement mechanisms to ensure the asset management approach is understood and an appropriate balance between reactive repairs, preventative maintenance and structural repairs can be achieved. *Going the Distance* (3) recommends that *"Councillors and senior managers should publish and explain their approach to road maintenance to the public"*.

3.4 COMMUNICATIONS

3.4.1 Engaging with stakeholders to understand their needs and expectations provides the information needed to determine and review the service provided by highway infrastructure assets and hence the asset management activities. The highway network is often of significant interest to the public and the media. This interest is likely to continue with robust public expectations of how the network should function. In addition, weather conditions and possible resulting damage to the highway network often provide the focus for significant national and local media coverage.

3.4.2 The trend towards transparency in the public sector is resulting in increased availability of a wide range of information in the public domain. Authorities should provide clarity and transparency in how they make decisions in the identification, assessment, programming and delivery of asset management activities, including maintenance works, and how the public are involved in making decisions for the service provided by the network.

CASE STUDY – NATIONAL HIGHWAYS & TRANSPORT PUBLIC OPINION SURVEY

STAKEHOLDER PERCEPTION

The NHT survey is a collaborative venture by a significant number of local highway authorities to give residents the chance to comment on highways and transport services provided by their authority. It is governed by a local highway authority steering group and the same questionnaire is used across all authorities so that comparisons can be made. The survey analysis enables benchmarking, trending, mapping and overlaying of data from national down to local ward level.

Survey results are publicly available on the survey website and provide transparency. Authorities can use the feedback to manage and improve local services. Repeatability of the survey allows authorities to monitor, with some accuracy, the impact of service improvement activity on different aspects, as well as on the service overall. Results are gathered under the themes of: Accessibility, Public Transport, Walking and Cycling, Tackling Congestion, Road Safety, Highways Maintenance & Enforcement.

The opportunity to learn from other authorities is considerable. There are also efficiency savings as bespoke surveys tend to be expensive. A survey similar to the NHT providing the same level of detailed response could easily cost around 100% more if carried out as a 'one-off'.

The NHT is committed to adding value and context to the NHT Survey data and there is a continuous process of research and development. The capacity for this work is provided by a nominal Research & Development element in the survey subscription and through government grants which the NHT has secured separately. This, for example, has successfully resulted in the mapping functionality and more lately in the Cost/Quality/Customer (CQC) comparison work. The latter is assisting the national Highway Maintenance Efficiency Programme (HMEP). Once these additional features have been developed, they are provided to NHT Survey participants at no extra charge. Non participating authorities can also access NHT information, including CQC comparisons, for their own authority, but data on the 'customer' element requires participation in the NHT Survey.

3.4.3 Providing good quality information to stakeholders on what can be expected from the asset management approach is an important aspect of service to the public. A clear and effective approach to communications within the Asset Management Framework can be an excellent means of providing information and responding to challenges relating to programmes of maintenance works and value for money. It also assists with the often high volume of public requests, reports from multiple sources, and media interest in highway maintenance. Both the *Potholes Review* (4) and *Scotland's National Road Maintenance Review* (9) recognise the importance of communications and make recommendations in this regard.

3.4.4 Highway defects can be a major area of requests for service, complaints or claims to an authority. Processes must therefore be in place to deal with these communications and provide high quality reporting and feedback. It should be made easy for the public to make a report and track progress. Many authorities have sophisticated customer relationship management systems and some provide reports on maps and email alerts on the progress of repairs. Asset management systems, described in Section 14, provide support for these communications.

3.4.5 A Communications Strategy is a way of describing how the asset management approach is actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance. The *Potholes Review* (4) includes a template for a communication strategy that may be adopted by authorities for this purpose. Further advice on communications is included in *Well-maintained Highways* (10).

RECOMMENDATION 2

COMMUNICATIONS

Relevant information associated with asset management should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance.

3.5 CRITICAL INFRASTRUCTURE

3.5.1 Critical highway infrastructure is considered to be those assets where failure would result in significant impact to the local, and potentially the national, economy. Critical infrastructure assets form a crucial part of the highway network and may include assets such as major bridges and tunnels. There are many potential risks and threats to the function of critical infrastructure, such as climate change, including impacts from flooding, rising temperature, changing sea levels, high winds and drought.

3.5.2 Where authorities have identified critical assets, their management should form part of the asset management approach. Adequate management of critical assets, including appropriate investment, is important if the assets are to be sufficiently resilient to cope with potential threats. In managing risk to critical infrastructure, one of the bigger issues is identification of factors that will influence non-performance and of the impact of failure. Further advice on risk management in general is included in Section 13.

Critical infrastructure, image courtesy of Atkins

3.6 HIGHWAY INFRASTRUCTURE ASSET PERFORMANCE

3.6.1 The performance of the highway infrastructure is one of the considerations in asset management.

3.6.2 Asset condition is a key parameter of performance. Condition data can be collected and used in conjunction with stakeholder information. This helps to determine desired performance and support solutions and programmes of work. The right investment decisions are unlikely to be made without this information. It has been recognised for some time that the condition of local highways has been and continues to be below the desirable level. Asset management provides the means to relate current performance to that required at local level.

3.6.3 Historically, condition of carriageways and footways has been reported through various national indicators. In some cases, these have been linked to funding allocations. Condition data collected for national reporting is also used for asset management purposes. Although concentrating on the more important sections of the highway and footway networks, the data provides valuable information that can be used to support planning and decision making. Many authorities have developed mechanisms beyond national requirements to measure and report locally on the condition of various highway assets.

CASE STUDY – CUMBRIA COUNTY COUNCIL

CRITICAL INFRASTRUCTURE

Following the November 2009 floods in Cumbria, several bridges were washed away or deemed unsafe, and large sections of the highway network were damaged. The impact of the floods was felt across the county as it prevented the movement of people, particularly in the town of Workington in which loss of two road crossings and a footbridge over the River Derwent severed the local community. This had an impact on everyday life as well as on business and commerce.

Following the floods, the only remaining link across the River Derwent in Workington was a rail bridge and as a result the Army were called upon to erect a temporary footbridge to reconnect the community, supplemented by additional bus services to connect the two ends of the temporary bridge. In addition, a new train station had to be constructed to enable train services to be provided to link the two halves of the town, thus providing access to employment, facilities and schools. The nearest usable crossing was some 8 miles away, involving a 24 mile diversion route with considerable traffic congestion and delays of up to 3 hours.

These temporary arrangements created very significant additional transport costs through increased travel distances, journey time delays and driver frustration, and consequent safety concerns on this diversion route, particularly in peak hours. The cost of repairing the infrastructure within Cumbria is estimated to have been in excess of £25m and took over three years to complete. In addition to this, further costs to the local economy were incurred as a result of disruption to the movement of goods, access to commercial areas being obstructed, flood damage to business units and the temporary closure of the Port of Workington.

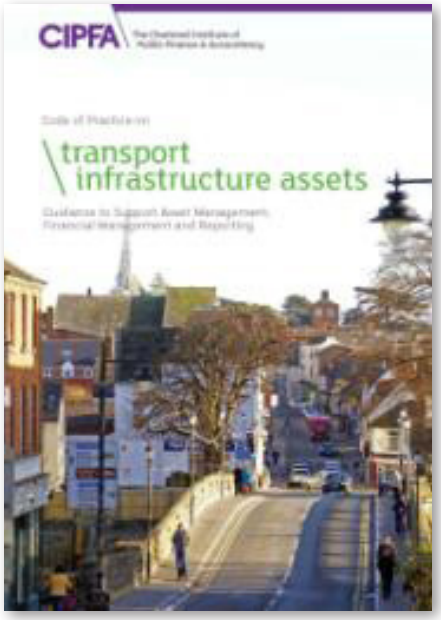
Cumbria has appointed a Resilience Manager who is now working towards identifying critical infrastructure with the aim of improving the resilience of transport infrastructure in the Council.

3.7 FINANCIAL REPORTING REQUIREMENTS

3.7.1 As part of Whole of Government Accounts (WGA), authorities are required to report the value of their assets, including transport assets, using standard accounting practices. For WGA purposes, authorities should calculate the value of highway assets using the approach described in the CIPFA *Code of Practice on Transport Infrastructure Assets* (24), which provides advice on financial management and reporting based on asset management principles, in line with WGA requirements. The Code requires calculation of the Gross Replacement Cost and Depreciated Replacement Cost of the highway asset, i.e. the cost of replacement of the highway in its current condition. Trends in Depreciated Replacement Cost can illustrate whether resources are used effectively. For example, if an authority intends to maintain current condition, Depreciated Replacement Cost should not increase or decrease significantly over time.

3.7.2 Depreciated Replacement Cost is calculated based on Gross Replacement Cost, i.e. the cost of replacing the asset with its modern equivalent, less deductions for deterioration and impairment. Early implementation of the Code indicates that the combined value of the local authority highway assets in England, Scotland and Wales could be in excess of £400bn, excluding the value of highway land, which makes it the most valuable asset owned by local government. Availability of all asset values at corporate level in authorities may well influence investment strategies across services.

3.7.3 The strategic road authorities in the UK have slightly different approaches to calculating the value of their assets. Although the financial reporting standards are similar, the detailed approach to the calculation of Depreciated Replacement Cost varies slightly. The infrastructure valuation model and methodology is common to Highways Agency, Transport Scotland, the Welsh Assembly and to the Roads Service and has been subject to external audit by their national auditors.



Code of Practice on Transport Infrastructure Assets, image courtesy of CIPFA

3.7.4 While the Depreciated Replacement Cost approach based on the Code is required for WGA purposes, local authorities are currently, at time of publication, still required to report highway asset values in their own accounts on an 'historic cost' basis. The historic cost approach produces a significantly lower value than the Depreciated Replacement Cost -based approach. In late 2012, CIPFA-LASAAC (Local Authority (Scotland) Accounts Advisory Committee), the board responsible for setting and maintaining the Code of Practice for Local Authority Accounting in the UK (25), consulted on a proposed change to bring local authority accounts into line with WGA by using the same methodology. A decision on whether or not this is to proceed and, if so, on what timetable, is expected during 2013.

4. AN ASSET MANAGEMENT APPROACH FOR HIGHWAY INFRASTRUCTURE

4.1 INTERPRETATION OF ASSET MANAGEMENT

4.1.1 Asset management can be defined in a number of ways either in general or applicable to specific infrastructure. Definitions are included in Appendix C of this Guidance. An interpretation of asset management for highway infrastructure may be based on consideration of the following:

- A strategic approach over the long term;
- Meeting stakeholders' needs;
- A systematic approach;
- Optimal allocation of resources;
- Managing expenditure over the asset lifecycle;
- Meeting performance requirements in the most efficient way;
- Managing risk; and
- Operational delivery.

4.1.2 Adopting an interpretation of asset management may be useful for authorities to aid understanding and help articulate its importance to senior decision makers. This Guidance offers an interpretation of asset management for highway infrastructure as:

"A systematic approach to meeting the strategic need for the management and maintenance of highway infrastructure assets through long term planning and optimal allocation of resources in order to manage risk and meet the performance requirements of the authority in the most efficient and sustainable manner".

4.2 IMPORTANCE OF ASSET MANAGEMENT

4.2.1 Asset management has been widely accepted by central and local government as a means to deliver a more efficient and effective approach to management of the highway infrastructure assets through longer term planning. Such an approach enables more efficient and effective use of resources, while fulfilling legal obligations, delivering stakeholder needs and safeguarding the engineering integrity of the network.

4.2.2 When considering the performance requirements of the asset, stakeholder needs should be taken into account, together with asset condition and business needs, including budgets.

4.2.3 There is a continuous drive to deliver services more efficiently. This can mean delivering services in the same way at lower cost, but increasingly, delivering services in a different way to achieve the same or better outcomes. CIPFA has estimated that full implementation of asset management for highways may achieve a 5 % saving over the long term (26). *Asset management - Whole life management of physical assets* (27) reports that sectors have reported savings of 5 to 15%.

4.2.4 Significant challenges facing authorities have reinforced the view that a systematic process is needed to manage the highway asset. These include:

- Increasing public expectations for accessibility and availability of the highway network and for reliability of journey times;
- Increasing scrutiny, transparency, accountability and media exposure in delivering legal requirements, meeting stakeholder expectations and maintaining the engineering integrity of the network;
- Managing the impact of traffic growth;
- Severe financial constraints and clear messages of "more for less", "sweating the asset" and "make the most of what you have" that create a culture for making best use of existing assets;
- A move away from new highway infrastructure, and making better use of an ageing network that may require significant investment to extend its useful life;
- Removal of ring fencing of government funding leading to competition between local authority services; and
- Skill shortages.

4.2.5 Adopting asset management provides a means to face these and similar challenges through the development of a systematic approach that aims to deliver the most efficient and effective approach over the long term. Adoption is more than the ability to respond to budget and other challenges, it is the whole systematic approach to meeting the strategic need for the management and maintenance of highway infrastructure that is of value. The approach needs to be developed through knowledge and understanding of the network gained from information and data and is enabled through the use of appropriate tools including asset management systems.

4.3 GOOD PRACTICE IN ASSET MANAGEMENT ACROSS SECTORS

4.3.1 Asset management is a well established approached in many sectors. Both our society and economy are underpinned by infrastructure assets, including water supply, waste disposal, energy, telecommunications as well as transport. This infrastructure is vital in modern society and requires significant investment for development and maintenance. Infrastructure asset management is playing an increased role in all these sectors, as it has been proven to support accountability, lead to sustainable decisions, enhance customer service, manage risk and provide financial savings.

4.3.2 It is established good practice in business for organisations to develop, deliver and monitor strategies and plans for all services they deliver. This applies equally to those who own and manage highway infrastructure assets.

Thames Barrier, image courtesy of Atkins

4.3.3 Good practice outside the highways sector demonstrates that the development of an asset management approach within asset owning organisations may be documented in a variety of ways. PAS 55 (6) sets out an approach to documenting asset management which describes asset management as a management system for business, embedded alongside the quality, management and environmental that systems may be already adopted. All these management systems require a policy endorsed by a senior decision maker and are visible to the organisation, setting out the principles that will be adopted for the organisation to meet its requirements.

4.3.4 The draft ISO 55000 (19) sets out the requirements related to asset management, including a requirement to establish levels of service and document through asset management plans.

5. ORGANISATION AND MANAGEMENT CONTEXT

5.1 RESPONSIBILITY FOR THE HIGHWAY NETWORK

5.1.1 In England the strategic network outside London is the responsibility of the Highways Agency, an executive agency of the DfT, accountable to the Secretary of State for Transport. Within London, Transport for London, a functional body of the Greater London Authority, is accountable to the Mayor of London. In Scotland the strategic network is the responsibility of Transport Scotland, an agency of the Scottish Government, and in Wales the Transport Directorate of the Welsh Government. In Northern Ireland, both strategic and local roads are the responsibility of the Roads Service, a business unit of the Department for Regional Development of the Northern Ireland Executive.

5.1.2 Local highways, the vast majority of the network, are the responsibility of local highway authorities, which are usually part of County Councils, City Councils, Metropolitan Borough Councils, Unitary Councils and London Boroughs. Authorities manage the highway asset through their Corporate Plans, Local Transport Plans and equivalents.

5.1.3 Local authorities have wide ranging duties, powers and responsibilities, which can include significant services such as strategic and local planning, economic development, adult social services, children's services, education, transport, highways, housing, cleansing, libraries, trading standards, leisure, waste collection and waste disposal. Authorities are also responsible for a range of infrastructure assets, including buildings, highways, parks and some transport facilities.

5.1.4 Councillors are democratically elected to become Members of the Council of a local authority. Their role is to represent the electorate in making decisions about how the area is governed within the responsibilities of the authority. Major decisions, such as setting the annual budget and some key policy plans are made by the full Council. Other decisions are often made by the Executive Committee of the Council, which comprises the Leader and a number of other senior councillors, or by individual Executive members in some circumstances. In addition, Councils usually have a number of committees that make decisions about matters such as planning.

5.1.5 Councils are likely to have one or more Overview and Scrutiny Committees whose role is to hold decision makers to account and to undertake policy and performance reviews. Some Councils also have arrangements such as Area Panels to facilitate discussions on local issues. Some Councils have directly elected Mayors who have similar powers to the Leader and Executive Committee. The Mayor of London has a strategic regional role, which is quite different to other directly elected Mayors.

5.1.6 Advice to elected members on policy formulation, implementing policy and delivering the day-to-day business of the authority is carried out by the officers of the Council. Officers are non political officials responsible to the head of paid service.

5.2 CORPORATE VISION

5.2.1 Authorities usually develop a corporate vision, which is used to guide their actions over the long term. The vision is often expressed as a short, high level statement outlining in simple terms how the authority would like to see the locality and its people develop and the type of organisation it wishes to be. Vision statements are usually long term. The vision is used to develop corporate policies and objectives, some of which may be directly or indirectly relevant to asset management.

5.3 LEGAL CONSTRAINTS

5.3.1 There are a number of legal requirements on authorities around maintaining a safe network as described in *Well-maintained Highways* (10). Authorities also have a range of powers which they may choose to exercise in various circumstances.

5.3.2 Elected members, officers, service providers and others involved in asset management need to understand the extent, nature and policies relating to the authority's legal obligations and risks in managing the highway network. They also need to appreciate the distinction between duties and powers, and how they relate to their particular responsibilities.

5.3.3 In England and Wales, *the Highways Act 1980* (28) sets out the main statutory duties of highway authorities. This includes a duty to maintain highways maintainable at public expense in a safe condition. There is also a duty under the *Traffic Management Act 2004* (29) to secure the expeditious movement of traffic on the authority's road network. In Northern Ireland the main duties are set out in the Roads (Northern Ireland) Order 1993 (30), and in Scotland in the *Roads Act (Scotland) 1984* (31).

5.3.4 There is also a range of wider applicable legislation, such as Health and Safety, Roads and Streetworks, Environmental Protection, Disability Discrimination, Wildlife and Countryside, Freedom of Information, Human Rights, Civil Contingencies and general local government legislation.

5.4 WIDER INFLUENCES

5.4.1 There are some inherent issues that influence the way local authorities implement asset management that may differ from some other asset owning organisations, such as utilities which operate in a regulated sector. Examples include:

- The political system, where policies may change as elected national or local administrations change, may affect the ability to take a long term view;
- Statutory obligations which must be met alongside stakeholder needs and other requirements of the highway network;
- Funding, where a substantial proportion is provided by central government through revenue and capital allocations, and where there is generally no requirement for the funding to be spent on any particular service; and
- Users, where the highway service is for the whole community and mostly paid for through taxation. Expectations for the quality of the service are often high.

5.4.2 Adoption of the principles of asset management supports authorities in managing their highway infrastructure assets, taking into account the context and delivering in the most effective and efficient way.

5.5 FINANCIAL CONSTRAINTS

5.5.1 The highway service is managed and delivered within financial constraints. Local government funding is complex and it is not the purpose of this Guidance to review it in detail, but an outline is given below.

5.5.2 Asset creation is the starting point for asset management. Funding new build can be complex, but it is again not the purpose of this Guidance to detail funding of this nature. Regardless of how new build is developed, operational costs and the future cost of maintenance should be considered through adopting asset management principles. Designing for future maintenance should be a key part of this process.

CASE STUDY – BLACKPOOL COUNCIL

SECURING CAPITAL FUNDING

Blackpool's total maintenance funding before 2010 (capital and revenue) was insufficient to arrest deterioration of the network. Much of this funding was spent on routine maintenance, including pothole repairs, whilst insufficient investment was available for preventative maintenance treatments. To improve the condition of the network to meet the standards required by stakeholders, a more effective approach was required.

Development of a recovery programme provided the data required to support a business case for Prudential Borrowing. The business case was based on asset management principles supported by specifically developed asset management tools. Key aspects of the business case that Blackpool was able to substantiate included:

- Demonstration that at the current rate of network deterioration and investment it would take 25 years to recover the network to an acceptable standard of condition; and
- An upfront capital investment of £30m over the next five years that would bring the network to the required standard and subsequently reduce the amount of revenue required for routine maintenance of the network, creating a long term saving of £100 million.

The approach was successful in obtaining an additional £30 million through Prudential Borrowing. The additional funding enabled Blackpool to develop levels of service that met the needs of stakeholders, including elected members and the public. A deterioration model is used at both network and section levels to inform a preventative maintenance approach that will sustain network condition over the remaining life of the borrowing term. This ensures that the highway maintenance budgets used for this purpose are ring-fenced for the next 25 years.

5.5.3 Highway maintenance is funded from several sources. Day to day and routine maintenance is supported by revenue funding, which comprises funds provided by Government, from council tax, and additional funds raised locally. Preventative and structural maintenance, which enhance the value of the asset, are often funded based on capital allocations from Government and local sources of capital. Government allocations are not 'ring fenced' for the purpose and the amount of funding spent on highways is determined locally. Other capital funding mechanisms include use of local capital receipts, Prudential Borrowing and Private Finance Initiative (PFI) grants. Further information is provided in the ADEPT report (32).

5.5.4 Authorities generally determine revenue and capital budgets annually. Some are beginning to look at longer periods to generate budget stability, but guaranteed spend is usually only available year on year. Some set capital budgets for two years or more, with indicative budgets for two to three years thereafter, but retain an annual review.

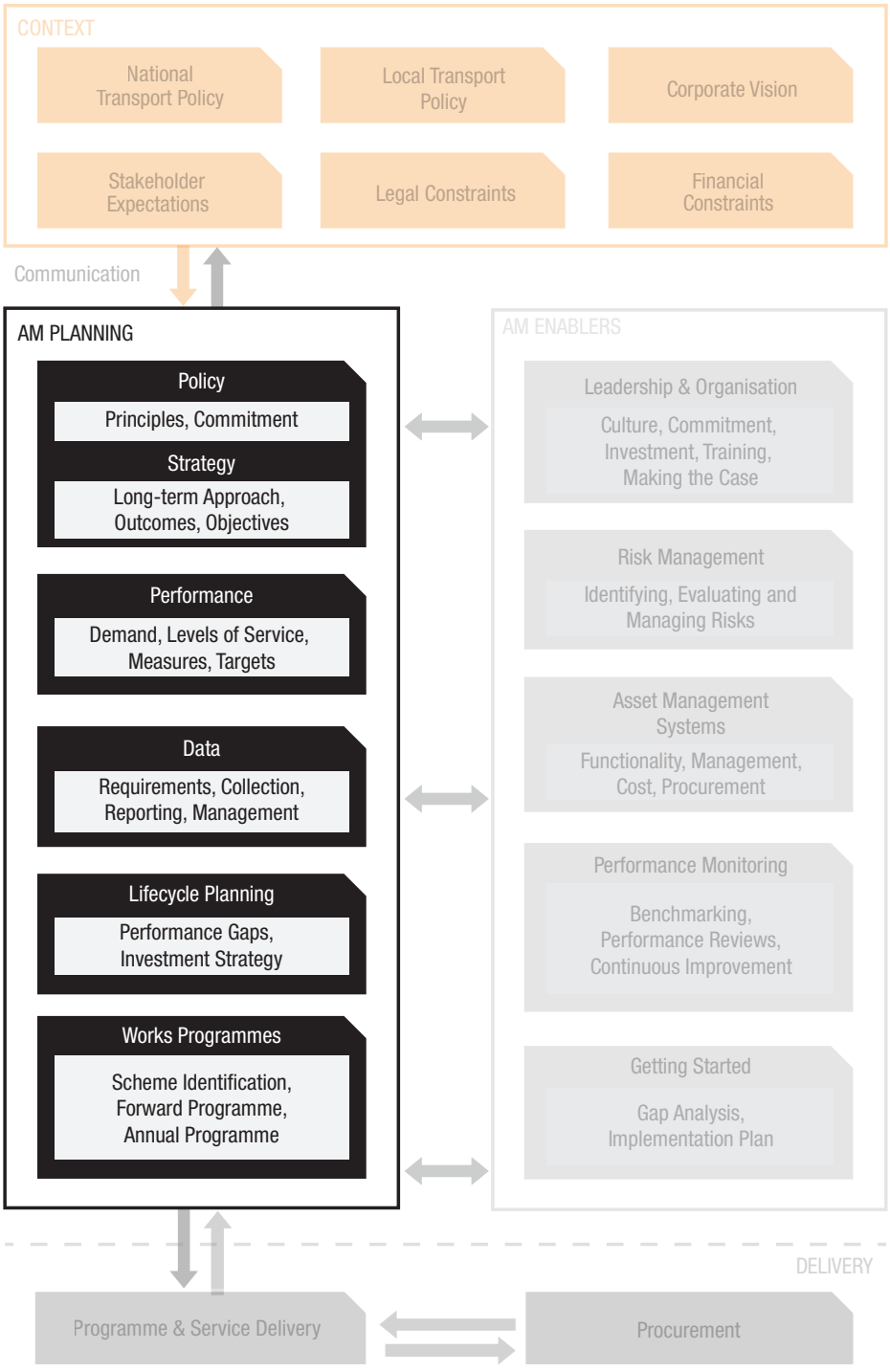
5.5.5 Maintenance activities funded from capital budgets are most effectively planned where there is reasonable certainty regarding the availability of longer term investment. This enables investment strategies to be developed to maximise longer term savings, while enabling the same level of performance, leading to greater long term efficiencies. It will also provide confidence to local communities on works planned for future years. Authorities may use this information to support their financial plans, as discussed in Section 11.

Potholes, image courtesy of David Mazurke

5.5.6 Adopting an asset management approach supports longer term commitment of budgets. It allows authorities to estimate the funding required to deliver the required level of service and provides the tools and processes to ensure efficient and effective use of available resources.

5.5.7 If additional funds are required to deliver asset management, a robust case should be made based on asset management principles. This can include demonstration of the long term benefits of providing an injection of funds to improve the condition of the highway network. Depending on the form of borrowing, costs need to be repaid over time.

PART B – ASSET MANAGEMENT PLANNING



Part B describes the key activities for asset management planning and gives advice on how these may be applied for highway infrastructure asset management. It describes the development and contents of asset management policy and strategy, explains the concept of a performance management framework, summarises issues related to asset data, provides information on lifecycle planning and work programming and covers the need for documenting asset management activities.

6. ASSET MANAGEMENT POLICY AND STRATEGY

6.1 OBJECTIVES OF AN ASSET MANAGEMENT POLICY AND STRATEGY

- Demonstrate the commitment to adopting the principles of highway infrastructure asset management by senior decision makers.
- Document the principles, concepts and approach adopted in delivering highway infrastructure asset management at a high level.
- Link with the local authority's policies and strategic objectives and demonstrate the contribution of the highway service in meeting these.
- Set out the desired levels of service from implementing asset management.
- Facilitate communication with stakeholders of the approach adopted to managing highway infrastructure assets.

6.2 ASSET MANAGEMENT POLICY

The asset management policy is a short and concise document that describes the principles adopted in applying asset management to achieve the authority's strategic objectives.

6.2.1 The asset management policy describes the authority's commitment to highway infrastructure asset management. It should be endorsed by senior decision makers, including elected members and be visible to all staff involved in related activities.

6.2.2 The asset management policy aims to demonstrate to the public and all stakeholders, including senior decision makers, elected members, practitioners and service providers, how it supports the authority's corporate policies. It provides a visible commitment to achieving the benefits that can be delivered through asset management and should be established at the highest level within the authority. Ideally, it is a one or two page, stand-alone document that is readily accessible.

6.2.3 In practice an authority may have a number of detailed statements, sometimes called policies that are related to the management of its assets; for example, highway inspection policy. The asset management policy should be a broad statement of intent that provides direction to other policies and practices related to asset management.

6.2.4 The asset management policy should be developed through reviewing and assessing corporate and all other relevant policies, and reflecting how these apply to the highway infrastructure. The asset management policy should be consistent with, and not contradict, the authority's vision, strategic objectives/plans and other relevant policies. It can be developed to cover all highway infrastructure assets, should be written in clear and concise language and may include:

- Adherence to relevant statutory requirements;
- Commitment to satisfy relevant strategic policies, objectives and plans;
- The context within which levels of service are set;
- Commitment to continuous improvement of the approach to asset management; and
- The asset management principles adopted, for example: risk based, whole life value, sustainable, customer focused, socially inclusive and integrated.

6.2.5 The use of facilitated workshops may be one way in which the policy may be developed. It should be realistic and achievable – it can be undermined if it is too far reaching and overly optimistic. The policy should be communicated and made available to the public and all staff. Appendix D includes an example of an asset management policy.

6.3 ASSET MANAGEMENT STRATEGY

The asset management strategy should be a clear and concise high level document setting out how highway infrastructure asset management is delivered for the authority to meet its long term corporate goals and objectives.

6.3.1 The asset management strategy sets out how the long term objectives for managing the highway infrastructure asset are met, including statutory obligations, stakeholder needs and the overall performance of highway infrastructure, within the context of any constraints, such as funding. The implementation of the asset management policy and how it is achieved should be described in the asset management strategy, along with an explanation on how the principles of asset management are to be adopted to achieve the authority's long term goals and objectives.

6.3.2 The strategy sets a clear direction for implementation of asset management and provides a link with other relevant documents, such as corporate objectives, business planning, risk management and transport objectives. It provides the basis for the authority to adopt asset management principles to achieve greater efficiency and value for money and describes the benefits that this brings to economic prosperity and the wider community. It sets out the benefits of investing in the highway infrastructure on a comparable basis to other infrastructure services the authority funds. The strategy also sets out how asset management activities are implemented, measured and continuously improved.

Highway infrastructure in the community, image courtesy of Atkins

6.3.3 In preparing its strategy, the authority should undertake a thorough review of its key documents and plans and identify key statements and objectives such as transport and risk management. As a consequence of any reviews, including the Management Review, as described in Section 15, it may include actions supporting continuous improvement in asset management practices.

6.3.4 The strategy should cover a number of aspects regarding the planning, delivery and management of highway infrastructure assets and how these are delivered over the short, medium and long term. Typically, these may include:

- Relevant strategic plans and transport objectives;
- The high level outcomes required;
- Performance management, including levels of service;
- Stakeholder needs and how these are managed;
- Future demands in the management of the asset and how these contribute to meeting stakeholder expectations and needs;
- Meeting statutory obligations, including maintaining a safe network;
- Long term financial needs including its investment requirements and meeting WGA requirements;
- Implementation of the Asset Management Framework and how it is delivered;
- The process for making investment decisions and the priorities for funding;
- Identification of any critical assets and management of risk associated with those, as well as all other assets;
- The benefits and consequences to the local community through asset management and investment. For example, it may include contributions to maintaining or developing economic prosperity and how it meets local needs;
- Findings from any Management Reviews (Section 15) and the approach to continuous improvement, capturing lessons learnt and how practices will be improved; and
- Initiatives undertaken to improve any asset management activities.

6.3.5 The strategy should provide a clear public-facing message about the highway service. It may be helpful to test and review this with elected members, together, perhaps, with a small focus group of stakeholders.

6.3.6 The strategy should be prepared by the staff responsible for asset management and be endorsed by senior decision makers. Ideally, it should be a short (up to 10 to 20 pages) stand-alone document that is concise and available on the authority's website. The asset management strategy is a high level document that takes a long term view and will only need to be updated when there is a change in policy or approach, or to reflect improvement actions undertaken following the Management Review, as described in Section 15.

CASE STUDY – HAMPSHIRE COUNTY COUNCIL

ASSET MANAGEMENT STRATEGY

In order to facilitate engagement with senior decision makers in the Council, Hampshire's Asset Management Group has developed an Asset Management Policy that confirms the Council's commitment to highway asset management and links the maintenance functions to the Council's strategic priorities. The Policy is a one page document that has been approved by the relevant committee and is published on the Council's internal and external websites.

The Policy is supported by the Asset Management Strategy which sits within the wider Asset Management Framework and is one of the key strategic documents related to the delivery of the Council's highway service.

Hampshire's Asset Management Strategy sets out how its Asset Management Policy is to be achieved. In particular, it describes how Hampshire is working towards implementing an asset management approach to the management of the Council's highway infrastructure. It provides the framework for delivering its corporate priorities through effective, informed and defendable decision making.

In addition to the development of strategic documents and in order to embed and promote asset management practices, Hampshire has set up an organisational structure that reflects the importance asset management plays in the delivery of its highway services. A key function of the asset management process is to understand the spending needs of each asset group, component and activity against performance, aims and objectives. This means understanding funding needs to meet:

- LTP objectives;
- Delivery planning; and
- Performance targets.

Inherent to this process is a need to understand the influence of budget decisions on stakeholder satisfaction and delivery of the corporate priorities. Furthermore, the impact that investing in one asset component may have on the overall performance of other asset components, as well as the whole asset, is examined. To this end, a Needs Based Budgeting (NBB) approach has been developed and is being used.

The benefits to Hampshire of implementing the asset management strategy are:

- Encouraging engagement with the majority of stakeholders resulting in a better understanding of their aspirations;
- Being able to respond to unexpected changes to the network from resilience and finance challenges;
- Alignment with Corporate aims and objectives; with greater influence and better use of resources; and
- Improved delivery within budget constraints and better ways of doing things.

RECOMMENDATION 3

ASSET MANAGEMENT POLICY AND STRATEGY

An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision.

7. SETTING AND MEASURING PERFORMANCE

7.1 OBJECTIVES OF SETTING AND MEASURING PERFORMANCE

- Provide a systematic approach to measure progress in the implementation of asset management.
- Set levels of service and performance targets to enable auditing and monitoring of the delivery of the asset management strategy.
- Demonstrate how funding is being used effectively to meet the levels of service and performance targets.
- Provide the link between corporate vision, asset management strategy, levels of service and maintenance operations.
- Facilitate effective communications with stakeholders by demonstrating performance against their requirements.
- Demonstrate any shortfalls in funding.

7.2 INTRODUCTION

7.2.1 The asset management strategy sets out what the authority intends to do in order to manage its highway infrastructure assets. In developing the strategy, authorities should establish levels of service with their stakeholders. Performance measures and targets should also be set in order to determine whether these are being delivered. The process for establishing these is set out in this Section.

7.2.2 Current and future demand for the service and funding for its delivery are identified as part of the asset management planning process. It needs to be recognised, however, that the levels of funding required may not always be available. Where funding is limited, authorities should review their levels of service to confirm that they are affordable. In these cases, maintaining statutory requirements should be a priority. A link needs to be established from corporate objectives to levels of service, performance measures and targets, and the cost of delivering these needs to be determined.

7.3 FUTURE DEMAND

7.3.1 The future demand for highway infrastructure should relate to the future requirements of the authority across its corporate vision. The performance demands placed on highway infrastructure may change over time. This may arise through changing social and commercial patterns, additional network related to development, or as parts of the network are redeveloped through economic regeneration. As local communities grow there are also greater demands for housing, schools and other services which place pressure and demand on highway infrastructure assets. Environmental demands, such as those arising from climate change, may also put additional demands on highway infrastructure such as drainage.

7.3.2 Changes in the authority's aspirations may be reflected in changes to its transport policy and strategy (e.g. change of function, alternative transport, congestion charging, energy efficiencies or construction of a new bypass), which is also affected by changes in stakeholder expectations, or from external factors. Therefore, the future demand which is likely to be placed on the highway network should be incorporated in defining the levels of service. Alternative options for managing and regulating the demand, as opposed to improving the network, may also need to be explored. Examples may include introducing weight restrictions for bridges or switching off street lighting.

7.3.3 It is probable that some demand predictions may not materialise due to socio-economic and political changes. Potential changes should be monitored and when appropriate, included in future revisions of the asset performance targets. This is discussed in Section 15.

7.4 LEVELS OF SERVICE

Levels of service are broad statements that describe the performance of highway infrastructure assets in terms that stakeholders can understand. They should relate to outcomes and cover key aspects of asset performance such as safety, serviceability and sustainability. They should consider the performance of the whole network rather than that of individual assets.

7.4.1 It should be noted that the term "asset management objectives" is used in some asset management guidance documents to describe the same broad statements. In this Guidance, the terms "levels of service" is adopted.

7.4.2 The *International Infrastructure Management Manual (33)* describes levels of service as the key business driver that influences all asset management decisions. All stakeholders need to be made aware of the performance of the highway infrastructure asset. Senior decision makers need to be informed that the authority's corporate vision and objectives are being delivered, the quality to which they are being delivered and the contribution of the highway service in delivering them. Measures of engineering performance, such as condition indicators and the quantum of assets that comprise the network can be used to support the levels of service.

7.4.3 Levels of service should be developed as part of the asset management strategy.

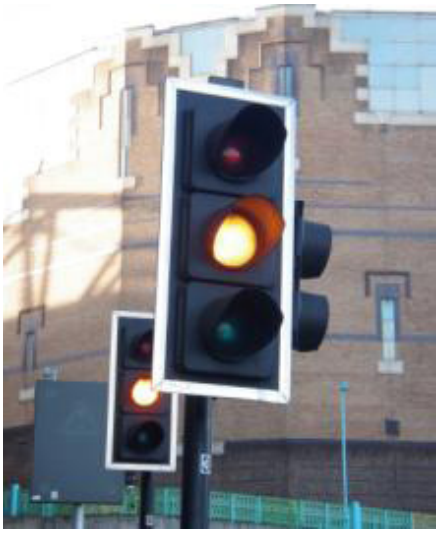
Developing Levels of Service

7.4.4 In developing levels of service, understanding the context of corporate vision, objectives and transport priorities is the starting point. Levels of service should be developed using broad statements or themes that demonstrate the relationship between higher level corporate objectives and any stakeholder requirements for delivery of the service.

7.4.5 Each level of service should be supported by a framework of performance measures. This will enable both individual aspects of performance to be measured as well as the overall level of service. Typically, performance measures may include both engineering and non-engineering considerations.

7.4.6 Examples of broad statements describing levels of service might be:

- "To ensure that our road users feel safe and are confident about their personal safety when using the highway."
- "To provide our road users with a reasonable level of confidence that their journeys on the highway will be predictable and timely."
- "To ensure that the highway network is available and accessible, as far as possible."
- "To progressively reduce the environmental impact of the highway asset for the benefit of all our road users."



Traffic signals, image courtesy of Atkins

7.4.7 Information from stakeholder experience can be used to develop the levels of service. Many authorities conduct regular opinion surveys to identify the experience of the public and what is most important to them, and to determine those areas where further improvements can be made. Public opinion surveys may be developed locally or as part of a wider national initiative such as the NHT survey (23) (Section 3). These surveys provide important information to help identify what levels of service can be developed to support delivery of stakeholders' expectations.

7.4.8 Each authority needs to determine its own levels of service. There are many common aspects which can be considered and may include:

- **Safety** – Providing a safe highway network is a statutory requirement for highway authorities. It is essential, therefore, that the approach to asset management makes a positive contribution towards a safe network;
- **Serviceability** – The performance of each asset in the highway contributes to meeting stakeholder expectations;
- **Sustainability** – The environmental contribution of the highway infrastructure and associated maintenance activity. This may include activities that reduce carbon usage and noise pollution, such as reuse of materials, recycling and low noise surfacing;
- **Accessibility** – Aspects that contribute towards reducing congestion and improving journey time reliability, as well as provide access to isolated communities and the vulnerable; and
- **Financial performance** – Aspects associated with service delivery, choice of materials, third party funding and delivering value for money.

7.4.9 Levels of service can be developed through:

- **Workshops** – This is an effective way of understanding stakeholder expectations and communicating the meaning of operational measures to stakeholders. Typically, elected members and senior decision makers should attend such events;
- **Focus Groups** – Groups of interested individuals can be useful in understanding the views of certain groups of highway users;
- **Public Opinion Surveys** – Surveys using photographs of different assets with descriptions such as good/fair/poor, can be used to understand the public's interpretation of the condition of assets. Such surveys could include questioning on desirable standards of maintenance and associated costs. This will provide information on the levels of service the public are willing to pay for and accept. Surveys should be carried out at least every 5 years, ideally aligning to budget cycles; and
- **Collaborative Working** – Working with other similar or neighbouring authorities, sharing understanding and lessons learnt.

Public consultation, image courtesy of Atkins

7.4.10 *Going the Distance* (3) supports this approach and recommends that the Executive and senior managers should set the service standards for elements of the highway infrastructure asset, such as the road condition and response times to fix defects, at levels the authority can afford. Authorities may use levels of service to demonstrate the quality of the highway infrastructure service it proposes to deliver for the budgets available.

7.4.11 Where budgets are not sufficient to deliver the desired level of service, the approach described may be used to demonstrate the implications on the performance of the highway infrastructure asset.

7.5 PERFORMANCE MEASURES

7.5.1 Levels of service are expressed in a qualitative way which stakeholders, including the public, can understand and do not comprise the performance measures themselves.

> Performance measures are used to monitor whether authorities are meeting the levels of service and to report the actual performance. They may be technical and non-technical and are usually numbers or scores that have meaning to relevant staff.

7.5.2 Authorities need performance measures to monitor, record and report delivery of the highway service, the asset management strategy, levels of service and their overall approach to asset management. Performance measures need to be monitored, audited and communicated on a periodic basis. An authority may choose to adopt a range of performance measures, including nationally recognised indicators and their own performance indicators. Each performance measure should link to a level of service, and through this, to the asset management strategy, corporate vision and objectives.

7.5.3 Performance measures may be used at the following levels:

- **Strategic** – To report on annual performance through a publicly available document. This provides a snapshot of overall performance, generally for stakeholder consumption;
- **Tactical** – To provide regular management information to senior decision makers and asset managers to inform decision making, particularly in terms of investment; and
- **Operational** – To provide information on operational aspects of the service, such as the speed of repairs. This may include the performance of service providers undertaking maintenance activities.

Development of Performance Measures

7.5.4 Performance measures should be selected or developed by those responsible for asset management with the support of senior decisions makers, who should formally approve them, if appropriate.

7.5.5 There are four types of performance measures that may be considered;

- **Input** – Demonstrates the amount of resources needed to complete activities and includes staff, labour and material costs and other relevant financial information. This type of measure does not necessarily demonstrate the performance of the service or whether the overall strategy is met;
- **Output** – Typically measures completed activities, such as the area of surface dressing per year. This type of measure provides information on the activities completed against a programme of works, but does not provide information on whether the level of activity met the overall strategy, whether it met any of the performance requirements, or if it delivered value for money;
- **Outcome** – Describes the results of activities provided and may include measures such as public satisfaction and the condition of various assets. These measures can be used to demonstrate the link between the asset management strategy and service delivery most effectively; and

- **Efficiency** – Reflects the input cost per activity or for the total service. It could be used to support investment decisions.

7.5.6 Authorities may choose a combination of these types of performance measures. They may also choose performance measures that are non engineering, for example based on results from public opinion surveys combined with others based on engineering measurements.

7.5.7 In developing each performance measure, a number of aspects should be considered:

- Is it meaningful?
- Does it demonstrate that the strategy is being delivered?
- Is reliable data available?
- Is it simple to understand?
- Can the data be compared over time?
- Is it comparable with other authorities?
- Is the measure useful to others?
- Is it already being measured?
- Is it, or something similar, already being measured by others?
- Can the cost of data collection for the measure be justified?

7.5.8 In selecting the performance measures it is important that their future management is considered, including collection of the data and reporting. They should be focused on demonstrating key aspects of performance and not be excessive in number.

7.5.9 The performance measures selected should be those that are most effective in supporting the asset management strategy. When the relevance of performance measure has been determined in principle, a SMART approach may be used to develop the actual performance measures themselves. The approach is summarised below:

- **Specific** – the measure should be specific, clear and unambiguous, explaining clearly what is expected;
- **Measurable** – there must be a simple method for measuring it;
- **Attainable** – the measure must be realistic and there needs to be a clear action plan of how it can be achieved;
- **Relevant** – must be important in achieving the asset management objective; and
- **Time-bound** – must be measured in a timeframe.

7.5.10 For each level of service, a number of performance measures may be chosen which can be combined to give an overall performance. In doing so, performance measures may be weighted to emphasise their importance and contribution to the level of service.

Data and Other Information to Support Performance Measures

7.5.11 Typical sources of data and other information to support performance measures may include:

- Public opinion surveys, letters, emails and calls;
- Business reporting;
- Operational reporting;
- Existing inventory data;

- Performance data (including condition); and
- Financial reporting.

7.5.12 One of the considerations in developing performance measures is to maximise the use of existing data and minimise the need for collection of additional data. Most authorities have relevant performance measures in place to a varying extent. Typically, these include national reporting requirements, internal management information and key performance indicators to measure performance of their service provider. Typical performance measures often include condition of carriageways and footways, response times, energy consumption and customer complaints.

7.5.13 Authorities should consider reviewing their existing performance measures and, if appropriate, adopt these measures rather than develop new ones. Where possible, recognised performance measures with documented approaches to their measurement or procedures should be used since they are auditable and repeatable.

7.5.14 New data and information may be required to support the development of performance measures. Collecting new types of data should be identified as part of the authority's overall approach to data management, as described in Section 8.

7.6 PERFORMANCE TARGETS

Performance targets describe the performance that needs to be achieved. They should be set by staff responsible for asset management, agreed with senior decision makers and be affordable.

7.6.1 Each performance measure should have a performance target associated with it over a period of time, typically up to five years. The targets should be easily recognisable and understood by senior decision makers and/or the asset manager depending on whether they are strategic, tactical or operational.

7.6.2 In developing performance targets, consideration should be given to past and current performance, what is achievable and at what cost in the short, medium and long term. When the performance targets have been developed, they can be used to illustrate current against the desired performance. Any gap between the two informs the programme of actions and works necessary to meet the asset management strategy. As an example, whether the network condition remains in a steady state, improves or declines in a specific way will probably be a consideration in developing performance targets.

7.6.3 The process needs to be iterative in determining the best combination of targets against what is affordable. It is important to capture the lessons learnt from any performance below the desired level and include these in any revision of performance measures and targets. This should be part of the approach to performance monitoring described in Section 15.

7.6.4 Performance targets should be agreed with senior decision makers in the authority and if appropriate, be formally endorsed, approved, published and reviewed. Targets with implications for cost, other resources and statutory obligations will be of particular importance.

CASE STUDY – NORTHUMBERLAND COUNTY COUNCIL

PERFORMANCE MEASUREMENT

The Policy and Strategy document of the Northumberland Transport Asset Management Plan sets out the approach to performance measurement in ways that are meaningful to the public. Instead of simply measuring what is done, the Council has transformed its systems and now gathers data and reports in a new way.

A suite of performance measures based on the themes of Network Safety, Serviceability, Sustainability and Customer Service are used to communicate the state of the asset and the Council's performance. Each theme is measured at high level as: poor – does not meet minimum standards, fair – meets minimum standards, good – exceeds minimum standards, excellent – exceeds minimum standards and refines service delivery to suit the need of the customer. Long term performance aims have been set for each theme.

Below each theme, and for each asset group, are detailed levels of service, defined as what the asset will do. There are also a series of service standards, defined as what the Council will do to ensure the asset can do what it is supposed to do. These were agreed by groups of elected members and are consistent across the network hierarchy, but may vary across the hierarchy in future.

Performance gaps are addressed by specific actions, including improving communications and public visibility of data, setting investment priorities for specific assets or parts of the network, focusing on preventative rather than reactive maintenance, focusing on long term demands over short term, and improving data.

Main benefits of the system are the ability to engage in informed dialogue with elected members and to have a non technical way of explaining issues to the public.

7.6.5 Authorities may also choose to vary performance targets according to asset hierarchy.

7.7 PERFORMANCE MANAGEMENT FRAMEWORK

The levels of service, performance measures and targets form the performance management framework.

7.7.1 Once performance measures are developed and linked with levels of service, the levels of service and individual measures can be banded and described in qualitative terms such as excellent / good / fair / poor. Alternative bandings can be adopted to align with the overall approach to performance management in the authority. This allows performance to be described in a way that is easily understood by all stakeholders.

7.7.2 It may be appropriate to use different weighting factors for each of the performance measures that contribute to a level of service. For example, condition of footways may have a greater weighting than condition of white lines. Weighting factors need to be developed and agreed in the same way as the performance targets.

7.7.3 The principles of a performance management framework are shown in Figure 3.

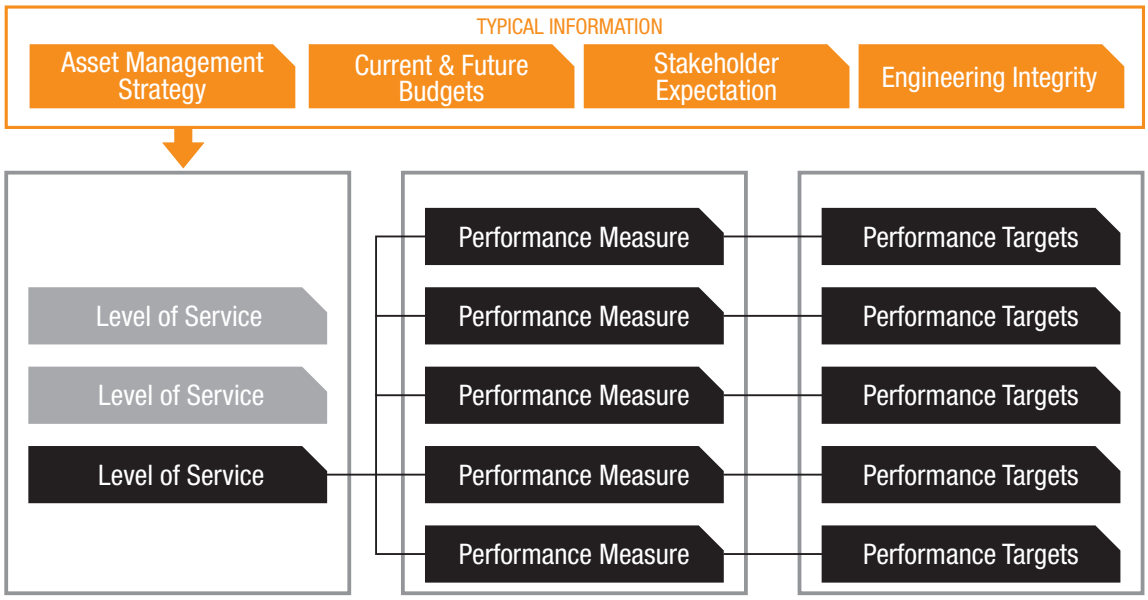


Figure 3 – Performance Management Framework

RECOMMENDATION 4

PERFORMANCE MANAGEMENT FRAMEWORK

A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy.

Communications

7.7.4 Authorities may develop an approach to communicating the levels of service to external and internal stakeholders. The overall approach to communication is discussed in Section 3. Relevant stakeholders include:

- **Public** – publication of levels of service sets a public commitment to deliver the levels of service;
- **Staff** – levels of service should be disseminated to all staff involved in the highway service; and
- **Service Providers** – service providers may be part of the delivery and performance regime and information on what they need to achieve and why they need to do it will be useful.

Recording the Approach to Measurement

7.7.5 The methodology used to collect data, calculate the performance measures and define the associated level of service should be fully documented for future reference.

Monitoring Regime

7.7.6 Authorities should monitor the performance of the asset against their performance targets to determine whether the authority is meeting its approach to asset management and if not, why not. The approach to developing an Improvement Plan is discussed in Section 15. Authorities may benefit from developing a collaborative approach with neighbouring or similar authorities so that lessons may be learnt and shared.

8. ASSET DATA

8.1 OBJECTIVES OF ASSET DATA

- Provide the data required to support the approach to asset management.
- Describe the asset and its performance.
- Provide the basis for informed decision making.
- Facilitate communications with stakeholders.
- Inform the assessment and management of risk.
- Support the management of statutory requirements.
- Support continuous improvement.

8.2 ASSET DATA

Asset data comprises information on what physical highway infrastructure assets an authority has responsibility for and includes number, location, performance, financial value and public opinion. Effective asset management planning and decision-making relies on this data being available, appropriate, reliable and accurate.

8.2.1 Asset data describes what highway infrastructure assets an authority has, where they are and how they perform. Data is used to support the overall requirements for asset management including:

- Defining network inventory and asset performance;
- Supporting statutory requirements;
- Making effective and informed decisions;
- Understanding the impact of decisions on the asset and the subsequent level of service and performance;
- Assessing and managing risk;
- Determining investment requirements;
- Assessing and reporting financial value; and
- Reporting performance.

8.2.2 Identifying data requirements, data collection, processing and reporting forms part of data management. Adopting a strategic and planned approach to the collection and management of asset data may provide cost savings and other benefits such as maximising the use of data.

8.2.3 Authorities typically hold the following types of asset data:

- **Inventory** – describes the full extent of an asset and can include location, type, size and construction. This will also support the calculation of Gross Replacement Cost;

- **Performance** –
  - o condition information related to aspects of performance, lifecycle planning, identifying programmes of work, and to financial requirements, such as calculation of the Depreciated Replacement Cost;
  - o public satisfaction, public enquiries, third party claims, traffic flows, accident records, maintenance history, energy consumption and environmental impact; and
- **Financial** – Supports budgets, financial planning, determining value for money in delivering overall performance and prioritising maintenance activities. It includes unit rates for asset management activities and data to support WGA requirements, including calculation of the Depreciated Replacement Cost and Gross Replacement Cost.

8.3 DATA REQUIREMENTS

8.3.1 It is a matter for each authority to determine their data requirements to support asset management. Much of the data required may already be collected as part of established practices, such as public opinion surveys, national data requirements, traffic surveys, road condition surveys, bridge inspections, street lighting maintenance work and WGA. It is a statutory requirement to hold a highway register known as the National Street Gazetteer and minimum data requirements for street lighting have been defined (34).

Data collection vehicle, image courtesy of Atkins

8.3.2 Asset data should at least provide information on the extent of the asset and its potential maintenance liabilities, as well as supporting any critical decisions that need to be made relating its management. Maintenance history may also be required when assessing performance and planning for future maintenance activities. Data requirements for lifecycle planning are discussed in Section 9.

8.3.3 The required accuracy, reliability and repeatability of data should be considered when determining the purpose of the data and how it is used as these factors are likely to affect the cost of collection. Sometimes coarse data from driven inspections may be sufficient, whilst for other purposes sophisticated techniques such as mobile mapping may be appropriate. For data to be effective, the level of accuracy and quantum required must be appropriate for the investment and risk associated with that asset.

8.3.4 An assessment of data requirements should consider:

- How the data supports the approach to asset management;
- Data quality, age, coverage and currency requirements;
- Potential opportunities to share or re-use existing data to reduce duplication in data collection;
- Historic data and its appropriateness for future use;
- Removal of redundant or out of date data;

- Statutory requirements;
- Cost of data collection and ongoing management, including any software and licences and IT infrastructure requirements;
- Lifecycle planning data; and
- Value of data and/or the risk of not collecting it.

8.3.5 A gap analysis may be used to identify what data currently exists and what additional data is required to support asset management. If this demonstrates that additional data is required, a case may need to be made to senior decision makers for additional funding.

8.3.6 In making the case for funding for additional data collection, the requirements for data should be documented. This should include the approach to reviewing current data, identifying the need and frequency to update data, any new data needs, analysing the gaps, and prioritising the collection of additional and updated data. Costs for data collection, day to day management and regular updating should be included. Risks associated with not having data or any part of it should also be identified.

8.3.7 A Data Management Strategy is one way of documenting information and demonstrating the benefits of data. Typically, a Data Management Strategy may comprise:

- **Identify business need** – This should be based on an assessment of the data requirements, demonstrating how they meet the asset management strategy and include the risk associated with the data;
- **Identify data owner** – An "owner" for the data is required to be responsible for managing the collected information;
- **Accessibility and date stamping** – Access rights to the data should be considered, and all data should be date stamped;
- **Data collection** – When determining the method of collection, the most cost effective method should be used. Requirements for the accuracy, reliability and repeatability of data should also be considered. Collaboration (e.g. in procurement) between authorities should also be considered as appropriate with the objective of delivering cost savings;
- **Frequency of collection and updating** – A risk based approach may be suitable, particularly where assets pose low risk to the performance of the network and are unlikely to require capital investment. Decisions about the life expectancy of all data types will need to be made;
- **Data management** – Data storage and management processes should be considered to ensure that these are fit for purpose, especially as the quantity and quality of data is likely to increase. IT specialists may need to contribute to this to ensure that the proposed approach complies with the authority's IT requirements; and
- **Disposing of data** – The Data Management Strategy should consider how archiving or disposing of out-of-date data may be dealt with. This should consider whether the data will be required at a later date or whether it may be disposed of completely. In determining the performance of individual assets, historical information and trends may be invaluable to support decisions regarding future performance.

8.3.8 Regular reviews of data requirements and strategy, as appropriate, should be undertaken to ensure that data continues to support asset management. Practical advice on data management has been published by the Western European Roads Directors (WERD) (35).

8.3.9 Where authorities have not developed a Data Management Strategy then due consideration should be given to the individual aspects described above in developing their data requirements.

Training Requirements

8.3.10 Those involved in data management need to have the knowledge and capability to specify and/or undertake data collection and assess the quality of the information collected. Training on issues related to data collection and management are available through various sources. Further information is available from: http://www.pcis.org.uk

8.4 DATA COLLECTION

Programme for Data Collection

8.4.1 Data collection programmes may be developed based on the above advice. A programme of comprehensive data collection is likely to require significant investment. However, if planned and managed effectively and the data is fully used to support asset management, then it is likely to offer good value for money and support the longer term benefits of asset management.

8.4.2 Advice on specific requirements to support national reporting on pavement and footway condition is available from: http://www.pcis.org.uk

Risk Based Approach to Data Collection

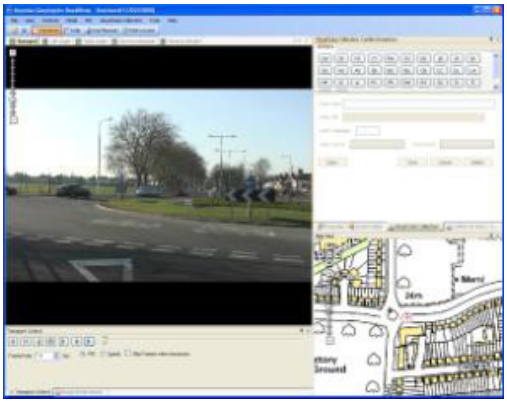
8.4.3 Where the cost of data collection outweighs the business benefit and/or may not be affordable, a risk based approach may be considered. In doing so, each asset group should be considered separately and consideration given to:

- Any historic concerns over existing performance;
- How it supports statutory requirements;
- The reputational consequence of network disruption, reduction in serviceability, etc, which may have been avoided if data existed;
- Critical parts of the network;
- Safety of the network;
- The likely increased long term cost of maintenance with inadequate asset data to make long term investment decisions; and
- The critical nature of the asset in supporting the function of the network.

8.4.4 A risk based approach has been successfully implemented for inspection of highway structures (36).

Inspection Frequencies

8.4.5 The UKRLG Codes of Practice (10, 11, 12) provide advice on some aspects of data collection, including inspection frequencies. Advice on specific requirements to support national reporting on pavement and footway condition is available from: http://www.pcis.org.uk.



Data processing system, image courtesy of Atkins

Innovations in Data Collection

8.4.6 As a result of innovation the quality of surveys has improved over time. It should be recognised that technology is continuously evolving and every opportunity should be considered to incorporate the innovations that this provides. For instance, many authorities make use of spatially referenced videos for collecting asset inventory data.

This links the video stream directly to most management systems, making the video instantly available for other purposes. Other techniques are being developed, including mobile mapping and LiDAR (37) surveys. In innovating in data collection, authorities should consider the risks involved and identify how these can be mitigated. Consideration may be given to sharing risks between authorities.

Accuracy, Reliability and Repeatability of Data

8.4.7 Specifying the quality of the data and having an audit process in place to ensure the specified quality is met is part of the data collection process. The authority may have data quality standards which could provide the starting point for accuracy, reliability and repeatability requirements. Further information is provided in *Road Maintenance Management, Concepts and Systems* (38)

8.5 MANAGEMENT OF ASSET DATA

Asset Registers

8.5.1 Asset registers should be the repositories for all data associated with the asset, including inventory, location and performance. In their basic form, asset registers are databases for each individual asset type. They are used to support maintenance management and the management of defects as part of the asset management system (Section 14). In their advanced form, they are integrated databases with single network referencing. Authorities should store asset data in the format that is most appropriate for their organisational need. Each asset register has to be the "single source of truth" for highway authorities for each of its different asset types.

8.5.2 All asset data collected should be stored in an appropriate asset management system in a format that is cost effective, reliable and that enables it to be readily captured, transferred, accessed and used. In most instances, authorities have management systems that act as asset registers and facilitate the management of all asset data. The type and utilisation of these management systems is likely to vary between asset types and from one authority to another. Asset management systems are discussed in Section 14.

Network Referencing

8.5.3 It is essential that consideration is given to how the location of any data is referenced and authorities should consider using a single set of rules for network referencing in all their asset registers. Most authorities may well be running more than one system of network referencing e.g. link and section for UK Pavement Management System (UKPMS), geo-spatial co-ordinates for GIS or the National Street Gazetteer (NSG) (39) for Streetworks Register. Authorities should at least have data referenced to National Grid Co-ordinates and the NSG.

CASE STUDY – SURREY COUNTY COUNCIL

DATA MANAGEMENT

Surrey County Council's vision for data management is to have one single asset register for storing and managing all asset data. The register will be accessible by all management and decision support systems used by the Council.

GIS was the biggest driver for developing the single asset register. A new central geo-database was developed and the Council has been running a project for 18 months to shape the register, migrate the data from existing systems and provide links with the required systems. It is anticipated that it will take a further 12 months to complete the project, but once complete, all highway infrastructure asset data will be stored in one place.

By developing a data catalogue for all its infrastructure assets, the Council was able to understand what asset inventory and condition data is available, its currency, accuracy and coverage. Furthermore, the single asset register will enable accurate, consistent, repeatable and schedulable reports and analysis, as well as publication of data used by a variety of systems in a single format and to any group of stakeholders.

Asset inventory, condition and defect data is already available in the database and further developments will see data such as customer service and accident data also updated to the geo-database where it can be analysed and any resulting priority list for all the inventory asset types displayed in one map.

Processes will be put in place to keep data current for every activity undertaken on the highway by referencing all works to asset ID's while also maintaining a historical record of works carried out.

The biggest advantage of the single asset register is that it provides "a single source of truth" and hence eliminates the risk for duplicate or conflicting information. The approach also allows visual display of information on GIS maps and facilitates better use of data for decision making, empowering staff that communicate with the public thereby improving customer satisfaction and enabling district and other partners to view and interact with data.

Surrey is currently working on validating the data that has been transferred into the asset register and further integrating it with existing tools.

RECOMMENDATION 5

ASSET DATA MANAGEMENT

The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data.

9. LIFECYCLE PLANNING

9.1 OBJECTIVES OF LIFECYCLE PLANNING

- Identify long term investment for highway infrastructure assets and develop an appropriate maintenance strategy.
- Predict future performance of highway infrastructure assets for different levels of investment and different maintenance strategies.
- Determine the level of investment required to achieve the required performance.
- Determine the performance that will be achieved for available funding and/or future investment.
- Support decision making, the case for investing in maintenance activities and demonstrate the impact of different funding scenarios.
- Minimising costs over the lifecycle while maintaining the required performance.

9.2 LIFECYCLE PLANNING

Lifecycle planning comprises the approach to the maintenance of an asset from construction to disposal. It is the prediction of future performance of an asset, or a group of assets, based on investment scenarios and maintenance strategies. The lifecycle plan is the documented output from this process.

9.2.1 Lifecycle plans may be used to demonstrate how funding and/or performance requirements are achieved through appropriate maintenance strategies with the objective of minimising expenditure, while providing the required performance over a specified period of time.

Carriageways, image courtesy of Atkins

9.2.2 Lifecycle planning can be applied to all highway infrastructure assets. However, its application may be more beneficial to those assets that have the greatest value, require considerable funding, are high risk and/or seen as critical assets. In some cases, complex approaches may be applied and in these circumstances higher quality data and predictive modelling techniques will often be needed. Where minimal data is available, a risk based approach may be adopted, as discussed in Section 8.

9.2.3 The lifecycle of an asset covers the following stages:

- **Creation of a new asset** – this may include a single asset such as a new bridge, new lamp column or sign post, or a series of new assets in the construction of a new road;

- **Routine maintenance** – This is the reactive and cyclic activity to maintain the asset over time. Examples include pothole repairs, tensioning of safety fencing and cleaning of drainage and signs. It should be noted that strategies for routine maintenance may affect the long term performance of the relevant asset. The approach to routine maintenance needs to be considered as part of the lifecycle planning process. Effective routine maintenance has the potential to extend asset life;
- **Renewal or replacement** – This is the process required to bring the asset back to the required performance after it has deteriorated. This generally requires capital expenditure, unless it is a smaller item of highway inventory, in which case it could be replaced as part of routine maintenance; and
- **Decommissioning of the asset** – Most highway infrastructure assets are rarely decommissioned. However, there are instances where some assets are removed from service. This is likely to include the legal process of "stopping up" areas of the highway, closing bridges or removing street lighting, signs and barriers.

9.2.4 Maintenance strategies may be developed that consider different treatment options and balance renewal with routine maintenance. These should take into consideration the service life for each treatment option and balance the costs over a planned period of time. The objective of this process is to provide a lifecycle plan for an asset that supports the asset management strategy. When applying a lifecycle approach, the following questions may be answered for a short, medium and long term period of planning for each asset:

- What funding is needed to meet the performance targets?
- If there is insufficient funding to meet the performance targets, what is the resulting asset performance expected to be?
- What funding is required to maintain the asset in a steady state or any other condition?
- What is the lifecycle plan that delivers the minimum whole life cost?

9.2.5 Adopting a lifecycle planning approach supports authorities in applying the principles of asset management and in setting the performance standards they can afford and/or are desirable.

9.3 PERFORMANCE GAP

A performance gap is the difference between the current performance and the desired performance of an asset.

9.3.1 The desired performance is determined by setting the performance targets described in Section 7. Current asset performance is assessed through collecting information and data, based on the approach described in Sections 8 and monitoring performance as described in Section 15. The performance gap may be reported through the performance management framework.

9.3.2 Typically, performance targets will have been selected for each asset type or group. It should be recognised that different performance requirements may be adopted across different network hierarchies.

9.3.3 Where assets are to be maintained in a steady state, the lifecycle plan should be developed to meet existing performance requirements.

9.4 THE LIFECYCLE PLAN

9.4.1 The approach adopted for lifecycle planning should be documented. It should include the assumptions made, performance requirements, maintenance needs, the decision making process and set out the proposed maintenance strategy, including the timing of interventions.

9.4.2 A lifecycle planning approach will enable the maintenance strategy for all assets to be determined. However, the principal assets, where greatest investment and/or risk will be incurred, should be considered as priorities when resources are scarce. Lifecycle planning is therefore likely to provide the greatest benefits for assets where large investments are made including carriageways, footways, structures and lighting.

9.4.3 The lifecycle planning process is shown in Figure 4.

9.4.4 The degree and sophistication to which each aspect is considered depends on the approach to asset management and the information and data available on the asset.

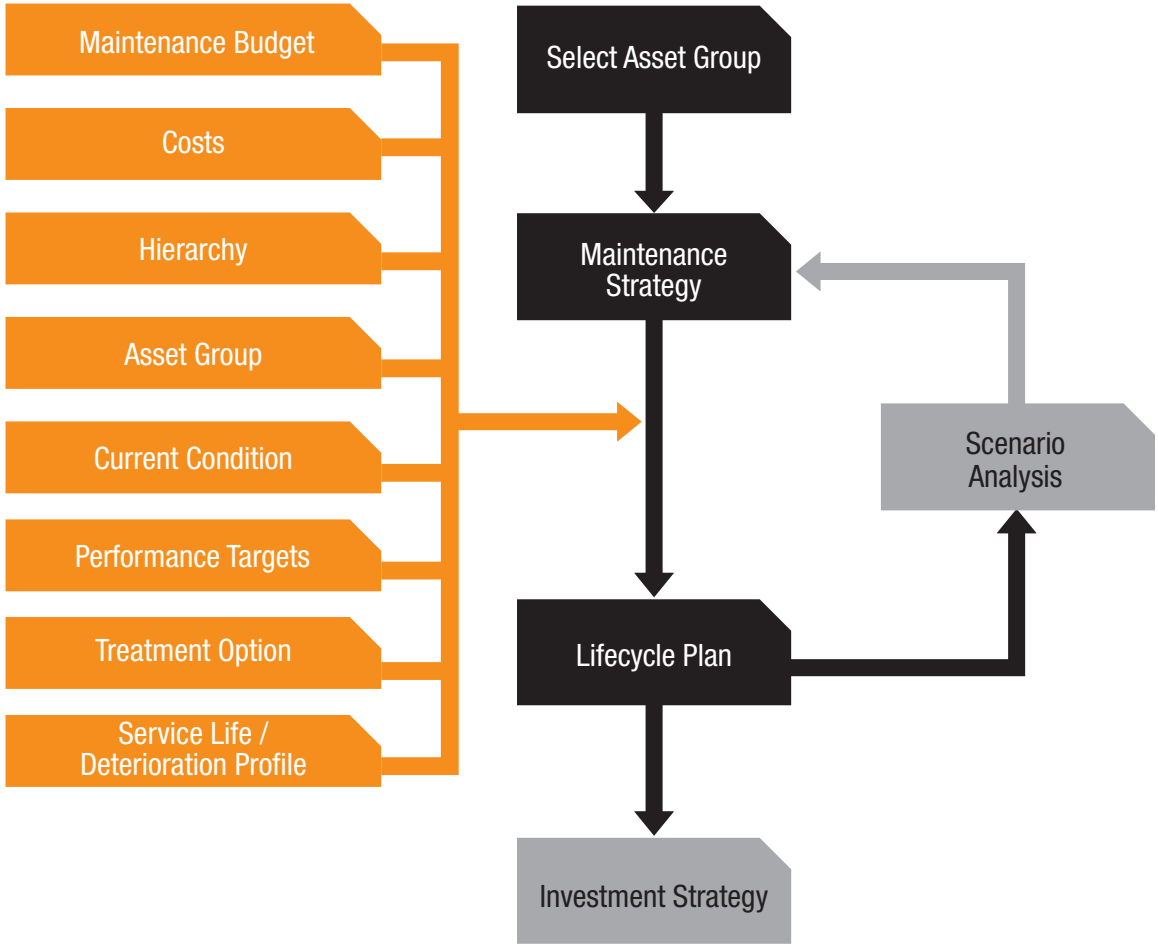


Figure 4 – Lifecycle Planning Process

9.4.5 Lifecycle plans should be updated regularly as new asset data becomes available. They should also be reviewed against any changes in the approach to asset management.

CASE STUDY – STAFFORDSHIRE COUNTY COUNCIL

LIFECYCLE PLANNING

Staffordshire published their first Transport Asset Management Plan (TAMP) 2006 -11. Although they had always had a prioritised list of structural and preventative maintenance schemes, these were based on 8 district areas each with their own local engineering manager and teams. The creation of the asset management unit enabled the development of lifecycle and financial investment models.

In 2009, the management and delivery of highway asset management, including operations delivery, was centralised in a virtual joint venture with the highways contractor. This enabled highway asset management to be prioritised and delivered on a countywide basis, using value management prioritisation criteria and whole life costing principles, and embracing the efficiencies this provided. Based on the lifecycle plans developed, it was possible to demonstrate the need for additional capital structural and preventative maintenance funds, and the Council allocated an additional £30 million of investment over three years (2009/10 – 2011/12) for structural and preventative maintenance.

The second Staffordshire TAMP 2011-16 built on the knowledge and success of the implementation of asset management, and with further refining of lifecycle and investment requirements the Council allocated an additional £20 million of investment over the following two years (2012/13 and 2013/14).

Staffordshire intend to continue with ongoing refinement of these lifecycle and investment models, with a view to at least maintaining a steady state through the austerity years and potentially continuing to improve the highway network through further additional investment post 2013/14. This is in line with the Council's priority of making Staffordshire a better place to live, work, visit and invest in.

The benefits of adopting the above asset management approach include:

- Member buy-in;
- Efficiencies in the prioritisation and delivery of the highway maintenance capital programme;
- Reducing occurrences of potholes;
- Securing a long term visible capital programme;
- Improved co-ordination of activities with the integrated transport programme and those of statutory undertakers;
- Improvement in public perception of the network through the NHT survey; and
- Major investment and job creation in the county by large multi-national organisations who have or are in the process of expanding into the area.

Classification of Asset Data

9.4.6 In developing a lifecycle plan the asset group and/or its components should be identified at the network level, grouping and aggregating similar assets together. The *Code of Practice on Transport Infrastructure Assets* (24) adopts a three layer approach for selecting and grouping assets and may be adopted as good practice. This is described in detail in Appendix E and is summarised below:

- **Level 1** – Asset type e.g. highway lighting;
- **Level 2** – Asset group e.g. lighting column; and
- **Level 3** – Components that Level 2 implicitly covers e.g. luminaires.

Asset Data

9.4.7 Asset data for lifecycle planning should be available from an authority's asset management system, asset register or maintenance management system (Section 14). Typically, the following is required to develop lifecycle plans:

- Inventory (road lengths, widths, structure components and dimensions, lighting column types and sizes as a minimum);
- Performance (including asset condition);
- Routine maintenance (including reactive and cyclical maintenance activities); and
- Treatment options (including their historic performance and cost).

9.4.8 The data requirements for lifecycle planning should be identified as part of the overall approach, as described in Section 8. This may require specific data to be collected for relevant asset groups and their components.

9.4.9 The reliability, quality and quantity of the data available, including inventory and historical performance of treatments should be assessed before developing lifecycle plans. In general, the greater the confidence in the data available, the greater the confidence in the lifecycle plan.

9.4.10 Authorities may adopt a basic or more complex approach to lifecycle planning, depending on their asset management maturity (Section 16) and on information and data availability. More complex approaches are likely to require higher quality data for deterioration modelling. Subsequently, additional investment in data collection and asset management systems may be required and the case should be made based on the benefits and efficiencies that can be obtained as described in Sections 8 and 13.

9.4.11 A more basic approach to lifecycle planning may be sufficient to meet requirements and may also be adopted where insufficient data is available. However, even basic approaches require data on asset hierarchy, inventory and service life (estimated life of the treatment option). This may require assumptions to be made based on the experience and local / technical knowledge of staff involved in the process. This may include quantum as well as current and predicted future performance of the asset. Any assumptions need to be documented and any significant risks set out.

9.4.12 More complex lifecycle planning practices may require historical data such as: construction, maintenance and performance of the asset. This enables deterioration models to be developed over time for each asset. In addition, more frequent collection of data may be required to provide greater confidence in these models and knowledge of associated assets, such as drainage. Ideally, this data can be held in an asset management system and will also provide data for a more robust assessment of risk.

Local highway network, image courtesy of Atkins

CASE STUDY – HERTFORDSHIRE COUNTY COUNCIL

DETERIORATION MODELLING

Hertfordshire has been using asset management techniques to help drive value for money in its highway service since 1999. One of the key tools used in this process is deterioration modelling. Modelling is used to help predict the future condition of the carriageway asset and a range of scenarios can be run to consider the impact of different budgets and maintenance strategies.

Hertfordshire's deterioration model assesses outcomes 15 years into the future and reports them for 10 years. It identifies the most appropriate time to intervene with a maintenance treatment within the constraints specified. Optimisation is then used to find the most appropriate type of treatment and timing. Treatments are not triggered at a defined point, but allowed to occur within a range. This provides the most appropriate treatment at the best time and, because the model is run annually, timings and treatments are reassessed each year which also allows response to changing conditions. The model then selects the best strategy, or combination of treatments, that maximise network condition for the available funding across the entire analysis timeframe.

In effect, the model generates a mini lifecycle plan for each road section, selecting treatments to suit its needs. It then rolls this up to a network-wide programme by selecting those treatments that offer the best value if all work cannot be afforded. The model does not just select preventative treatments, but has at its disposal a full range of options from surface dressing through to reconstruction and suggests the one that gives the greatest benefits.

Hertfordshire gains several benefits from this approach:

- At the strategic level, it allows decision makers to make informed choices about budgets and levels of service in the context of future performance;
- At the tactical level, it helps to illustrate the benefits of the asset management approach in striking the right balance between preventative and corrective work; and
- At the operational level, it helps to suggest the programme of works that will give the greatest benefit for the available funds and give a long-term view to help planning and coordination.

The modelling has political support and has given authority to the asset management plan and to works programming decisions. A fuller description of the model can be found at: http://www.dft.gov.uk/hmep/docs/element2/120504-Hertfordshire.pdf.

Maintenance Strategy

9.4.13 Ideally, a number of maintenance strategies should be considered for the treatment of the asset. These are likely to include combinations of renewal and/or routine maintenance over a specified period. The decision making approach to select the preferred maintenance strategy is described below. Typical options that may be considered include:

- Do-minimum maintenance (routine maintenance only – e.g. localised defect repair to maintain safety);
- Reducing the level of serviceability (below current);

- Sustaining the current level of serviceability (steady state – e.g. patching and surface dressing of carriageways and footways);
- Prioritised performance to improve targeted parts of the assets (funding being targeted on a prioritised basis – e.g. principal roads); and
- Enhanced level of performance to meet performance targets (this maintenance strategy is important particularly where additional capital funding may be sought – e.g. inlay/overlay or reconstruction of carriageways and footways).

9.4.14 The maintenance strategy should take into account the likely modes of deterioration and/or failure of the proposed treatment, and when the next intervention (the time for the asset to reach the end of its serviceable life) will occur. Therefore, the following needs to be considered:

- **Service Life** – Life expectancy from construction to the next intervention based on industry best practice and local knowledge. This may vary according to traffic or environmental conditions. A number of sources exist for such information, including the ADEPT/RSTA Report *Service Life of Surface Treatments* (40) and the Institution of Lighting Professionals (ILP) Technical Report 22: *Managing a Vital Asset, Lighting Supports* (41). Consultation with maintenance contractors may also be helpful. An authority's own records of material performance should be a good reference.
- **Deterioration Profile** – Deterioration profiles for an asset can be determined from a variety of sources including historical performance, local knowledge and best practice. Some authorities have developed bespoke deterioration profiles. These can be used for lifecycle planning with more sophisticated approaches to decision support. These models may be part of the decision support component of the asset management system described in Section 14. HMEP has developed a deterioration model for bituminous carriageways as described in this Section.

9.4.15 Consideration should be given to the selection of the planning period for the lifecycle plan. Depending on the planning period, different maintenance strategies may provide the lowest whole life costs, as shown in Figure 5 below.

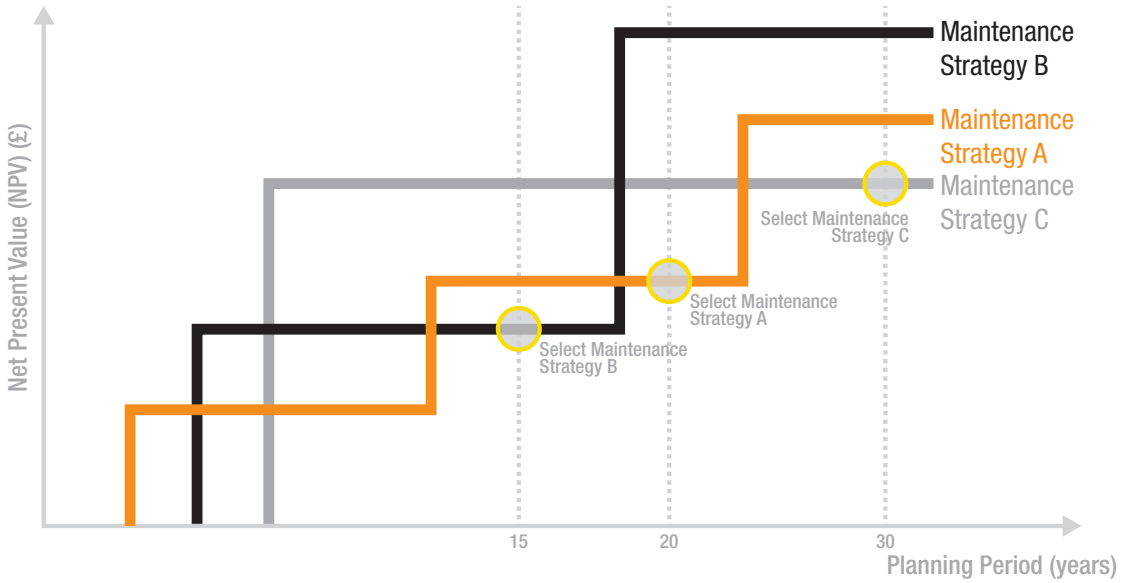


Figure 5 – Comparison of Maintenance Strategies

Selecting a Maintenance Strategy

9.4.16 The process adopted to select the maintenance strategy should align with the approach to asset management and in particular provide the most efficient and affordable way of achieving the performance requirements. Typically, the selection of maintenance strategies considers:

- Minimising whole life costs;
- Meeting statutory requirements;
- Meeting performance targets; and
- Managing risk.

9.4.17 A number of techniques may be used to select the most appropriate maintenance strategy, some of which are listed below. Further information on each technique can be found in most good financial planning books. The *International Infrastructure Maintenance Manual* (33) also gives advice on these decision making techniques. Further details are provided in Appendix F.

Risk Based Evaluation

9.4.18 Risk based evaluation focuses on minimising the risk associated with the asset through an appropriate maintenance strategy, while ensuring that any risks are managed at the minimum cost. The approach to risk management is described in Section 13. Risk evaluation can be used as a decision making technique on its own or considered with the other decision support techniques described below.

Whole Life Cost

9.4.19 Whole Life Cost is a cost benefit analysis that quantifies the investment costs, including the cost of the treatment and subsequent maintenance interventions, against economic benefits, including safety, traffic delays and pollution. These should be assessed for each maintenance strategy. The maintenance strategy with the lowest Net Present Value (NPV) over the period of analysis provides the lowest whole life cost (Figure 5).

9.4.20 Costs may be determined as described above. Benefits should be determined by each authority and considered in the context of their overall approach to asset management. An example of calculating Whole Life Costs is include in Appendix G.

Multi Criteria Analysis

9.4.21 Multi Criteria Analysis may be used to prioritise competing treatment options from which the maintenance strategy may be selected. A number of criteria may be selected that align with the levels of service and/or goals and objectives of the authority. Typically, these may include: safety, serviceability, sustainability and accessibility. A weighting to demonstrate the relative importance of these factors may be selected from which an overall score is determined. The necessity to meet statutory requirements needs to be reflected in the scoring.

9.4.22 This technique can be used where benefits and costs are less tangible to define. However, it supports a qualitative assessment as well as a quantitative one.

Maintenance Costs

9.4.23 The costs selected for any routine maintenance and asset renewal should be as reliable as possible. The selection of the maintenance strategy may be sensitive to the accuracy of this information.

9.4.24 A rigorous process should be developed for the collection and recording of cost data for the purposes of lifecycle planning. This cost data may be different from current contract rates as it takes other factors into account such as overheads. Rates that are used should take into account inflation and be reviewed and updated as more cost information becomes available. The source of all cost data should be referenced.

9.4.25 The build up of cost data is likely to include a number of assumptions, such as the inclusion of traffic management, contractor's overheads, scheme design and supervision costs. Such information may not be directly available from unit rates which may be obtained from sources such as term maintenance contracts or framework contracts. Care therefore needs to be taken in building up the rates in order to understand the item coverage.

9.5 DETERMINING THE INVESTMENT STRATEGY

9.5.1 The outcome of the lifecycle planning process is an investment strategy for the highway infrastructure asset that comprises an asset group and its components, that is affordable and delivers the required performance at the minimum cost. In meeting this outcome, it should also support the asset management strategy. A number of iterations, with different maintenance strategies, may be necessary to optimise the investment strategy.

9.5.2 In developing an investment strategy, the following issues should be considered:

- **What is the level of performance required to maintain steady state condition and what is the budget required? –** Lifecycle plans may be used to demonstrate the investment required to maintain the asset at its current level of performance. This is useful where authorities are satisfied with the performance of their network and also to compare the impact of different funding scenarios;
- **What is the level of performance that can be achieved with a fixed budget? –** Where an authority has fixed funding, lifecycle planning may be used to determine the performance of the asset for the funding allocated. It may also be used to target or prioritise funding in those areas that are most in need. It can also demonstrate the effect of reduced funding on the performance of assets over the short, medium and long term;
- **What is the budget requirement to deliver the performance required? –** Authorities can use lifecycle planning to determine future budget requirements. Performance targets may be selected for hierarchy, asset groups and their components. In doing so, authorities may wish to consider work needed to sustain the agreed performance requirements and any performance gaps;
- **Cross asset considerations –** No authority will have unlimited funds to invest in the asset. Cross asset prioritisation, or "trade-off" techniques, may be used to determine where budgets are spent most effectively or at the lowest cost. Consideration of risk, cost and performance associated with each asset is a key consideration; and
- **Timescale –** Lifecycle plans should be prepared for a period of at least 10 years.

9.5.3 Lifecycle plans are essential to assist senior decision makers in developing their financial plans and to substantiate any additional funding needed to achieve the required performance. Equally, they provide evidence on the effect on the asset if funding is not made available and what the future performance of the asset may be as a consequence.

RECOMMENDATION 6

LIFECYCLE PLANS

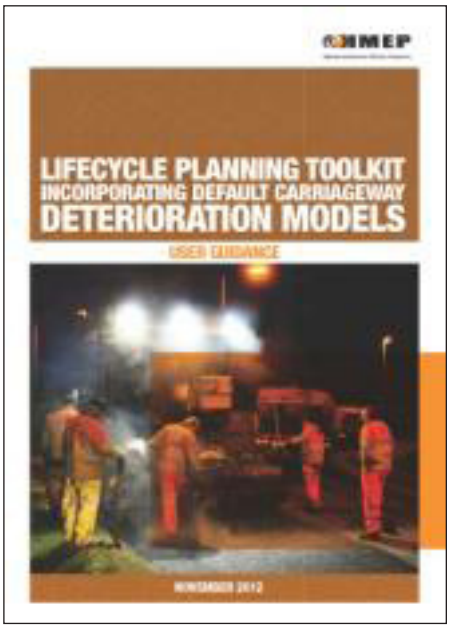
Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long term investment.

9.6 SUPPORT FOR LIFECYLE PLANNING

Lifecycle Tools and Deterioration Models

9.6.1 HMEP has developed a lifecycle tool that is available to all local highway authorities. The tool is available from www.dft.gov.uk/hmep/efficiency/asset-management.php. The user manual associated with the lifecycle tool gives further assistance on the application of lifecycle planning in general. It should also be noted that the tool has models that allow deterioration modelling for all highways assets except structures, where deterioration is the principal measure of performance.

9.6.2 Further information on lifecycle planning is available in the Red Book (42). Advice on whole life costing is given in *Whole Life Costing for Option Appraisal of Highway Maintenance Schemes for Local Highway Authorities* (43).



HMEP Lifecycle Planning Toolkit User Guidance, image courtesy of Department for Transport

9.7 RESOURCES AVAILABLE

9.7.1 When developing lifecycle plans, authorities should ensure that staff are appropriately trained and have the time, resources and suitable tools to develop robust and realistic lifecycle plans. Authorities should select a method of lifecycle planning appropriate to their needs and resources.

CASE STUDY – HIGHWAYS MAINTENANCE EFFICIENCY PROGRAMME

LIFECYCLE PLANNING TOOLKIT

As part of HMEP, a Lifecycle Planning Toolkit was developed by Atkins following a review of existing tools. The specification for the Toolkit was based on the findings from user consultation. Three versions of the Toolkit are available, covering carriageways, footways and other ancillary highway assets such as road signs, bollards, vehicle restraint systems, street lighting, traffic signals and linear assets (eg, road markings and kerbs).

The Toolkit, which works based on data readily available in local authorities, is intended for use by local highway asset managers to support strategic level planning decisions including:

- Assessing the impact of different levels of funding on asset performance and asset maintenance needs;
- Investigating current and future levels of funding required to achieve a given performance target for the asset; and
- Identifying the levels of funding required to minimise whole life costs.

Long-term estimates of expenditure and associated asset performance are produced by the Toolkit, which is freely available to download from the internet. These estimates can be used to determine the likely performance of the asset under budget constraints or, alternatively, to determine the budget required to support a target asset performance. The outputs from the Toolkit can be used to:

- Facilitate communication with stakeholders, including senior decision makers;
- Make the case for funding; and
- Benchmark lifecycle plans against those produced by other tools.

Generic default carriageway deterioration models were also developed for local highway road networks, using SCANNER and Coarse Visual Inspection (CVI) data. The principal uses of deterioration models are to predict how asset condition changes over time and, in conjunction with treatment options, to allow practitioners to determine the most cost-effective timing of treatments.

These are intended as a starting point for local highway authorities who may not have deterioration models that would allow them to develop sensible lifecycle plans immediately, or do not have data appropriate for developing such models. Local highway authorities may adjust (calibrate) these default models so that predictions from the Lifecycle Planning Toolkit closely match recent locally observed trends. The default models may also be used to benchmark existing models.

10. WORKS PROGRAMMES

10.1 OBJECTIVES OF WORKS PROGRAMMES

- Develop effective and efficient works programmes to meet the approach to asset management and deliver the service.
- Identify potential maintenance works – candidate schemes.
- Develop works programme of candidate schemes.
- Prioritise and optimise schemes in the works programme to meet the available budgets.
- Monitoring of works to ensure it meets the approach to asset management.

10.2 WORKS PROGRAMMING AND DELIVERY

The delivery of the works programme is the tangible outcome of the asset management planning process. The programming and delivery of works should align with the asset management strategy and meet the performance targets.

10.2.1 The process to develop a works programme for asset maintenance comprises the identification, prioritisation, optimisation, programming and delivery of individual schemes. It should meet the annual budgets that have been developed by the authority, ideally with the support of lifecycle planning process described in Section 9.

10.2.2 Key aspects of progress in delivering the asset management strategy and performance requirements may be monitored through the long term performance of the schemes delivered each year from the works programme.

10.3 PROGRAMME DEVELOPMENT

10.3.1 The process for identifying candidate schemes and developing a programme of works is described in the following paragraphs and summarised in Figure 6 below.

Figure 6 – Developing a Programme of Works

Identify Candidate Schemes and Prepare Initial Programme of Works

10.3.2 Candidate schemes, may be identified from the following sources of data and information:

- Asset data including results from inspections and condition surveys including SCANNER, Principal Inspections to structures, Footway Network Surveys, structural and electrical testing of street lighting and illuminated traffic signs, and general service inspections. Depending on the output of the asset management system, this data may be available visually via GIS, which may assist in the assessment process;
- Surveys where the primary objective is not to assess asset condition, such as safety inspections. These may provide useful information on the performance of assets as well as identifying risks. Ideally, this information should also be available from the asset management system;
- Local knowledge from operational staff involved in managing the network, including inspectors and contractors. Typically, this may include information on drainage, signs and lines and those areas of the network that are inspected or surveyed less frequently. Gaps are likely to exist in the quantity and quality of some aspects of this information and site visits may be required to verify and supplement the information;
- Stakeholder needs, particularly those aspects of the service that are important to the local community;
- Complaints and areas where there are a large number of personal injury accident claims. This information should be available from the asset management system; and
- The requirements of meeting wider transport and corporate objectives.

10.3.3 Candidate schemes may be collated into an initial works programme for each asset.

Prioritise Works Programme for Each Asset

10.3.4 Candidate schemes in the initial the works programme should be prioritised to identify those maintenance works requiring the most immediate action, as well as to identify a list of future schemes sufficiently in advance to ensure effective planning and preparation.

10.3.5 Those assets most in need of maintenance are likely to be:

- Safety critical;
- Carry a high level of risk, such as highly trafficked principal roads;
- Those with condition at or below the specified intervention level;
- Have keen stakeholder interest; and
- Support the corporate vision.

10.3.6 It is likely that there will be insufficient budget to deal with all these needs. Where this is the case it is likely that those that are safety critical or have a high level of risk will carry the highest priority. It is also essential that candidate schemes are prioritised to ensure that those that provide greatest contribution to the asset management strategy at the minimum cost are undertaken, especially where funds are limited. Adopting such an approach will ensure value for money is achieved.

10.3.7 Before candidate schemes can be prioritised, priced options for maintenance should be developed for each. Ideally, selected treatment options should align with those developed for lifecycle plans.

10.3.8 A process for prioritising competing maintenance demands will then be required. Some of the techniques that support decision making to enable prioritisation to be undertaken are discussed in Section 9. However, different decision making techniques may be appropriate for different assets. Further information is included in Appendix F. The lowest whole life cost may be useful for prioritising candidate schemes for carriageways, structures or lighting (including consideration of energy consumption).

10.3.9 A risk-based approach may be more appropriate for assets such as drainage, earthworks, safety fencing and those assets on remote parts of the network. This would identify the impact on local communities in terms of safety and serviceability of not undertaking the work by calculating a risk rating. Those with the highest risk rating would carry the highest priorities. Risk management is described further in Section 13.

Damage to ironworks, image courtesy of Atkins

10.3.10 Prioritisation on single criteria may not contribute fully to meeting the asset management strategy and therefore may be less effective in meeting the performance requirements.

10.3.11 Value Management is an example of a multi-criteria decision making process that can be used to prioritise candidate schemes. Ideally, the criteria adopted should align with the approach to asset management particularly the levels of service and may also include some of the single criteria described above. An example of a multi-criteria approach is described below:

- **Safety –** Schemes that are aimed at maintaining a safe network and meeting statutory requirements, such as restoring skidding resistance or replacing safety fencing;
- **Socio-economic and environmental –** Wider policy issues, including providing for the vulnerable, impact on local communities and businesses, environmental impact, sustainability, carbon reduction, noise reducing surfacing and recycling of bituminous materials;
- **Value for money –** Cost benefit determined from the whole life cost approach i.e. invest now to deliver savings later; and
- **Risk –** The individual risk associated with each of the schemes. This could include a number of factors including the impact of climate change, engineering risk and reputational risk.

10.3.12 The prioritisation process requires each criterion to be assigned a weighting which represents its importance in the delivery of the asset management approach. While it is recognised that safety will be of primary importance, other issues should also be addressed, including serviceability, sustainability, stakeholder requirements and value for money.

Select and Optimise Schemes for the Forward Programme

10.3.13 Adopting the above techniques will enable a prioritised programme of works to be developed from the candidate schemes. The lifecycle plan and investment strategy approach described earlier will have determined the appropriate finance and schemes are selected from the prioritised programme of works by totalling the indicative costs up to the point where the budget is utilised. This is referred to as the "cut-off" point. In adopting such an approach, a contingency can be considered to manage any risk associated with delivering the schemes.

10.3.14 The period the forward programme covers will vary according to individual requirements. Realistically however, a works programme of three to five years provides greater flexibility in programming than an annual programme and may allow consideration to be given to grouping works to provide cost savings in delivery.

10.3.15 Flexibility also has to be allowed in the programme for unforeseen schemes that may arise from issues such as the effects of severe winters and flooding. Such works may require immediate action with other schemes having to be deferred.

10.4 THE FORWARD PROGRAMME

10.4.1 The forward programme comprises schemes for each asset programmed to be carried out within the next three to five years. In some cases where the information is available, indicative forward works programmes can be developed for longer periods of time, for example, up to ten years or even longer.

10.4.2 The forward programme supports financial planning. Ideally it should be communicated through a communication strategy to elected members, other stakeholders and the public as described in Section 3. It can clearly demonstrate what, where and when schemes are to be undertaken. It should be subject to annual review and updated using the latest sources of data and other information described in Section 8.

10.4.3 For schemes in the forward programme, and particularly those around the budget 'cut off' as well as those that require significant investment, additional data may be required to verify any assumptions made. Where this will incur significant cost, the risks and benefits of undertaking additional investigation to obtain this data should be carefully considered.

10.4.4 A robust forward programme provides short to medium-term evidence of the level of funding required for the authority to maintain its assets. It is likely to be challenged by senior decision makers and can form part of the case for justifying additional funding. As such, it will need to be robust and therefore based on reliable information and data. It should clearly demonstrate how it will meet the requirements of the asset management strategy.

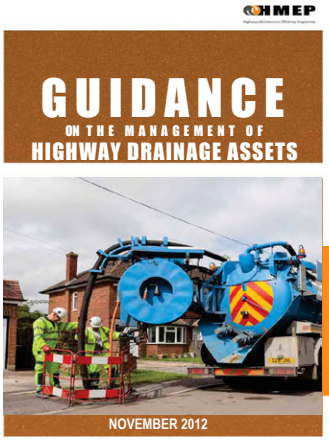
CASE STUDY – CORNWALL COUNCIL

WORKS PROGRAMMING

Cornwall Council applies asset management principles to managing its highway drainage infrastructure. Routine inspection and maintenance frequencies, as well as capital investment schemes, are prioritised using a structured risk based approach to ensure that resources are targeted to deliver the optimum return.

The establishment of a network hierarchy, based on road usage and risk, rather than purely road category, has been fundamental to the development of Cornwall's asset management strategy (See Case Study on page 7 and Appendix B of HMEP Drainage Guidance (44)). Flooding events and flood maps are also considered when developing the works programmes.

Each December Cornwall's highway service provider nominates sites for drainage schemes based on their operational knowledge and customer complaints, they provide mapped details of the problem, a provisional cost estimate and a completed copy of the scheme prioritisation matrix (Appendix B and Case Study on page 23,HMEP Drainage Guidance); each site is scored using the matrix.



Cornwall interrogates routine inspections for outstanding maintenance issues and any wet weather visits and if CCTV surveys have been carried out by the service provider. The scored sites are then ranked by Cornwall with reference to its legal obligations, strategic objectives and agreed policies. Each site is then visited by the Council's Asset Team and from all the data, an agreed prioritised countywide programme is established.

Prior to the finalisation of the annual budget allocation, should budget allocation be insufficient to treat all sites, a cut off score falling below that score being carried forward and subject to re-nomination/ evaluation for the following year. For those approved sites Cornwall issues scheme briefs to the service provider who is required to complete the schemes within that financial year with final claim payment being confirmed upon receipt of the 'as built drawings' and supporting information. The highway drainage asset inventory is updated to show changes to the infrastructure and routine inspection and maintenance schedules amended accordingly.

10.5 OPTIMISATION

10.5.1 Schemes may be optimised within the forward programme around selected criteria. This may include the following considerations:

- **Minimise occupation of the network** – Value of these schemes will be maximised by co-ordination with other works programmes and integrated transport projects on related parts of the network, thus minimising disruption to users and maximising benefits to the community; and
- **Deliver efficiencies by combining activities** – A number of schemes may be combined and delivered together, for example this may include schemes identified as being in close proximity from the forward works programme, but shown in different years.

Consideration should also be given to those operational activities in the Highway Maintenance Plan and how they can be combined to create greater efficiency. Equally, involvement of statutory undertakers and coordination with their work may also be beneficial.

10.5.2 At a programming level, the objective of optimisation is to provide greater efficiency. Before commencing an exercise on optimising schemes, authorities need to ensure that the identified efficiencies can be delivered. At this stage, early involvement of the maintenance contractor undertaking works can be beneficial.

10.6 ANNUAL WORKS PROGRAMME

10.6.1 The annual works programme should be developed from the forward programme and is effectively the highest priority projects that can be delivered from the available annual budget.

10.6.2 Ideally, projects in the annual programme should have been already designed and be ready to be delivered. This enables the maintenance contractor to plan the works properly and minimise any potential risks associated with delivery. In designing these projects, consideration should be given to collecting additional detailed data on the performance of the respective assets to ensure that the intervention proposed delivers the desired outcomes. It is important for financial control purposes to ensure that a more detailed cost estimate of each project is produced and a suitable contingency is allowed for risk.

RECOMMENDATION 7

WORKS PROGRAMMING

A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly.

11. THE HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLAN

11.1 OBJECTIVES OF HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLAN

- Document the activities and processes of the Asset Management Framework.
- Provide detailed information to senior decision makers to support investment decisions and enable longer term planning.
- Allocate resources for asset management.
- Inform all staff involved in asset management about how the highway infrastructure is to be managed and their responsibilities.
- Provide information to support the procurement of maintenance activities.
- Facilitate communication with stakeholders.

11.2 HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLAN

The Highway Infrastructure Asset Management Plan (HIAMP) may be the documented outcome of the asset management process adopted by an authority. It is one way to record and communicate the approach to asset management in a single document, informing relevant staff and stakeholders how highway infrastructure assets are managed over a period of time.

11.2.1 The HIAMP is one way of providing information and evidence on how the asset management process is applied in order to meet the wider objectives of the authority over the short, medium and long term. Typically, it sets out the agreed levels of service, performance targets, how these are met through lifecycle planning, and a forward and annual programme of work. It sets out how overall performance is monitored and any lessons learnt that have been captured. The HIAMP should incorporate or reference the asset management policy and strategy; however, these should also be available as a stand-alone document(s).

11.2.2 The HIAMP is potentially subject to regular change as aspects of the asset management planning process become updated. Updating the HIAMP can be a resource intensive activity. It is therefore not essential that a HIAMP is in place as long as the asset management approaches are documented and updated regularly to reflect the approach to asset management. It therefore does not need to be a single document and can comprise a series of documents describing the asset management planning processes that link together. The HIAMP may be available in either electronic or hard copy format.

11.2.3 Each authority should decide its own approach to developing their HIAMP. Many authorities have successfully worked in collaboration in developing their asset management approach using generic templates and contents. However, it should document what the authority's approach to asset management is, set out what they are doing, why they are doing it, and who is the owner.

11.2.4 Some authorities may wish to produce a HIAMP, such as those in Scotland and Wales who have adopted standard approach to asset management document in a plan. The HIAMP often provides the opportunity to encourage internal buy-in and allocate resources for the

implementation of asset management.

11.2.5 Where a HIAMP is not produced, authorities should ensure that all asset management activities are documented, clearly indicating ownership of each. Regardless, authorities should consider how they document the asset management approach in the most efficient and effective manner. Authorities should avoid producing documents that are lengthy or difficult to use and opt for an approach that supports the implementation of asset management. A summary of documents including strategies and plans that may be used to support asset management are provided in Appendix H.

11.2.6 The HIAMP will provide evidence of how the authority manages its highway infrastructure. It explains the basis for the allocation of budgets and the development of financial plans. It provides evidence to justify the levels of budgets that are necessary and the likely impact different funding scenarios may have on the performance of the asset. Through the HIAMP, asset management may be set in the wider business context and provide support for making the case for asset management as described in Section 12. It will also provide information on how asset management, including works programmes, will be delivered and funding requirements met. Consideration should also be given to how the HIAMP links with or incorporates the Highway Maintenance Plan.

Target Audience

11.2.7 The target audience for the HIAMP is potentially wide ranging with different elements of the plan of interest to different stakeholders, as described below.

- **Senior Decision Makers** –Senior decision makers, including elected members, need to support the HIAMP and make the necessary financial commitment to support the plan;
- **Highway Maintenance Staff** – Asset managers and/or practitioners will be responsible for developing and then delivering the HIAMP. The plan can be used as a benchmark to monitor progress against the Asset Management Framework. The plan can be a valuable tool in managing highway infrastructure maintenance within the authority; and
- **Other stakeholders** – These are potentially wide ranging such as road users, local communities and special interest groups.

Communication

11.2.8 A targeted approach to communications may be used if appropriate to ensure that all stakeholders have the opportunity to contribute to the HIAMP and any reviews. An approach to communications is discussed in Section 3. Stakeholders views that have been included through other parts of the asset management process should also be considered.

Timescales

11.2.9 The HIAMP should cover at least a three to five year period on a rolling basis. However, the forward programme and lifecycle plans and may cover the medium and longer term horizon respectively.

Level of Detail

11.2.10 The level of detail within HIAMP should be proportionate to the size and complexity of the highway network being managed and the maturity level of asset management being practiced. It may be of benefit to some authorities to work collaboratively to develop similar levels of detail.

Procurement of Programme and Service Delivery

11.2.11 The HIAMP should provide information on how the network is managed, its performance requirements and the programme of works. This will provide essential information to enable effective and efficient procurement of the service in the future. It can provide a comprehensive reference document through which service providers tendering for such work can fully understand the work to be delivered and the risk involved. This can, if used appropriately, reduce the risks around procurement of the service.

11.2.12 *The Infrastructure Procurement Routemap* (45) highlights the importance of asset management in procurement.

Review

11.2.13 The HIAMP should be reviewed regularly and updated as appropriate as new information becomes available. Such an approach ensures that it remains a live document that may be used in the delivery of the service.

11.3 DEVELOPING THE HIAMP

11.3.1 The contents of the HIAMP should be proportionate. A large amount of content may fail to articulate key messages. Appendices should therefore be used as appropriate. It should be flexible and simple to update in order that it can remain a live document that is applicable to all staff undertaking asset management activities.

11.3.2 Appendix I sets out an example of the typical contents of a HIAMP if it were to be presented in a single document.

CASE STUDY – NORTH TYNESIDE COUNCIL

HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLAN

By producing a Highway Asset Management Plan, North Tyneside Council identified the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet its strategic needs and the needs of current and future stakeholders.

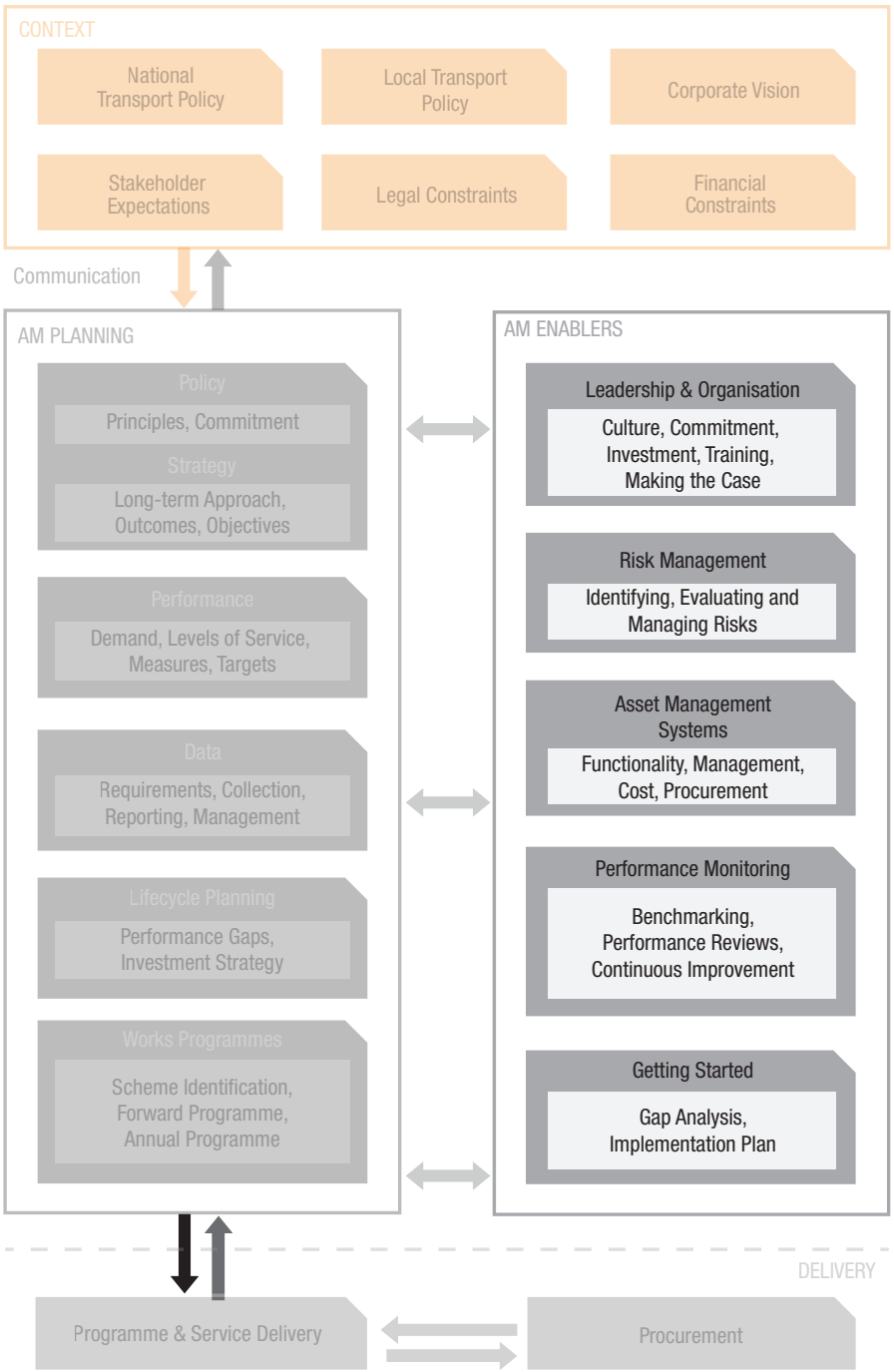
The HAMP document is split into three separate parts:

- **Part 1 –** Policy Statement. The overarching aims and objectives of the HAMP and sets out the Council's general policy in respect to highway asset management.
- **Part 2 –** HAMP Working Document. The operational document that is used to manage and further develop the HAMP. A working framework document used for future reporting and works planning and will be reviewed and updated annually. It is used to plan future service development and improvement actions.
- **Part 3 –** Appendices which contains the technical and supporting data (e.g. inventory data, condition data, legislation etc) supporting the HAMP.

The HAMP allows highway and infrastructure assets to be managed in the most cost-effective and strategic way in line with corporate governance and stakeholder expectations.

PART B

PART C – ENABLERS



Part C provides advice on the enablers that support the implementation of the Asset Management Framework. It highlights the need for engagement with senior stakeholders and the demonstration of leadership, describes how authorities should make the case for asset management, sets the context for risk management, and summarises the role of asset management systems. Advice is also given on how authorities should progress their implementation of asset management based on the work they have already done.

12. ASSET MANAGEMENT LEADERSHIP AND ORGANISATION

12.1 INTRODUCTION

12.1.1 Leadership has a strong influence on the culture and behaviour of all organisations. Clear direction and priorities will ensure that both significant and apparently relatively minor decisions taken across the organisation support a consistent approach to delivery of the business objectives. Such decisions will include appropriate investment decisions to meet the asset management strategy.

12.1.2 Time and effort spent on leadership and organisational development will pay dividends in the long-term as the purpose, objectives and responsibilities for the implementation and delivery of asset management will be clearly established and supported.

12.2 LEADERSHIP AND CULTURE

12.2.1 Leadership is reflected in the behaviours and culture developed within an organisation. Senior management can demonstrate leadership by creating the culture and environment that will support an authority-wide commitment to asset management. This may be demonstrated through adopting asset management principles when making investment decisions. Other important aspects include endorsing the development and implementation of the Asset Management Framework, including the policy and strategy, and by supporting continual improvement through the Management Review (Section 15).

12.2.2 Strong leadership and an asset management culture should run throughout the authority since it takes many functions to manage highway infrastructure. Functions that may have operated separately become linked and all relevant functions need to understand and be part of the wider asset management approach.

12.2.3 An asset management culture, with appropriate behaviours, will usually be characterised by a consistent approach across the authority to the long term management of the highway network. Behaviour of teams and individuals will be aligned to common objectives rather than to individual priorities that may encourage short term actions that will not meet the longer term vision and strategy.

12.2.4 An asset management culture should avoid conflicting priorities and messages, lack of understanding, or lack of a collaborative approach, all of which can lead to inefficient and ineffective working.

12.2.5 Adoption of a preventative approach to maintenance is an example of where a common culture in delivering asset management is important. There may be a less immediate gain in terms of responding to stakeholder pressure and satisfaction compared to repair of some obvious defects, but timely intervention is known to preserve the asset, to be good value for money, and is supported. If a common approach to asset management is not shared, preventative work may be delayed or omitted in favour of more apparently pressing activities, deterioration occurs, and higher long term costs result.

12.2.6 It may be helpful for the senior decision makers to demonstrate commitment to asset management by giving one of their number responsibilities for sponsoring asset management across the authority. This will help to ensure that asset management issues are given appropriate priority that resources are available, that asset management approach is being

effectively developed and implemented, and the benefits of asset management achieved. It will be helpful for the sponsor to meet with asset management teams on a regular basis to ensure good communication and understanding.

12.2.7 Achieving good leadership requires a certain amount of knowledge on the part of leaders and senior decision makers. There is a role and a responsibility for asset management staff to articulate the key issues and benefits of asset management in ways that are non-technical and meaningful, as described in Section 7.

CASE STUDY – HERTFORDSHIRE COUNTY COUNCIL

LEADERSHIP

Hertfordshire is a leading authority in the development of highway asset management. Its main driver is the desire to achieve value for money through developing and continuously improving asset management.

The asset management approach is presented to elected members in works programmes and has enjoyed significant local political support for many years. Consequently, Hertfordshire provides national leadership in asset management, in particular through its development and experience of deterioration modelling and using this to develop works programmes.

Introduction of an asset management culture to Hertfordshire required building credibility and respect for a predictive model, which needed involvement of members and staff over a considerable period of time. The principles of asset management also need continual reinforcement, even after 10 years of implementation, to remind existing stakeholders of the benefits, avoid pressure to revert to inefficient methods and to introduce the concepts to new stakeholders, such as new elected members.

There are still challenges to the asset management approach through tensions between planned maintenance programmes and local pressures to deliver 'worst-first' schemes. Resolution is through engaging and empowering elected members and local communities in an efficient manner while retaining a focus on long-term objectives and value for money. Discretionary budgets for elected members allow them to commission some local priority works alongside the planned works programme to help meet local aspirations without compromising the overall asset strategy.

External validation of Hertfordshire's asset management approach has proved valuable in reinforcing political support, giving pride to elected members and staff, and in briefing new elected members.

Member scrutiny in 2011 considered Hertfordshire's asset management based strategy in some detail and endorsed it, concluding that it was right to focus on getting the maximum benefit from the available resources.

RECOMMENDATION 8

LEADERSHIP AND COMMITMENT

Senior decision makers should demonstrate leadership and commitment to enable the implementation of asset management.

12.3 MAKING THE CASE FOR INVESTMENT

12.3.1 Senior decision makers, including elected members, are often required to approve and support the case for investment in the management and maintenance of highway infrastructure. This is often against competing demands. Asset management principles should be applied to enable the case for this investment to be made, demonstrating how levels of service will be met and cost minimised over the longer term.

12.3.2 There may also be a number of supporting activities required to make the case for investment. This may include additional investment to collect information and data managed through asset management systems, as well as investment in staff time and other resources. This Section provides advice on how the case for investment for highway maintenance may be made.

Maintenance work, image courtesy of Asphalt Industry Alliance

Adopting the Principles of Asset Management

Demonstrating the benefits

12.3.3 Many authorities have been successful in making the case for additional investment in the maintenance of their highway infrastructure by adopting the principles of asset management. Demonstrating the benefits that investment can bring is required to support decision making and prioritise investment of capital funds and other valuable resources. Cost benefits of an investment over a specific period of time should be considered. The objective of investment may be to improve long term value for money, and provide economic and community benefits from highway maintenance.

12.3.4 Ascertaining the wider economic benefits should form part of making the case. It is generally accepted that there is a link between highway maintenance and economic growth, but the economic benefits of well maintained highways have not been systematically determined. Furthermore, there is not a widely recognised and accepted approach to calculating these benefits, although some methods do exist.

12.3.5 The decision making techniques that support lifecycle planning, described in Section 9 and Appendix F, may be used to inform decisions on the appropriate long term investment strategy. At present there are limited models and information available in the UK on assessing the wider economic benefits of highway maintenance.

12.3.6 Outside of the UK, predictive models for planning maintenance which determine the economic benefits of investment strategies have been developed and are widely used. These models, largely based on vehicle operating costs, have been used by institutions such as the World Bank to evaluate investment in road maintenance, particularly in the developing world.

12.3.7 Achieving good leadership requires a certain amount of knowledge on the part of leaders and senior decision makers. There is a role and a responsibility for asset management staff to articulate the key issues and benefits of asset management in ways that are non-technical and meaningful, as described in Section 7.

CASE STUDY – TRANSPORT SCOTLAND

ECONOMIC BENEFITS OF HIGHWAY MAINTENANCE

The consequences of poorly maintained roads can be significant to the local and national economy. Poorly maintained roads have a direct impact on users in terms of vehicle operating costs and safety and may have a much broader impact on a country's economy in terms of inward investment, tourism and development.

Transport Scotland recognised the importance of the economic case for investment in maintenance and commissioned the report Economic, Environmental and Social Impact of Changes in Maintenance Spend on Roads in Scotland (21) to provide evidence for the National Road Maintenance Review for Scotland. The study took a broad perspective, including footways, lighting, street cleaning etc. It concluded that there is an overall loss to society of reducing road maintenance expenditure to the extent that for every £1 reduction in maintenance budgets, there is a cost of £1.50 to the wider economy, largely through higher vehicle operating costs, with a larger impact for local roads. Aside from vehicle journeys, significant impacts were found on wider society, including pedestrians, especially older people and the disabled, cyclists, and people in remote communities for whom single roads can represent lifeline links.

Further information may be obtained below:

Summary report:
http://www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/j235740-00.htm

Trunk roads analysis:
http://www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/j235739-00.htm

Local roads analysis and literature review:
http://www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/j235737-00.htm

Issues to consider

12.3.8 In making the case for investing in maintenance of highway infrastructure, the following issues may be considered:

- The wider benefits, including social, environmental, economic and financial, although often the financial parameter forms the most significant element;
- Clarity in use of resources and demonstration of good practice;
- Lifecycle plans to demonstrate the effects of different investment strategies;
- Any benefits from 'quick wins', but recognising that investment should be considered over the long term; and
- Case studies, examples of benefits achieved, and any good practice that has been adopted.

Developing the Business Case

12.3.9 Authorities may need to support their argument for investment. In particular, this may be appropriate where the authority is seeking additional funding or financing for the maintenance of their highway infrastructure. Such decisions should be underpinned by a robust business case.

12.3.10 A business case presents evidence to assess whether an investment is, or continues to be, desirable, viable and achievable. It does not need to be complex, but should set out the reasons for investment together with the costs, risks and benefits over the period of the proposal. Essentially, the business case should answer the question of why investment in maintenance of highway infrastructure is worthwhile.

12.3.11 There are a number of typical stages in developing a business case and a considerable amount of advice exists from both government and commercial sources. In particular, HM Treasury provides advice at: http://www.hm-treasury.gov.uk/data_greenbook_business.htm.

12.3.12 Authorities may have a corporate approach to developing and presenting business cases. A summary of what may be included is included in Appendix J.

12.3.13 Responsibility for developing the business case for investment in maintenance of highway infrastructure should remain with those staff leading on asset management, with support from senior decision makers who should undertake an informed challenge and approval, as necessary.

12.3.14 Where authorities require additional investment that cannot be provided by existing funding within an authority it may come from sources such as Prudential Borrowing. The ADEPT Report *Funding & Financing Infrastructure: an Approach* (32) provides useful advice on sources of funding and financing to support investment decisions in highway infrastructure.

Making the Case for Asset Management

12.3.15 Asset management principles will support the case for investment in the implementation and delivery of asset management. The benefits of adopting the Asset Management Framework and investing in an asset management approach will demonstrate the benefits of funding and wider benefits, such as reducing costs over the longer term through greater efficiency, improved performance of the asset, accident reduction and reduced public liability claims. Other indirect benefits can be achieved through improved stakeholder satisfaction.

RECOMMENDATION 9

MAKING THE CASE FOR ASSET MANAGEMENT

The case for implementing the Asset Management Framework should be made by clearly explaining the funding required and the wider benefits to be achieved.

12.4 ORGANISATIONAL CONSIDERATIONS

12.4.1 Local authorities own and manage a portfolio of infrastructure assets, including highways and property. Asset management may be developed in different ways and to various degrees for different assets, so it is important that a coordinated view of asset management policy and strategy is taken at leadership level. It is essential to have an organisational structure that facilitates implementation and delivery of asset management by appropriately empowered and competent staff.

12.4.2 Asset management can be organised on a centralised or de-centralised basis within an authority. A mainly centralised approach facilitates consistency across assets, but with the risk that it may become remote from implementation and that issues regarding delivery of the service and funding requirements may not be fully understood. Conversely, a mainly decentralised approach, possibly based around service or area teams, may be aligned with and close to the critical issues and risks, but provide a fragmented overall approach and culture.

12.4.3 Whatever organisational structure is adopted, consideration must be given to the roles and relationships involved in asset management. If a centralised approach is adopted, it is important that asset management is an integral part. If a decentralised approach is adopted, it is important that asset management is linked to corporate activity at a strategic level, perhaps through a cross-organisation steering group that coordinates overall asset management strategy.

12.4.4 Regardless of how roles are structured and defined, asset managers need to work closely with others, including finance and strategic planners to ensure that asset management is strongly aligned with wider activities.

12.4.5 Decision making on key matters such as lifecycle planning, financial planning, works programmes and investment in asset management systems should be made for the long term and be sustainable. Depending on the way risk is allocated, this will normally imply that such decisions are the responsibility of the authority, rather than service providers. If consultancy support is engaged to help support asset management, it is important that decision making resides with the authority.

12.4.6 An exception may be where asset management risk has been transferred to another organisation for many years, such as through a Private Finance Initiative (PFI) arrangement over 25 years. Where asset risk is transferred the performance of the assets in the period after their return should be considered. Some PFI contracts provide an obligation to consider the performance of the assets up to 15 years after handback.

12.4.7 Asset management may be considered at three levels within an organisation, namely strategic, tactical and operational (Figure 7):

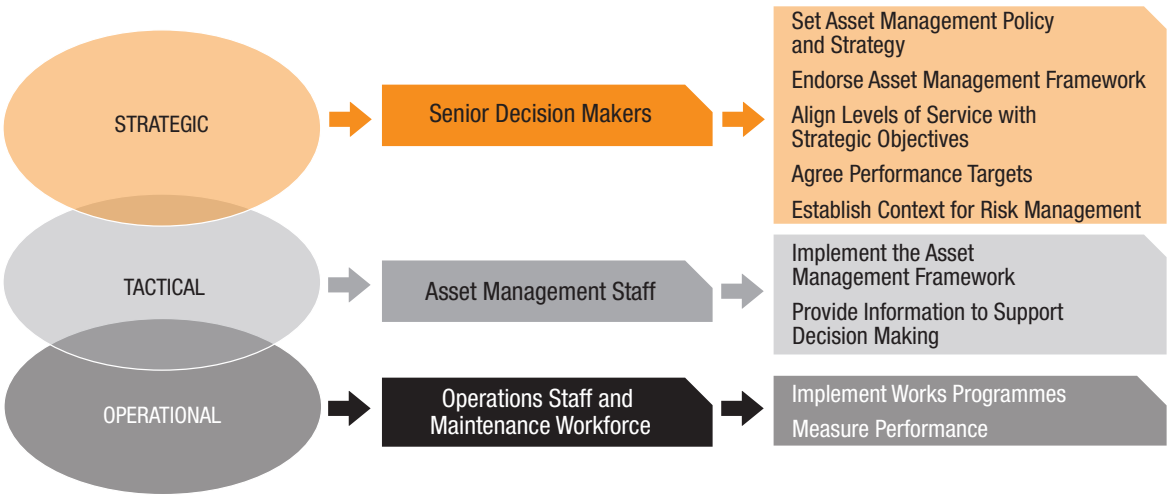


Figure 7 – Organisational Hierarchy

12.4.8 Typical strategic aspects of asset management include:

- Development and endorsement of an Asset Management Framework;
- Developing and agreeing asset management policy, strategy and levels of service and performance targets; and
- Reviewing achievement of outcomes and benefits.

12.4.9 In developing the strategic aspects of asset management senior decision makers should have clear sight of the outcomes they wish to achieve.

12.4.10 At a tactical level decisions are made on how to meet the performance requirements arising from the asset management strategy. These decisions require knowledge, information and data in the form of asset inventory, condition data and predicted performance of the network. Decisions for lifecycle planning and works programmes can be made using the techniques described in Section 9 and Appendix F. Typical tactical aspects of asset management include:

- Development of an Implementation Plan, as described Section 16;
- Preparation of the Highway Infrastructure Asset Management Plan (HIAMP) and/or other supporting documents, as described in Section 11;
- Development of a functional network hierarchy;
- Preparation of lifecycle plans and financial plans to meet either budgets or performance targets;
- Developing the approach for prioritising schemes;
- Developing works programmes; and
- Developing annual programmes.

12.4.11 The operational level is about delivery of maintenance activities that align with the approach to asset management. Typical operational aspects include:

- Collection of data, including inspections, safety and serviceability defects and asset condition;
- Management of asset data;
- Reactive work, including rectification of defects and winter service;
- Cyclic maintenance;
- Confirmation that works programmes can be implemented to budget and timescale;
- Implementation of a works programme;
- Co-ordination of works, including utilities, roadspace booking or permitting requirements; and
- Reporting on the performance of the asset.

Maintenance work, image courtesy of Asphalt Industry Alliance

CASE STUDY – GLOUCESTERSHIRE COUNTY COUNCIL

COMMISSIONING SERVICES

Gloucestershire's values are: 'Living within our means', 'providing the basics' and 'helping communities to help themselves'. To be clear about what the Council will do, work is now thought about in terms of outcomes for individuals or communities, rather than outputs. The Council has moved away from a traditional directorate based structure to a structure based on Commissioning and Delivery.

Commissioning: longer-term or strategic decision-making for allocating resources, prioritising outcomes and managing internal service level agreements and external contracts. Commissioners' roles are to secure delivery though internal providers, contracts with external providers and partnerships with other agencies and communities to achieve the Council's strategic outcomes.

Delivery: operational delivery to manage operations and ensure front-line services deliver for customers.

A highways commissioner sits within the Commissioning structure with a small team responsible for asset management, procurement and contract management. Staff managing day to day operations sit within Delivery in either internal support or external front line delivery teams.

The benefits of the structure are:

- Commissioners have a more detailed understanding of the needs and expectations of local people and the resources available to meet those needs; and
- Delivery gives front-line staff the flexibility to put customers first.

12.5 KEY ROLES

12.5.1 There are a number of key roles in developing and delivering asset management:

- **Senior Decision Makers** – Asset management policy, strategy and performance requirements need support and endorsement from senior decision makers. Successful asset management requires leadership, an organisational culture and structure to implement asset management and financial commitment from senior decision makers, senior decision makers should undertake a formal review of the approach adopted for asset management from time to time; and
- **Asset Managers and Practitioners** – Asset managers and practitioners should be responsible for developing and delivering the approach to asset management that has been agreed with senior decision makers and documented in the strategy and performance requirements. Collection and management of appropriate data, development of lifecycle plans, forward programmes and of works programmes will be required to support the approach and to meet the asset management requirements.

12.5.2 Appendix K includes advice on roles and responsibilities for staff who are involved in asset management activities.

12.6 COMPETENCY AND SKILLS

12.6.1 Over the last few years, valuable experience has been gained by the sector on the implementation of asset management and the skills required, such as technical expertise, financial planning and communication.

12.6.2 Authorities should identify the competencies necessary to meet their requirements for asset management. Where these competencies are not available in the organisation training of staff may be required. Recruitment, mentoring or collaboration with other authorities may also be considered.

12.6.3 If all the competences or resources are not available, external support can be an effective way of addressing gaps, particularly if part of the role is to build capability in the organisation. It is important that ownership is retained within the authority and that asset management staff have enough knowledge to be smart purchasers.

12.6.4 The Institute of Asset Management Competencies Framework (46) provides useful advice in identifying and assessing competencies for asset management roles within an organisation. Asset management capability for procurement is described in the *Infrastructure Procurement Route Map* (45).

12.6.5 Competencies may fall under several broad headings namely:

- Leadership and governance;
- Communications and relationship management;
- Strategic thinking and decision making;
- Risk management;
- Business management, finance, resources, tools, information management;
- Planning development and review;
- Asset understanding;
- Lifecycle management;
- Technical skills, including choice of treatments and materials;
- Procurement and contract management; and
- Delivery.

12.6.6 In assessing competency, consideration should also be given to the maturity of the organisation, as described in Section 16.

Training and Development

12.6.7 To maintain competency regular training should be considered for staff undertaking roles in asset management, such as the Highway Asset Manager. This will ensure the authority has the continuing ability to efficiently and effectively prepare, implement and review their approach to asset management.

12.6.8 Investment in development of staff will support the overall improvement in the implementation and delivery of asset management supporting the subsequent business benefits.

Succession Planning

12.6.9 Long term asset management involves many different people over time. As people change and as the approach evolves it will be necessary to ensure an orderly transfer of knowledge. This can best be achieved where those involved in asset management have clear roles and where due consideration is given to succession planning and the smooth hand-over of responsibilities.

CASE STUDY – SOUTH EAST 7 COUNCILS

BRIGHTON UNIVERSITY MSc IN HIGHWAY ENGINEERING

The University of Brighton has teamed up with seven local highway authorities and their main service providers to launch an MSc in Highway Engineering, billed as the first course designed specifically to develop a blend of highway engineering and management skills.

Local authorities in the South-East, including Brighton & Hove, West and East Sussex, Surrey, Hampshire, Kent and Medway Councils and their service providers, have funded 19 places on the new Masters Course, which has been developed with the University. The first two intakes of students were in February and October 2012 and contain students from both local authorities and service providers.

Surrey County Council leader David Hodge said the aim for the councils was to combine forces and create the excellent Heads of Highway Services of the future. "People delivering highway services need to be equipped with skills that are hard to acquire on traditional engineering courses. Only by having the best staff can we provide the best services."

The University believes that the Masters Course, which is designed to take Engineering graduates who have successfully completed BEng or HND courses, will fill a gap in the market, by advancing engineers' skills. The course includes six core modules in Highway Engineering Context, Theory, Contracts, Design & Implementation, Asset Management & Engineering and Management, as well as a dissertation project. Knowledge in contract management and commissioning, as well as on the technical aspects of highway engineering, are essential for effective highway engineers, and the course aims to develop these through work placed learning, supported by intensive study weeks.

This course demonstrates how collaboration between the University and employers can ensure that programmes of study are aligned with the needs of specific sectors.

Some Councils, having to rationalise staff in the past, have lost technical expertise and knowledge base. The authorities are collaborating and bringing resources together to ensure that this mistake is not repeated, and council staff with responsibility for delivering the highway service, including asset management, have the right skills.

The aim is for highway engineers to gain good management and technical skills and the SE7 consortium have championed the need for a qualification that reflects the changes in the local authority role.

Managing Change

12.6.10 Step changes to service delivery may require significant change to the established asset management processes. Failure to recognise this may lead to slow progress in implementing asset management and realising the benefits it offers. Authorities need to ensure good change management practices are applied to delivering the management of its highway infrastructure assets. Authorities should identify resources required to support change management and ensure that input in this area is considered appropriately.

RECOMMENDATION 10

COMPETENCIES AND TRAINING

The appropriate competency required for asset management should be identified, and training should be provided where necessary.

13. RISK MANAGEMENT

13.1 INTRODUCTION

13.1.1 Risk management supports the approach adopted for making decisions through the asset management planning process. Risk management is a discipline in itself and covered by ISO 31000 Risk Management (47). This Guidance does not aim to provide detail on how risk management should be implemented but provides advice on how it can support the approach to asset management.

13.1.2 A risk can be defined as an uncertain event, which, should it occur, will have an effect on the desired performance of on an asset or series of assets. It consists of a combination of the likelihood of a perceived threat or opportunity occurring, and the magnitude of its impact on the objectives, where:

- **Threat** is used to describe an uncertain event that could have a negative impact on the levels of service; and
- **Opportunity** is used to describe an uncertain event that could have a favourable impact on the levels of service.

13.1.3 Highway authorities are required to manage a variety of risks at strategic, tactical and operational levels. The likelihood and consequences of these risks can be used to inform and support their approach to asset management and inform key decisions regarding performance, investment and implementation of works programmes.

Flood damage, image courtesy of Cumbria County Council

13.1.4 Successful implementation of the Asset Management Framework requires a comprehensive understanding and assessment of the risks and consequences involved. Understanding of risk enables the asset management process to address the issues identified.

13.1.5 The most commonly understood risks affecting the highway service relate to safety. However, there are a wide range of other risks and their identification and evaluation is a crucial part of the asset management process. Risks may include:

- Safety;
- Reputation;
- Asset loss or damage;
- Service reduction or failure;
- Operational;
- Environmental;
- Financial; and
- Contractual.

13.1.6 Understanding and management of risk is fundamental to effective asset management and should figure strongly in the training and development programmes for asset managers, as described in Section 12. An approach that may be adopted for the management of risk is shown as in Figure 8 below.

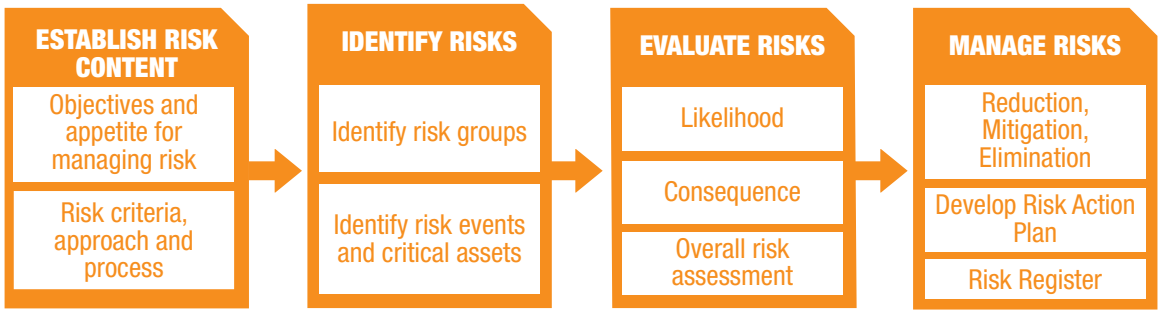


Figure 8 – Risk Management Process

13.2 APPROACH TO RISK MANAGEMENT

13.2.1 Risk can be managed at several levels using a consistent risk framework that enables the comparison of risks across all services. This may include risks seen as:

- **Corporate** – High level risks that effect the whole authority. Such risks include corporate reputation, civil defence, emergencies; business continuity, health and safety, political and legal and financial risk. Risk policy and management of these risks is usually undertaken by the senior decision makers and is beyond the scope of this Guidance;
- **Strategic & Tactical** – Risks affecting the management of the highways infrastructure should be considered throughout at both strategic and tactical levels. This Section focuses on these risks; and
- **Operational** – Risk should also be managed when undertaking operational activities. Advice is provided in the UKRLG Codes of Practice (10, 11, 12, 13).

13.2.2 The risk management approach to support asset management should build on the authority's corporate approach to managing risk. The following aspects will need to be considered:

- **The nature of the service** – Does the risk effect how the approach to asset management will be achieved?
- **Legislation** – Are risk management processes mandated, such as public health and safety or the environment?
- **Cost** – Is the effort put into assessing and managing the risk in proportion to the risk exposure?

13.2.3 To support asset management, authorities should have an understanding of:

- Which assets are critical to the functioning of the network;
- What could affect the delivery of the required performance, including meeting stakeholder expectations;
- The level of funding;
- The level of risk that is acceptable; and
- Options to mitigate all those risks deemed unacceptable.

13.3 IDENTIFYING RISKS

13.3.1 At the strategic and tactical level, risk types may be grouped together. These groups together with examples are shown in Table 1.

Planning Risks	Strategic planning Asset management strategy Performance and level of service and performance Asset management planning Funding and investment Climate change / natural events and environmental
Management Risks	Leadership and organisation Stakeholder and communication Information and data People, including competency Financial IT including asset management system
Delivery Risks	Procurement Cost Works programming Scheme identification and design Contract and project management
Asset Risks	Risks common to all assets including investment, performance and loss of service Risks associated with specific asset types such as severe consequence of failure, accessibility and construction

Table 1 – Risk Groups

13.3.2 Issues to be considered as part of the risk identification process may include:

- What are the risks to achieving the asset management strategy and levels of service?
- What is the source of each risk?
- What might happen?
- What would the effect be?
- When, where, why and how are these risks likely to occur?
- Who might be involved or impacted?
- What controls presently exist?
- What could cause the control to not have the desired effect on the risk?

13.3.3 Risks can be identified at different levels of detail. For example, an asset risk defined as "failure of a bridge due to scour" may be an acceptable level of detail in some cases, whilst in others it may be desirable to describe the risk in more detail for each component of a bridge. It may, for example, be decided to undertake a specialist assessment of each failure mode for each component of each bridge. This is the basis of a risk based approach to inspection, described in more detail in Section 8.

13.3.4 A common approach is to commence the risk identification at a high level to obtain an assessment for the level of overall risk exposure. This may then be followed by a detailed assessment of more specific risks where critical assets, critical failure modes and high risk areas can be defined and analysed in greater detail.

13.3.5 A risk register can be established to record all relevant risks together with the agreed mitigation. A regular review of the risk register should be undertaken by asset management staff. Where another party is involved for example the Highways Agency or Network Rail, the register will need to identify the assignment of risks between the respective parties. An example of a risk register is given in Figure 9.

Record type	ID	Title	Owned by	Status	Review date	Current Risk level	Residual Risk Level
Risk	431	Delivery of Surface Dressing Programme 13/14	Davies, Rebecca	Open	30-Jul-13	VH (24)	H (18)
Risk	432	Reputational risk of non delivery of Highways Local	Harries, Kris	Open	30-Jul-13	VH (22)	H (18)
Risk	437	May 2013 Elections	Marsh, Simon	Open	30-Jul-13	M (13)	L (8)
Risk	445	Serious accident claim at Risford surface dressing site	Davies, Rebecca	Open	30-Jul-13	VH (23)	H (19)
Risk	491	Burnshall PI claim	Davies, Rebecca	Open	30-Jul-13	H (18)	M (13)
Risk	1233	Delivery of Beechbridge Major Project	Davies, Rebecca	Open	30-Jul-13	H (20)	L (8)
Risk	1461	Loss of hearing claim - J Riley	Harries, Kris	Open	30-Jul-13	VL (3)	VL (2)
Risk	1587	Surface dressing programme - remedial works - accidents	Marsh, Simon	Open	30-Jul-13	H (18)	M (12)
Risk	1752	Fatal on B4565 16 Feb 2013 on road that had recently been surface dressed - Privileged and Confidential	Marsh, Simon	Open	30-Jul-13	H (18)	M (12)
Risk	2414	Mike Davies - Claims	Harries, Kris	Open	30-Jul-13	VL (4)	VL (2)
Risk	2636	Lower Lingsford Safety Scheme	Davies, Rebecca	Open	30-Jul-13	VL (3)	VL (3)
Risk	3410	Change in key stakeholders associated with the Highways Contract	Marsh, Simon	Open	30-Jul-13	M (13)	L (7)
Risk	3617	A797 between Burrow's Lodge and Green Carr (pedestrian fatality)	Marsh, Simon	Open	30-Jul-13	H (19)	M (13)
Risk	4010	Potential claim from Authority for Fatal Accident at A790 Crallinge - Privileged and Confidential	Marsh, Simon	Open	30-Jul-13	H (19)	M (13)
Risk	4126	Claim from Accident at work - Muhammad Tahir	Denby, John	Open	30-Jul-13	M (14)	M (14)
Risk	4598	Potential Claim from Accident at Work - Robert Lovelace	Harries, Kris	Open	30-Jul-13	M (14)	M (14)
Risk	4621	Potential criminal investigation into Fatality at B4292 Redbath - Privileged and Confidential	Marsh, Simon	Open	30-Jul-13	VH (22)	H (18)
Risk	4739	Uninsured Plant	Denby, John	Open	30-Jul-13	VL (3)	VL (3)
Risk	4745	Revised policy does not match available resources and budget	Marsh, Simon	Open	30-Jul-13	M (13)	M (11)
Risk	4821	Lack of support for Highways Dept (HD) from LA staff in HD	Marsh, Simon	Open	30-Jul-13	M (13)	M (11)
Risk	4837	Claims arising from Healthcare checks	Harries, Kris	Open	30-Jul-13	M (14)	M (14)
Risk	4891	Pension deficit in ex-authority City DLO	Marsh, Simon	Open	30-Jul-13	M (13)	L (7)

Figure 9 – Risk Register Example

13.4 IDENTIFYING CRITICAL ASSETS

13.4.1 Critical assets are those that are essential for supporting the social and business needs of both the local and national economy. They will have a high consequence of failure, but not necessarily a high likelihood of failure. These assets should be identified separately and assessed in greater detail as part of the asset management planning process.

13.4.2 By identifying critical assets, authorities can target and refine investigative activities, maintenance plans and financial plans at the most crucial areas. Such assets may include special and major structures such as estuarial crossings. They may also include access to assets owned by third parties such as substations, where access is via a single track road but with accessibility being critical. Critical assets are also discussed in Section 3.

13.4.3 Criticality can be assessed by applying broad assumptions about the implications of failure. For example, whether the non-availability of a major structure or tunnel would have a significant impact on the local or possibly the national economy, or assuming that higher trafficked roads have a larger consequence of failure than lower trafficked. Using this approach, simple criteria can be defined to assess the loss of service. For example, loss of use of a road will:

- Affect or disconnect specific parts of a community;
- Affect businesses of different sizes and significance; and
- Affect specific numbers of road users/hour.

13.4.4 Depending on the criticality of the asset, the risk management approach may be at a network level by ensuring diversions are available and have minimal impact, individual asset level, or at a detailed component level with extensive consideration of failure modes

13.5 EVALUATING THE RISKS

Risk assessment

13.5.1 Risk assessment involves determination of the likelihood and consequence of an event. Risk assessment allows the identified risks to be analysed in a systematic manner to highlight which risks are the most severe and which are unacceptably high. An authority can then determine its level of exposure to the risk and the actions necessary to minimise that risk. An example of assessment of the likelihood and consequence through a qualitative matrix approach is illustrated in Figure 10.

13.5.2 Overall risk is normally described as:

Risk = Likelihood x Consequence

Likelihood

13.5.3 Likelihood is the chance of an event happening, for example, a failure (asset as well as organisational) or service reduction. It can be measured objectively, subjectively, qualitatively or quantitatively. It can be described using general or mathematical terms such as frequency or probability. Issues to be considered include:

- Changes in policy and funding;
- Current and historic performance (severity and extent) of the asset;
- Severity of the environment, rate of deterioration and/or current age of the asset;
- Asset type, material type, mode of failure, extent of failure, etc;
- Exposure to incidents of all types;
- Human behaviour and workmanship;
- Vulnerability to climate change; and
- Quality of asset management approach and systems.

13.5.4 The likelihood of physical failure of an asset is related to the current condition of the asset, hence the importance of realistic and accurate condition assessment. The likelihood of natural and external events is determined less easily but scientific studies are usually available. The likelihood of other events, such as poor work practices or planning issues can be difficult to ascertain.

13.5.5 Examples of physical failures include loss of bridges such as in Cumbria in 2009 as described in the case study in Section 3, and landslides as experienced in Scotland on the A9, A83 and A86. These highlight the vulnerability of the rural road network and the communities it serves. Other more minor failures may include streetlight lighting columns, but failure may have a significant impact on safety.

Consequence

13.5.6 Consequence is the outcome of an event, such as increased journey times, isolation of local communities or a drop in public perception of the service provided. It can have positive or negative effects and can be expressed qualitatively or quantitatively. The consequences associated with an event leading to failure or service reduction may include:

- **Safety** – including fatalities and personal injuries;
- **Functionality** – impact of a loss or reduction in service at route, asset or component level, such as weight restrictions on a bridge;
- **Cost** – increased costs due to bringing forward or delaying work, repair costs, fines or litigation costs and loss of income or income potential;
- **Sustainability** – any impact on future use of highway infrastructure assets.
- **Environment** – environmental impacts, such as pollution caused through traffic delay or contamination from spillages, the sensitivity of the route/area, etc;
- **Reputation** – public confidence in organisational integrity; and
- **Community costs** – damage to property or other third party losses, which may include business impacts, traffic delays, etc.

LIKELIHOOD OF EVENT OCCURRING	CONSEQUENCE OF EVENT OCCURRING				
	NEGLIGIBLE	LOW	MEDIUM	HIGH	SEVERE
NEGLIGIBLE	1	2	3	4	5
VERY LOW	2	4	6	8	10
LOW	3	6	9	12	15
MEDIUM	4	8	12	16	20
HIGH	5	10	15	20	25

KEY TO RISKS		
LOW	MEDIUM	HIGH

Figure 10 – Qualitative Matrix Approach

13.6 MANAGING THE RISKS

13.6.1 The "risk appetite", or the amount of risk the authority is willing to accept in pursuit of its objectives should be understood. In doing so, the risks requiring further consideration for action or mitigation should be defined. This may be done through a risk policy where the statement of the overall intentions and direction of the authority may be stated.

13.6.2 Mitigation options should be identified for all risks assessed to be unacceptable. Unacceptable risks may include:

- High risks, where the product of likelihood and consequence exceeds a threshold, e.g. all risks assessed as "high" or "extreme";
- High consequence events, even where the likelihood may be very small;
- Risks with legal or particular compliance requirements; and
- Risks which may be readily reduced for little cost.

13.6.3 There will usually be many options to reduce the likelihood and/or consequence of different risks. If agreed and implemented, these may result in anything from minor reductions to almost total risk elimination. Some risks can be addressed more easily and effectively than others and costs may range significantly. Analysis of the costs of risk reduction against different options will assist in identification of the optimum solution.

13.6.4 Risks and their management should be addressed as part of the asset management planning process. In particular, they can form part of the decision making process described in Section 9. Where physical works are part of the measures to mitigate the risks they should be considered as part of the works programme described in Section 10.

13.7 MONITORING AND REVIEW

13.7.1 A Risk Action Plan may be prepared which consolidates the risk register, evaluation, mitigation to be undertaken, resources, timeframes and responsibilities. Alternatively this information may be summarised within the Highway Infrastructure Asset Management Plan or other documentation and should support the lifecycle planning process and works programming described in Sections 9 and 10 respectively.

13.7.2 The Risk Action Plan should be reviewed by asset management staff and senior decision makers on a regular basis and updated as appropriate. The scope, responsibilities, timeframes, method and frequency of reviews should be documented.

CASE STUDY – CITY OF WESTMINSTER

IMPLEMENTING A RISK MANAGEMENT APPROACH

London Boroughs have in place long established procedures and practices for dealing with highway maintenance. However, many of these were not documented. The City of Westminster was the first Borough to fully document their standards and practices in respect of highway maintenance, in accordance with *Well-maintained Highways*.

In order to promote consistency across London, the London Technical Advisors Group (LoTAG) built upon the work of the City of Westminster and produced a generic document titled, "Framework for Highway Maintenance Management Plan" as the London-wide standard. This provides a starting point for Boroughs to develop their own unique Plan in a standard format with common methodology. This framework document was endorsed by Zurich Municipal insurers and although it was produced primarily for London Boroughs, it is applicable to all local highway authorities in the UK.

Westminster City Council's approved Highways Maintenance Management Plan sets out how Highways Inspectors shall undertake the risk assessments of highway defects that have reached or exceeded agreed investigatory levels, to determine whether a repair is necessary and, if so, the appropriate repair period to be applied. The risks to be considered are all those with a defect severity at or in excess of the agreed investigatory level.

The key to the risk assessment are the basic 'principles' that are applied for quantifying the likelihood and impact of risks (each being quantified on a scale of 1 to 5) as the response Category, and thereby the timescale for rectifying the defect, is determined from the Risk Factor calculated as the product of the Probability Score and the Impact Score (a maximum score of 25 can be achieved).

The City Council's 'Risk Register for Highway Safety Defects', that includes a wide range of defect types likely to be encountered on Westminster Streets, has been incorporated into hand held devices and is used on-street by the Highway Inspectors to easily assess each defect type in terms of its extent, location, network hierarchy and type of usage. Automatic 'orders' are then created and issued electronically to the City Council's Service Provider for them to action within the timeframes set for defect rectification.

RECOMMENDATION 11

RISK MANAGEMENT

The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included, as should appropriate mitigation measures.

14. ASSET MANAGEMENT SYSTEMS

14.1 INTRODUCTION

14.1.1 Asset management systems provide information on location and performance of highway infrastructure assets and ultimately support decision making and reporting. This Section provides advice on how these systems can enable asset management through appropriate management, reporting and communication of information and data. Advice is also provided on how investment in these systems can be made in a sustainable manner.

14.1.2 Good asset management must be supported by robust processes, as well as good quality, repeatable and reliable data. The data and information required for asset management is described in Section 8. Knowledge of the asset and its condition and performance is vital for making the right investment decisions, as well as for demonstrating to senior decision makers and stakeholders the overall investment requirements. It is also enables effective communication.

14.1.3 Staff undertaking asset management activities should have access to the information and data they require to fulfil their role. Effective management of this is required so that benefits in implementing asset management can be maximised over the short, medium and long term.

14.1.4 It is recognised asset management systems are essential for managing highway infrastructure assets and in particular required to deal with the increasing amount of information and data available. Most authorities already operate asset management systems, some of which are based on standalone systems and data bases. More recently there have been moves toward fully integrating these databases through single data repositories by some authorities.

14.2 FUNCTIONALITY OF ASSET MANAGEMENT SYSTEMS

14.2.1 A number of commercial, off the shelf systems (COTS), are available that provide a range of functionality to support the asset management process. Some highway authorities have developed bespoke systems. All these systems are conceptually similar and generally consist of a central database with a map-based user interface and a decision support element. They are able to hold inventory, construction, and condition data, spatially referenced to a common network. Collectively this should provide the Asset Register as described in Section 8.

14.2.2 Many have Geographical Information System (GIS) capabilities to enable spatial analysis of data and/or modelling capabilities and can be used to produce various outputs and reports. Others include operational functionality, such as routine maintenance management.

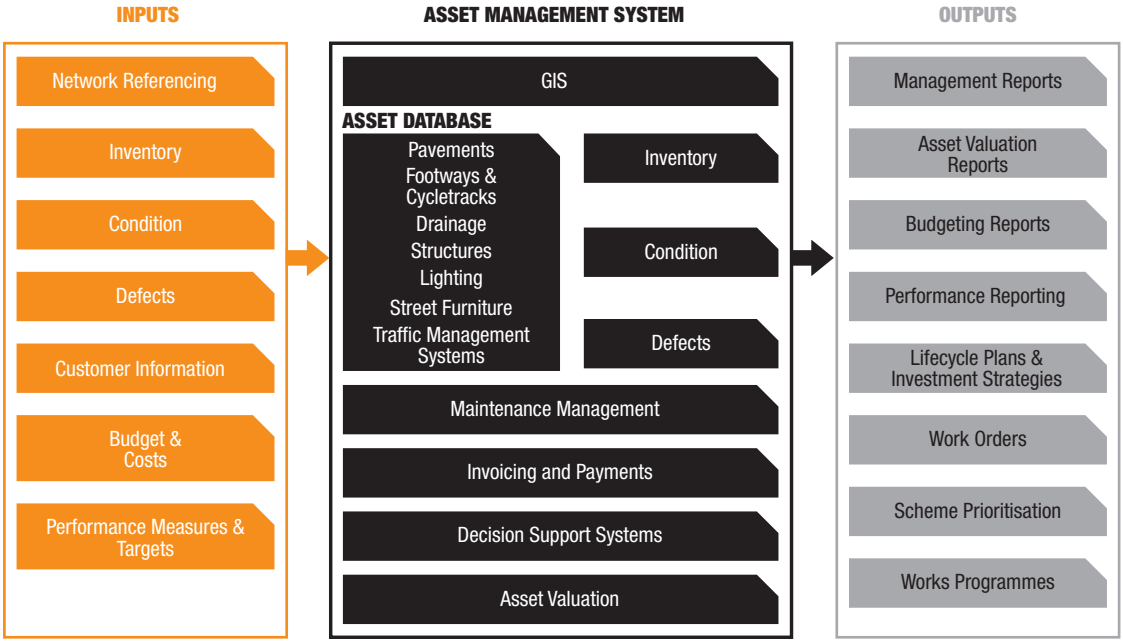


Figure 11 – Asset Management System

14.2.3 The functionality of a generic asset management system is illustrated in Figure 11. The generic components of an asset management system may be summarised as follows:

- **GIS** – This is a system that will hold and present all types of spatial data related to highway infrastructure assets. It may enable visualisation of the asset and analysis of data and presentation in a format usually with background mapping;
- **Asset database** – The asset database is a register of assets. At its most advanced level it may be a single integrated database. Equally, it may comprise separate asset registers for each asset group, e.g. pavements and structures will have separate databases. It may hold inventory and condition data for each asset type. For example, a pavement management system such as UKPMS will hold inventory, condition and defects for pavements. A lighting management system would hold inventory data, maintenance history, condition and inspection data;
- **Maintenance management** – A maintenance management system will record routine maintenance defects from safety inspections or reported by the public, and support raising works orders for their repair;
- **Invoicing and payments** – Linking to the maintenance management system will ensure invoices and payments are made and are auditable;
- **Decision support systems** – These will link to the asset database and support predictive modelling to determine future condition of an asset. They are likely to be integrated into more advanced asset management systems. They will be used to develop lifecycle planning and develop works programmes. They should also be able to support prioritisation of candidate schemes; and
- **Asset valuation** – An asset valuation system will calculate Gross Replacement Costs and Depreciated Replacement Costs as part of Whole of Government Accounts, based on information provided in the asset database including inventory and condition.

14.2.4 The inputs to the system are discussed in more detail in Section 8. The outputs should provide the information and data required to support the asset management process.

14.2.5 Many authorities now have systems to support all their asset types, including pavements, footways, cycleways, street lighting, traffic signals, structures and rights of way. In some cases these are databases and have limited functionality to allow processing of condition to determine long term performance. Some systems have been developed for specific asset types. There are also a few integrated products offering additional packages such as streetworks and customer communications.

14.3 CONSIDERATIONS FOR ASSET MANAGEMENT SYSTEMS

14.3.1 The key aspects that authorities should consider when reviewing, investing and upgrading asset management systems are described below.

Identifying Requirements

14.3.2 Whether purchasing a new asset management system or upgrading an existing one, it is important that authorities define their system requirements as a starting point. As systems become more complex, poorly informed decisions on their selection may be costly to rectify.

14.3.3 Before setting system requirements asset management requirements should be developed, including data, decision making and communications. Authorities should review any systems in use and seek the views of users at all levels in the organisation. Authorities should include their IT staff to ensure the proposed solution is compatible with other systems. The following should be considered:

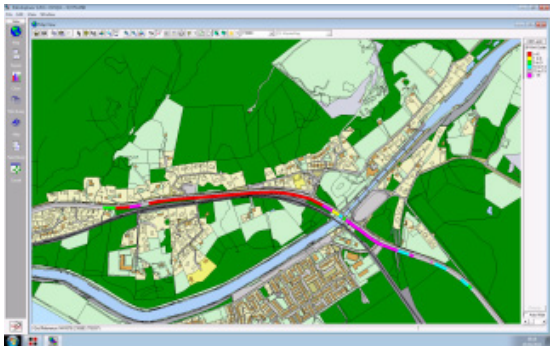
- How the system will be used to support the overarching asset management strategy and levels of service, including reporting requirements;
- The information needs identified in their asset management strategy and how the system will support those needs in terms of uploading, management and reporting of data;
- The asset management planning processes that the system will support, including maintenance decisions;
- Type and quality of data in existing systems;
- Associated requirements for hardware, software, licences, data and processes, which may require input from the IT function within the authority whether the system is hosted or in-house;
- Information security policies and standards of the authority;
- The long-term sustainability of the solution;
- The number of potential users and data owners;
- User support requirements;
- Access and use the system; and
- Staff competency and training.

Making the Case for Asset Management Systems

14.3.4 It is recognised that varying requirements for existing systems, as well as developing and implementing new systems can be a costly process. The associated licensing and training can also be expensive.

14.3.5 Where authorities need to invest in existing or implementing new asset management systems, the business benefits of any large investments should be clearly understood. Where this is the case, authorities should consider developing a business case as discussed in Section 12. The case should recognise that using asset management systems is key to managing data, reporting and supporting decisions to deliver effective and efficient asset management.

14.3.6 When selecting an asset management system, future costs should be considered, including costs of long term support. If the cost is not sustainable then the authority should review their data collection and reporting requirements. It is important that a sustainable approach is developed.



Screenshot of asset management system, image courtesy of Transport Scotland

Managing the Asset Management System

14.3.7 Asset management systems are becoming complex in terms of software, hardware and the volume of data and number of users they support. For some authorities it is likely to be the largest IT systems they have. It is therefore important that IT staff are involved in setting requirements, selecting and setting up systems.

14.3.8 Others matters to consider include day-to-day support of the system, product updates and system development. These are key management considerations that must not be ignored if the asset management system is to remain fit for purpose. There are benefits in having local support as well as corporate support and each will have their own costs which must be considered.

14.3.9 Where an externally managed arrangement is used such as a hosted service, accessibility and development are still key matters that need to be considered as part of any arrangement with a service provider.

14.3.10 Where GIS requirements are separate from the asset management system, it is important to include any specific user licence requirements within the management of the asset management system.

14.3.11 Where highways maintenance service providers are required to access the asset management system, due consideration to their access and any authorisations necessary for external access need to be resolved at an early stage.

Access, Training and Competency

14.3.12 The asset management system should be accessible to all relevant staff involved in asset management to ensure they have the information and data required to undertake their role effectively. This may include staff from service providers and staff in remote locations, such as depots. Access arrangements need to be made based on the authority's IT management approach and function. In providing access to staff, all corporate information assurance and security requirements need to be complied with.

14.3.13 Staff using asset management systems should be competent in their use. This may include training in certain aspects that are appropriate to their requirements. Training may be provided from a number of sources, including the system provider, through collaboration with other authorities using similar systems, or through user groups.

Benefits of Asset Management Systems

14.3.14 Asset management systems should be designed and upgraded to enable value from asset information and data to be maximised. With continual advancements in systems and technology, a number of potential benefits may be achieved that will support asset management including:

- A single source of asset data, reducing the risk of multiple databases with similar but inconsistent data;
- Visual representation of the network, enabling senior decision makers to better understand the performance of the network and the consequence of investment decisions;
- Support for objective investment decisions using lifecycle planning approaches, enabling the consequences of funding scenarios to be identified and presented quickly and efficiently;
- Providing evidence to justify service outcomes or maintenance budgets;
- Reporting against performance targets developed as part of the asset management planning process using visual displays such as dashboards;
- Reporting and presenting long-term prioritised works programmes in a way that can be communicated effectively to stakeholders, including the public, staff, and service providers;
- More effective management, through scheduling and optimisation of maintenance activities, including combining of works, potentially in single road closures; and
- Improving consistency, transparency and accountability through process efficiencies, reducing duplication and supporting better data management.

Review and Upgrade

14.3.15 Asset management systems, like all computer systems, require upgrading from time to time. In particular, as the maturity of an authority in asset management improves, systems that support more advanced analysis of data may be required. As with other aspects of asset management, systems need to be reviewed regularly to ensure that they adapt to changes within the authority, including information and data requirements.

Total Cost of Ownership

14.3.16 Asset management systems can be expensive both in terms of initial capital cost and also in terms of licences, upgrades, and training. It is therefore important that the asset management system is sustainable in the long term. Authorities should therefore consider the Total Cost of Ownership when making investment decisions. This will typically include:

- Cost of the procurement process;
- Annual software licence costs, including associated database and other software licences and user licences;
- Hardware and communications infrastructure;
- Third-party software licences;
- Implementation and product configuration costs;
- Initial and continuing user training;

- Data cleansing and migration from existing systems;
- Establishment of any interfaces with existing systems;
- Continuing support and maintenance, including upgrades;
- Potential changes to business processes;
- Internal project management costs;
- Costs of externally managed systems;
- Cost of IT support; and
- Data security.

RECOMMENDATION 12

ASSET MANAGEMENT SYSTEMS

Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders.

CASE STUDY – TRANSPORT SCOTLAND AND WELSH GOVERNMENT

PROCUREMENT OF ASSET MANAGEMENT SYSTEMS

Transport Scotland and the Welsh Government have for many years, in common with UK good practice, been developing and using a number of asset management systems to support decision making.

Discussion between Transport Scotland and Welsh Government identified that procuring future contracts in collaboration could provide better value for money to both organisations, as requirements for asset management systems are very similar.

A business case identified that procurement of a single contract for the supply of an Integrated Road Information System (IRIS), including all road condition surveys, was the optimum solution. The objective of the IRIS contract was to bring IT asset management services under one supplier, replacing various existing contracts as they expired, providing greater integration and delivering significant cost savings. A system was procured in 2012 for a seven year period.

A Collaboration Agreement identifying the roles and responsibilities of both Scottish and Welsh Ministers in the management of the IRIS Commission was developed.

IRIS is a fully integrated system with over 20 core functions, including pavement, structures, lighting, environmental, geotechnical and drainage management systems. IRIS is a flexible system that will be adapted over the life of the commission to support future business needs and has the potential to set new industry standards.

The benefits of developing the system are that all data will be centrally accessible and reportable, with a staged delivery ensuring a seamless migration.

Procurement of Asset Management System

14.3.17 The procurement of an asset management system, as well as any large scale upgrades, required by and authority will have to be in accordance with their procurement rules. It is therefore advisable to seek advice from appropriate procurement staff at the start of the process. When considering the approach to procurement, COTS products will need to be considered against bespoke system development. In general any decision on this will be a compromise between:

- Standard products with each having variable adaptability to existing business processes and in costs of adapting;
- Initial development cost and future product development costs; and
- Internally hosted product versus an externally hosted management service.

14.3.18 Software vendors are increasingly offering web based managed service solutions hosted externally. Externally managed solutions can be cheaper and remove the need for internal hardware and infrastructure however, they may reduce the level of knowledge and control that users have over the systems and processes.

14.3.19 Authorities should also consider collaborative procurement with other authorities. This may require compromise where requirements or priorities differ.

Supporting Communications

14.3.20 Communications with stakeholders should be considered as part of setting requirements for the asset management system. Asset management systems should provide essential information to support the communication strategy described in Section 3. This information can be provided to the public via websites and to staff via the intranet. Any information communicated to the public needs to be concise and updated regularly.

15. PERFORMANCE MONITORING

15.1 INTRODUCTION

15.1.1 Performance monitoring is the process of monitoring and reviewing the Asset Management Framework. A well developed approach to performance monitoring will support authorities in reviewing progress in the delivery of their asset management strategy, performance requirements and works programmes.

15.2 PERFORMANCE MONITORING

15.2.1 Information and data arising from implementation and delivery of asset management may be used in identifying actions for continual improvement of the approach, including delivery of the overall service. Such an approach will enable relevant processes and practices to be assessed and improved where required and lessons learnt. This will form the basis for continuous improvement. It will also enable critical issues regarding performance to be identified and improvement plans developed. This approach is not intended to replace audit processes that may already be in place. Setting of and measuring of performance is discussed in Section 7.

Types of Performance Monitoring

15.2.2 Authorities should establish, implement and maintain processes to monitor the performance of their approach to asset management. This will assist in demonstrating the benefits of their approach and equally any performance improvements they choose to make. These processes should cover:

- **Strategic monitoring** – To seek assurance that asset management is being operated as intended. This shall include monitoring to ascertain whether the asset management strategy outcomes are being met, including stakeholder requirements, that the approach to asset management has been documented and implemented, and that the supporting processes are effective;
- **Performance measures and targets** – To assess the effectiveness and efficiency of asset management it should be monitored using a series of metrics at the strategic, tactical and operational levels, as described in Section 7. This will include monitoring against levels of service and supporting performance targets and determining whether they have been met;
- **System audits** – Monitoring the data in the asset management system in order to determine whether it is fit for purpose, as well as reviewing the output and how it is being used; and
- **Compliance monitoring** – Depending on contractual relationships, the performance of maintenance contractors against their contractual obligations may need to be assessed.

Frequency

15.2.3 When setting the frequency for performance monitoring consideration should be given to the balance between the cost of collecting the monitoring data and information and the risks of not having the information available. This is particularly important when considering compliance with statutory obligations and demonstrating value for money.

Benefits Realisation

15.2.4 It is important that the benefits from implementing asset management are captured and measured against those identified in the case for investment, or to support value for money initiatives or greater efficiency in delivery of the service. Recording and demonstration of the benefits may provide essential evidence for further investment. It is therefore a key success factor in the implementation of asset management and should form part of the monitoring process.

Techniques to Report Performance

15.2.5 There are a number of techniques available to report the results from performance monitoring. The techniques are described below:

- **Balanced scorecard** – presents performance metrics against a range of criteria that include key aspects of the asset management Framework. Targets and actions can then be set against each of the criteria. Subsequent performance reviews can be monitored against these; and
- **Dashboard** – a multi-layered performance management tool that enables the measurement, monitoring and management of asset management activity against the performance management regime. This may include, for example, financial measures.

Example of balanced scorecard, image courtesy of Highways Agency

15.2.6 Tools to support performance monitoring can be part of an asset management system as described in Section 14. Integrating performance monitoring in this way will ensure the same data sets are being using for performance monitoring and reporting purposes as well as for making maintenance and other investment decisions.

15.3 PERFORMANCE REVIEWS

15.3.1 Authorities should consider regular reviews to support continuous improvement. It is anticipated that the performance monitoring and reporting regime will be complemented with activities to review progress in achieving the overall requirements from asset management that have been set in the strategy.

Performance Reviews

15.3.2 Performance reviews consider results, factors contributing to performance, and options for when performance requirements have not been met. Reviews can be carried out at regular intervals, but it would be usual for them to be carried out on an annual basis.

15.3.3 Reviews should focus on the performance requirements that have been developed to support the asset management strategy and measure the progress in delivering the Asset Management Framework. They can also consider more operational requirements. Lessons learnt and improvement actions should be captured for all aspects of the process, especially where performance is below that expected.

Management Review

15.3.4 Senior decision makers should ensure that their asset management approach continues to be effective by conducting Management Reviews at regular intervals. These will consider performance reviews, other reviews, and any supporting improvement programme. The approach to a Management Review is described in PAS 55 (6).

15.3.5 The Reviews should include:

- Results of internal audits and evaluations of compliance with applicable legal and other requirements;
- The results of stakeholder engagement and relevant communications, including complaints;
- Records or reports on performance of the highway infrastructure;
- The extent to which the performance requirements have been met;
- Follow-up actions from previous Management Reviews;
- Changing circumstances, including changes in legislation, funding or other requirements related to the highway infrastructure;
- Changes in technology; and
- Comparisons of performance with similar organisations.

15.3.6 The outputs from Management Reviews may include improvement actions and possible changes to:

- Asset management policy and strategy;
- Asset management performance requirements;
- Resources for highway infrastructure maintenance and support; and
- Other elements of the Asset Management Framework.

15.4 IMPROVEMENT PLANS

15.4.1 As a result of any of the reviews, it is likely that a number of improvements may be identified. These improvements may be formally documented in an improvement plan. It should detail the expected outcomes of the improvement plan, the specific actions to be taken, the owner, the resources needed to deliver them and timescales. This will ensure that focus is maintained on the outcome of the improvement and the ultimate benefit it may provide to the authority and stakeholders.

Developing an Improvement Plan

15.4.2 The difference between current and desired practice can be identified through a gap analysis. The output will be a series of agreed improvement actions. Improvement actions can be classified as corrective or preventive as described below:

- **Corrective actions** – These are required to eliminate the reasons for poor performance as a result of using the asset management approach; and
- **Preventative actions** – These are required to eliminate potential reasons for poor performance.

15.4.3 Improvement actions may include:

- Reviewing the asset management strategy;
- Creating or improving a process or advice to ensure processes are applied consistently;
- Developing improved maturity levels or competence levels through training of staff;
- Revising and implementing the asset management planning processes to improve efficiency;
- Reviewing service provision arrangements; and
- Implementing data quality improvements.

15.4.4 Improvement actions should be prioritised and placed into timeframes that are realistic and affordable. In prioritising the actions, a balance between risks, costs, strategic priorities, levels of service and expected benefits should be achieved. The roles and responsibilities for implementing and improving asset management should be determined as described in Section 12. Further information is provided in Section 16 for authorities wish to improve their maturity to adopt more advanced asset management practices.

15.4.5 An improvement plan should have the support of senior decision makers and can be established using the following steps:

- Confirm the programme of improvement actions;
- Identify resource requirements (internal and external);
- Monitor and control the plan in terms of time, cost and quality;
- Report on progress; and
- Review project outcomes to ensure they are as desired, and take action if they are not.

RECOMMENDATION 13

PERFORMANCE MONITORING

The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken.

15.5 BENCHMARKING PERFORMANCE

15.5.1 Benchmarking is a systematic process of collecting information and data to enable comparisons with the aim of improving performance, both absolutely and relatively to others. It provides a structure to search for better practice in similar authorities that can then be integrated into an asset management approach.

15.5.2 There are four approaches to benchmarking that may be considered, each of which provides a different perspective:

- **Strategic benchmarking** – Compares outcome performance in the implementation of strategic or policy objectives across organisations;
- **Functional benchmarking** – Compares the performance and structure of an entire service area or function within an organisation;

- **Process benchmarking** – Compares and measures processes, sequences or activities with those of other organisations to identify how existing methods can be improved; and
- **Data benchmarking** – Involves the use of objective data for comparing performance, very often cost or measurement related.

15.5.3 Selection of the benchmarking network is important in providing useful information. Its significance will be improved if partners have similar characteristics.

15.5.4 There are a number of local authority benchmarking groups or networks dealing with highway maintenance. These enable authorities to share best practice and performance, including cost.

15.5.5 ADEPT and regional groups have supporting benchmarking groups in England. Local authorities in Scotland and Wales have been grouped into "family groups" for the purposes of benchmarking. The family groups are cities, urban, semi- urban, rural and islands. APSE has a performance network for benchmarking the local authorities delivering front line services including highways.

15.5.6 The NHT Survey (23) is a national public opinion survey in England that many highway authorities subscribe to and as a result, an authority's performance can be compared with others. It measures performance across a number of functions and is a powerful way for an authority to identify other authorities where performance is better than their own.

RECOMMENDATION 14

BENCHMARKING

Local and national benchmarking should be used to compare performance of the Asset Management Framework and to share information that supports continuous improvement.

16. GETTING STARTED AND PROGRESSING

16.1 IMPLEMENTATION PLAN

16.1.1 Authorities have generally made varied progress in the implementation of asset management. This Guidance should be used to support them to either start or improve their approach to asset management. In assessing desired practice they should consider, as a minimum, their position against the recommendations in this Guidance. In doing so, they should compare their current practice against the desired one, taking into consideration recognised good practice from other authorities.

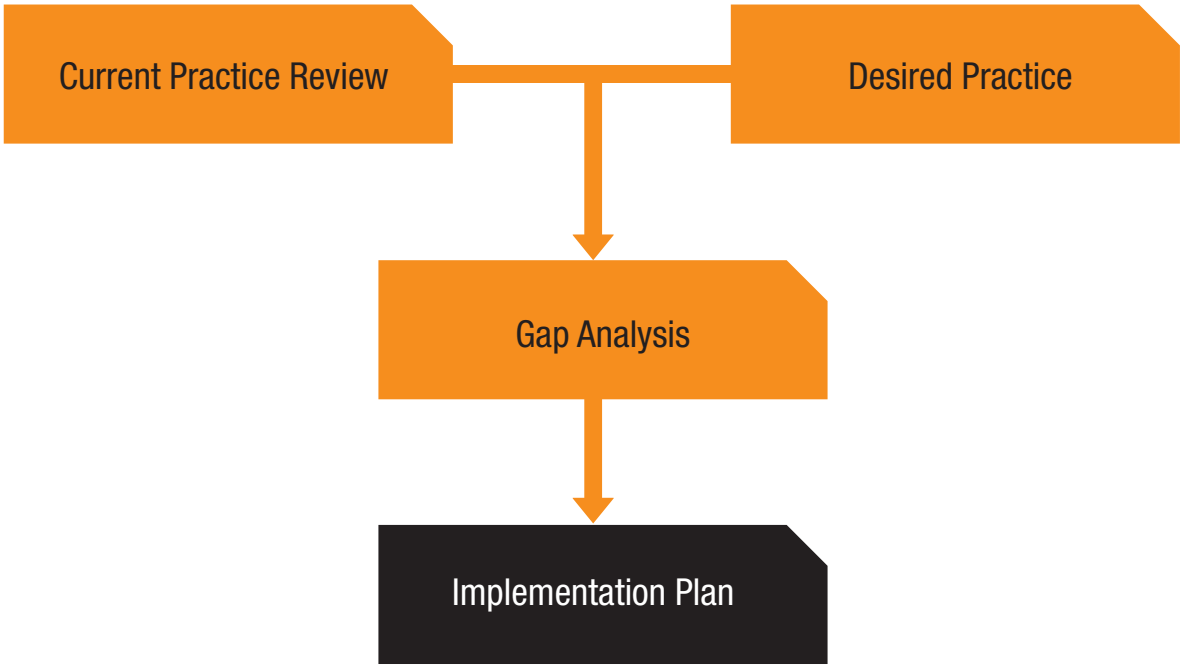


Figure 12 – Asset Management Gap Analysis

16.1.2 This comparison may be carried out in the form of a gap analysis, as shown in Figure 12. The analysis should consider:

- **Gap** – What are the differences between current and desired practice?
- **Cost** – What are the costs of closing the gaps?
- **Timescales** – How much time is needed to make progress in closing the identified gaps?
- **Benefit** – How will the proposed changes benefit the overall approach to asset management and the desired outcomes? This should also consider the financial benefits.
- **Priorities** – Which items are most crucial to meet the requirements and will achieve the maximum benefit for the minimum cost?
- **Resources** – Can resources be made available to action the desired changes?

16.1.3 The outcome from the gap analysis can be set out in the form of an Implementation Plan. Some authorities with a desire to practice more advanced asset management may wish to consider, as part of this Implementation Plan, how they could achieve accreditation against PAS 55 (6), and later, ISO 55000 (19). Equally the Implementation Plan may support meeting the recommendations of this Guidance, or the performance improvements that have been identified from monitoring the approach to delivering asset management as described in Section 15.

16.1.4 The Implementation Plan should summarise the findings from the gap analysis and describe:

- The required actions and those responsible for their completion;
- A communication strategy to inform affected staff;
- A programme, possibly including a staged delivery;
- The funding required; and
- The review process.

16.1.5 Authorities should monitor progress against the Implementation Plan, and where appropriate, take corrective action. An approach for monitoring performance is described in Section 15.

16.1.6 Authorities may find it useful to consider the following steps as a starting point for implementing or improving their approach to asset management.

Step 1: Carry out Gap Analysis Against this Guidance.

16.1.7 This Guidance and its recommendations cover all aspects of developing and implementing asset management. Reviewing current practice against these recommendations will assist authorities in making progress with the implementation of asset management.

Step 2: Carry out Gap Analysis of Current Against Desired Practice.

16.1.8 In setting desired practice, authorities should consider the recommendations in this advice and recognised good practice. For the gap analysis to be effective, a number of other issues need to be addressed in parallel.

- **Informing senior decision makers** – This should be done in order to get their support to undertake the gap analysis and implementation of asset management, including costs and potential future investment;
- **Personal skills and knowledge** – Skilled individuals who are competent in asset management should undertake the gap analysis. Where the necessary skills or resources are not available, authorities should work in collaboration with other authorities undertaking similar reviews or get support from appropriate third parties;
- **Requirements and competencies associated with each recommendation** – The detailed requirements behind each recommendation in this Guidance should be understood by staff undertaking the assessment. Consideration should be given to working in collaboration with other authorities who have undergone training or which have made good progress with asset management, or obtaining support from elsewhere;
- **Document findings of gap analysis** – This should summarise progress against each recommendation and identified best practice and identify any gaps in the approach and staff competency to implement them;
- **Develop detailed Implementation Plan** – The Implementation Plan should include the actions that are required to be undertaken over a time period. Ideally, a maximum of 1 year should be considered for implementation to reach the minimum requirements of the recommendations in this Guidance. Actions should be prioritised and owners and anticipated benefits should be recorded against each action; and
- **Approval from senior decision makers** – The Implementation Plan requires approval and funding from senior decision makers.

Step 3: Making the Case for Asset Management

16.1.9 It is essential that the Implementation Plan sets out the case for asset management. Section 12 describes the case for making investment. The following issues need to be considered in making the case.

- **Demonstrate the benefits** – Consider the advice and good practice in this Guidance in demonstrating the benefits of asset management;
- **Collaboration** – Authorities should collaborate with other authorities or departments where possible to provide evidence of the benefits of asset management, develop good practice and share lessons learnt;
- **Engage with senior decision makers**– In making the case, senior decision makers should be engaged. This will be helpful in achieving their buy-in early on. This Guidance provides evidence of good practice and potential benefits. The Audit Commission Report Going the Distance (3) provides a number of recommendations for councillors and senior managers that support the case for asset management; and
- **Document** – The evidence needs to be documented with the benefits and cost clearly set out to assist in the decision making process. Where additional funding or financing is required, this may be sought through a business case.

Step 4: Implement Actions in the Implementation Plan

Step 5: Monitor Performance and Review Progress

- **Monitor performance** – Progress should be reviewed in accordance with this advice and the approach described in Section 15.

16.2 ASSESSING ASSET MANAGEMENT MATURITY

16.2.1 As described above those authorities getting started they should consider their position against the recommendations in this Guidance. It is however recognised that asset management practices have evolved over a number of years and some authorities may adopt a more advanced approach to asset management. Where this is the case they may wish to undertake a maturity assessment against various aspects of their asset management practice in adopting such an approach authorities will be able to determine how good they are at asset management compared to where they may wish to be.

16.2.2 Typically, a maturity assessment will include an assessment of competence across a number of asset management activities. It may go from basic at one end of a scale to advanced at the other end. Authorities practicing advanced asset management are those where asset management activities are fully integrated and are being continually improved to deliver maximum value at a minimum cost. The level of maturity should be appropriate to the authority and the portfolio of assets. PAS 55 (6) provides a framework against which a maturity assessment may be carried out. Considering maturity against the asset management planning process and enablers in Asset Management Framework may also be considered for those authorities not wishing to follow such an approach.

17. ACKNOWLEDGEMENTS

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APPENDIX A – CASE STUDIES

Title	Organisation	Contact
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APPENDIX B – ABOUT THE HIGHWAYS MAINTENANCE EFFICIENCY PROGRAMME

The Highways Maintenance Efficiency Programme (HMEP) is a sector-led transformation initiative that will maximise returns from investment and deliver efficiencies in highway maintenance services. The Programme started in April 2011 with sponsorship from the Department for Transport and is intended to run until 2018.

The Programme is offering local highway practitioners benefits from different ways of working. The vision is that, over time, local highway authorities as clients and their service providers (be they from the private or public sector) will adopt an ambitious and longer-term approach to delivering highway maintenance. This will enable them to:

- continuously find new and improved ways of delivering services to highway users and managing highways assets;
- make use of collaborative partnerships to improve processes and outcomes; and
- deliver a sustainable balance between meeting the needs of highway users, improving quality and minimising costs.

The overall programme has been developed by key personnel from the sector who are supporting HMEP's development. This ensures that:

- HMEP is truly being driven by what the whole sector needs and wants ('by the sector, for the sector').
- the solutions identified by the sector are relevant, realistic, repeatable, scalable and sustainable; and
- HMEP is benefits-led, driving true transformation of the sector with tangible efficiency gains and a lasting legacy.

As a transformation initiative, HMEP is targeting the way local highway authorities conduct their business. It invites the sector to adopt new ways of working to deliver efficiency savings within the following themes:

- Collaboration and Change
    - Guidance on how alliances between authorities, and clients and their providers, can be formed to deliver efficiencies in the delivery of highway maintenance services.
    - Processes for changing business; for instance, by applying LEAN thinking to the processes behind service delivery and how services or processes can be streamlined to realise efficiencies.
    - Guidance on how authorities can become better clients by establishing a framework of skills and training.
- Procurement, Contracting and Standardisation
    - Advice on routes to procurement, enabling authorities to determine how their current service aligns with current thinking and which is the best procurement option to realise future service ambitions.
    - A standardised form of contract and highway maintenance specification which are better aligned to the activities that local highway authorities undertake.

- Asset Management
  - Advice to the sector in the form of updated asset management guidance for highway infrastructure.
  - A lifecycle planning tool incorporating deterioration models, to determine whole life asset costs, thus moving away from a reactive to a longer-term approach for maintaining highways assets.
  - Guidance on the management of highway drainage assets.
  - Training specifically targeted at practitioners to help them move towards an asset management approach and to adopt the new HMEP guidance and tools.
  - To improve the coordination between local highway authorities and utilities over streetworks to reduce disruption to the public and the impact they have on businesses.
- Benchmarking and Performance
  - Collecting, sharing and comparing performance data on Cost /Quality/Customer to help drive targeted efficiencies and understand how effective local highway authorities are in delivering Value for Money services.

Products and tools are being developed within each of these themes and are being designed to be both interdependent and complementary so that authorities can maximise returns from their investments.

An example is the Local Highway Authorities Collaborative Alliances Toolkit (51).

APPENDIX C – DEFINING ASSET MANAGEMENT

There are a number of published definitions that describe the key elements of asset management. These definitions are useful to describe what asset management is. Those wishing to adopt a definition of asset management should consider the definitions below in the context of what they are aiming to achieve from adopting and implementing an asset management approach.

PAS 55 - Optimal management of physical assets (6)

Systematic and coordinated activities and practices through which an organisation optimally and sustainably manages its physical assets, asset systems and their associated performance, risks and expenditures over their lifecycle for the purpose of achieving its organisational strategic plan.

CSS Guidance for Highways Asset Management (14)

Asset management is a strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers.

OECD – Asset Management for the Roads Sector (48)

A systematic process of maintaining, upgrading and operating assets, combining engineering principles with sound business practice and economic rationale, and providing tools to facilitate a more organised and flexible approach to making the decisions necessary to achieve the public's expectations.

International Infrastructure Asset Management Manual (IIMM) (33)

To meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers.

American Association of State Highway and Transportation Officials (AASHTO) (49)

Transportation Asset Management is a strategic and systematic process of operating, maintaining, upgrading and expanding physical assets effectively throughout their lifecycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision making based upon quality information and well-defined objectives.

Royal Institution of Chartered Surveyors - Public Sector Asset Management Guidelines (50)

Strategic asset management is the activity that seeks to align the asset base with the organisation's corporate goals and objectives. It ensures that the land and buildings asset base of an organisation is optimally structured in the best corporate interest of the organisation concerned.

ISO 55000 (19)

The set of coordinated activities that an organization uses to realize value from assets in the delivery of its outcomes or objectives. Realization of value requires the achievement of a balance of costs, risks and benefits, often over different timescales.

APPENDIX D – EXAMPLE OF AN ASSET MANAGEMENT POLICY

Hampshire Country Council
Policy for Highway Asset Management

Hampshire County Council considers effective asset management to be of one of the key factors to enable the delivery of the corporate priorities namely:

- Hampshire safe and secure for all
- Maximising well-being
- Enhancing our quality of place

It is recognised that a good transport network is essential for a successful economy and society for Hampshire. Our roads provide access to jobs, services, schools, get goods to the shops and allow us to make the most of our free time. Our local roads are at the heart of the transport network and have a key role to play in ensuring that transport in Hampshire delivers the services our residents both want or need. In order that the transport network meets this need Hampshire's policy on Asset Management will meet the Environment Department's Aims and Objectives for 'Moving and Shaping a Prospering Hampshire'.

Aim1. Keeping Hampshire Moving. Our first priority will be to provide a safe, well managed, maintained and more resilient highway network for all who use it. We will make every effort to understand current and future requirements for the highway infrastructure. In order to deliver this we will continue to understand our stakeholders needs, promote levels of service and maintenance priorities for our highways.
Our adoption of an asset management approach will take a long term view in making informed maintenance and investment decisions.

Aim 2. Shaping Hampshire's Future. We strongly believe that we must make best use of our natural mineral resources, making sure we plan for Hampshire's long term mineral needs whilst minimising waste going to landfill. We work towards enabling the delivery of high-quality strategic approach to development and regeneration that will reduce Hampshire's carbon footprint and allow us to adapt to climate change.
Our adoption of asset management will place sustainable solutions that minimise waste and landfill at the centre of our approach to highway maintenance.

Aim 3. A Prospering Hampshire. We fully recognise the vital role transport has to play in Hampshire's economic vitality and will endeavour to maintain access to education, employment and rural services, as well as widen travel choice through public and community transport, supported by reliable and safe journeys on our transport network.
Our adoption of an asset management approach will enable greater value for money to be delivered by taking a long term view on investment decisions. This approach will maximise the benefits for future prosperity and quality of place by ensuring the right investments decisions are made in the transport network.

Hampshire County Council www.hants.gov.uk

APPENDIX E – CLASSIFICATION OF ASSETS

There may be advantages in classifying assets in consistent groups. The table below has been reproduced from the *Code of Practice on Transport Infrastructure Assets* (24) adopts a three layer approach for selecting and grouping assets. This approach is the one currently recommended for authorities undertaking their returns for Whole of Government Accounts.

Level 1	Level 2	Level 3
Asset type	**Asset group**	**Components that level 2 implicitly covers**
Carriageway	• Area (square metre) based elements • Flexible pavements • Flexible composite pavements • Rigid concrete pavements • Rigid composite pavements	• Pavement layers • Other surface types, e.g. paved • Central reservation, roundabout, lay-by, traffic island, etc • Earthworks (embankments and cuttings, retaining walls height <1.35m) • Traffic calming • Fords and causeways
	Linear elements	• Kerbs • Line markings • Road studs • Road drainage elements (gullies, drains, etc, but not large structures) • Boundary fences and hedges • Hard strip/shoulder verges/ vegetation
Footways and cycletracks (attached to the road or segregated)	• Footways • Pedestrian areas • Footpaths • Cycletracks	• Pavement layers • Other surface types, e.g. block paving, unbound materials

Level 1	Level 2	Level 3
Asset type	**Asset group**	**Components that level 2 implicitly covers**
Structures	• Bridges (span >1.5m) • Cantilever road sign • Chamber/cellar/vault • Culverts (span >0.9m) • High mast lighting columns (height >20m) • Retaining walls (height >1.35m) • Sign/signal gantries and cantilever road signs • Structural earthworks, eg strengthened/reinforced soils (all structures with an effective retained height of 1.5m or more) • Subway: pipe • Tunnel (enclosed length of 150m or more) • Underpass/subway: pedestrian (span of 1.5m or more) • Underpass: vehicular • Special structure	• All elements identified on the CSS inspection pro forma • Smaller water-carrying structures are considered as road drainage
Highway lighting	• Lighting columns • Lighting unit attached to wall/ wooden pole • Heritage columns • Illuminated bollards • Illuminated traffic signs	• Column and foundations • Bracket • Luminaires • Control equipment, cables • Control gear, switching, internal wiring cabling (within ownership)

Level 1 **Asset type**	Level 2 **Asset group**	Level 3 **Components that level 2 implicitly covers**
Street furniture	• Transport • Highway • Streetscene/amenity	• Traffic signs (non-illuminated) • Safety fences • Pedestrian barriers • Street name plates • Bins • Bollards • Bus shelters • Grit bins • Cattle grids • Gates • Trees/tree protection, etc • Seating • Verge marker posts • Weather stations
Traffic management systems	• Traffic signals • Pedestrian signals • Zebra crossings	• Different types
	• In-station	• Complete installation
	• Information systems • Safety cameras	• Variable message signs • Vehicle activated signs • Real time passenger information
Land	• Freehold land • Rights land	• Features on the land are not taken into account in the valuation

APPENDIX F – DECISION MAKING TECHNIQUES

Different decision making techniques are available that will support authorities in developing processes that ensure that decisions are made that that align with their asset management strategy and available funding. Examples of these techniques are described below.

Whole Life Cost

Whole life cost is a cost benefit analysis that can be used to compare maintenance strategies with the objective of selecting the one with the lowest. It quantifies the investment costs and financial benefits for each strategy. In calculating cost benefits of maintenance strategies, authorities should determine the investment costs of the treatment options such as structural maintenance costs together with the benefits (measured in financial terms) of implementing the strategy including elements like reduced claims from personal injury accidents, reduced noise, improved safety, less traffic congestion.

Where authorities are comparing the costs and benefits of different maintenance strategies, these costs should be calculated in terms of Net Present Value (NPV), discounted over the lifecycle or period of analysis. The Treasury's Green Book currently adopts a discount rate of 3.5%.

While determining the costs of maintenance treatments are relatively straightforward to quantify (Section 9), the financial benefits of maintenance are less quantifiable and may require a detailed assessment. Alternatively, authorities may consider the benefits of all maintenance strategies to be comparable and then undertake an assessment based solely on the NPV of the combined treatments costs of renewal and routine maintenance. A worked example is included in Appendix G.

Multi Criteria Analysis

Multi Criteria Analysis (MCA) is an approach that may be used to prioritise competing treatment strategies. It should be used where benefits and costs are less tangible to define. However, it supports a qualitative assessment as well as a quantitative one.

Using the MCA approach, a number of different criteria, including performance, may be selected in order to compare and then prioritise each maintenance strategy. As way of example, the following may be considered:

- **Safety** – Criteria in this category should cover projects with poor skidding resistance, high claims, and may include the overall safety of the network;
- **Socio-economic and environmental** – Criteria in this category should cover the wider policy issues, that cannot be readily quantified by automated prioritisation procedures e.g. local importance, impact on local businesses and communities, environmental impact, sustainability, and considerations such as noise reducing surfacing and recycling of bituminous materials;
- **Value for money** – Criteria in this category could include the value of the project in overall terms of financial benefit including NPV or any other approach to cost benefit; and
- **Risk** – The individual risk associated with the maintenance strategy could include a number of factors including traffic congestion, design risk and contractual aspects.

Each category is assigned a weighting to represent the category's importance. While it is recognised that safety is a statutory duty and will be of primary importance, other issues should also be addressed assuming the funding is available; otherwise the process may focus solely on safety and fail to address serviceability, sustainability and stakeholders' needs.

Weightings should be allocated, ideally, with the support of senior decision makers in a workshop environment. The outcome of this work determines the assessment of the performance of each of the maintenance strategies under the various criteria. The outcome of the MCA is the agreed scoring process for each maintenance strategy for each relevant asset.

Risk based

Risk based techniques focus on minimising the risk associated with the maintenance strategy, while at the same time ensuring that the risk is managed at the minimum cost. Risk can be used as a decision making technique on its own or as part of the other decision support techniques described above.

A number of alternative analysis methods are available for carrying out risk analyses. These include:

- **Qualitative analysis** – Using descriptive scales; and
- **Quantitative analysis** – Using numerical scales to rank the relative risks.

Whichever method is used, it will provide some documented basis to make a decision about the level of risk it wishes to take in adopting a maintenance strategy. It can also identify the actions required to minimise existing risks to an acceptable level as part of delivering that strategy.

A quantitative method of assessing risk is to place a monetary value on the risks by pricing the "consequence of failure". By doing this it then becomes possible to evaluate the cost benefit ratios of differing risk reduction actions.

An example of a qualitative analysis is MoSCoW. The acronym is based on four words assessing the priority: Must-Should-Could-Won't. Using this technique a MoSCoW priority is given to each of the risks associated with the maintenance strategy.

- **Must** – This functionality is of utmost importance, for example the strategy fulfils a statutory requirement;
- **Should** – This is work that needs to be carried out in the next 5 years in order to meet the agreed levels of service;
- **Could** – This is work that is not a priority and does not support all aspects of the asset management approach. It is likely that this work could be deferred; and
- **Won't** – This is work that does not necessarily support the asset management approach.

Application of decision making techniques

Depending on the asset under consideration, different decision techniques may be adopted. For example, a risk based approach may be more applicable to drainage or earthworks where failure to undertake maintenance activity may have a significant impact on other parts of the network. For pavement renewals, a whole life cost approach may be more appropriate where there is potential to provide benefits to local businesses and the wider community by undertaking a maintenance scheme. However, authorities should maintain a consistent approach to decision making for each separate asset. This process should be documented and have the agreement of senior decision makers.

APPENDIX G – WHOLE LIFE COSTING

(STEP 0) Identify maintenance requirement	This Appendix describes an approach to the calculation of whole life costs. It is based on the UKRLG document *Whole Life Costing for Option Appraisal of Highway Maintenance Schemes for Local Highway Authorities,* and starts from the premise that a site has already been identified as potentially being in need of maintenance. Methods of identification could include safety or service inspections, defect histories, customer complaints or local network knowledge. Guidance is provided in *Well-maintained Highways* (10). In the case of pavements, a site could also be identified from a highway authority's UKPMS system as being either 'Red' or 'Amber' in terms of condition.
STEP 1 Formulate alternative maintenance strategies	Typically the following range of maintenance strategies should be considered: • **'Do Nothing'.** This, commonly used, strategy title is a misnomer. Highway authorities have a duty of maintenance and so a literal interpretation is inappropriate. Under a 'Do Nothing' strategy the highway authority would undertake reactive repairs to safety defects only. These are likely to be superficial repairs and would possibly be temporary in nature. The repairs would not arrest the decline of the asset and frequent re-visits are likely to be required. In the short term, routine maintenance costs are likely to be high due to the ongoing liability to repair Category 1 defects (as defined in Well-maintained Highways). There is also an increased risk of personal injury accidents (resulting from road users' interface with the defective asset) and the resulting legal consequences. • **'Do Minimum'.** This approach seeks to do the minimal amount of routine maintenance work to keep the asset safe and serviceable. Works will normally be restricted to the repair of Category 1 defects. However, the works effort will be slightly enhanced in comparison to the 'Do Nothing' as repairs will normally be permanent in nature – although they will add no value to the asset. In the context of a pavement scheme a 'Do Minimum' approach might be limited to the permanent repair of potholes only. These would be undertaken on an isolated basis or may extend to small patches. • **'Do Something'** – this is likely to involve capital expenditure by an authority rather than routine expenditure. It may include wholesale replacement or major repair of an asset to a level that will enhance its long term durability and minimise future routine maintenance. A pro-active approach may also be adopted which means that repair takes place before the condition intervention level is reached. In the context of a pavement scheme this could see the treatment of a section of pavement classified as being in the 'Amber' condition category (as defined by UKPMS). It is recommended that more than one 'Do Something' strategy is evaluated in order to explore the range of available treatment types. For the 'Do Something' strategies the required timing of the initial maintenance intervention requires consideration. Options may include: • Undertaking capital maintenance at the soonest opportunity. • Deferring the capital maintenance for a few years whilst holding the condition in a safe and serviceable state by undertaking routine maintenance only. If the latter (deferred) option is selected then the additional routine maintenance costs need to be included in the whole life costing. The recent defect history for the site will provide an evidence-base for estimating these costs. In the context of a pavement scheme, the above factors could be realised in the following way: • A pavement nearing the end of its serviceable life may exhibit surface defects such as potholes. These could be Category 1 defects. • If the initial treatment is deferred then there will be an ongoing (possibly increasing) requirement to re-visit the site during the period of deferment to carry out repairs to these defects. The costs of these repairs need to be included in the whole life cost analysis. • If the initial treatment is deferred then more deterioration may occur to the pavement structure. This may result in a more extensive treatment eventually being required - compared to the treatment that would otherwise have been implemented if the site was addressed earlier. *By considering a range of treatment strategies and permutations on the type and timing of the initial intervention an optimum whole life cost can be determined from the following steps.*

STEP 2 **Predict future performance and the required timing of maintenance interventions**	For each maintenance strategy formulated in STEP 1, appropriate treatments and lifecycles should be determined.
STEP 3 **Determine costs over the analysis period**	Annual costs should be determined for each intervention of each maintenance strategy. These should be based on: • Direct (Works) Costs; • Indirect Costs; and • Residual Value. The Worked Example below illustrates how these costs should be presented.
STEP 4 **Calculate Whole Life Costs on the basis of NPV**	The costs determined in STEP 3 are converted to their present-day values using Equations 1 to 3 (respectively). Discounted Works Cost = Works Cost / $(1+r)^n$ **Equation 1** Discounted Indirect Cost = Indirect Cost / $(1+r)^n$ **Equation 2** Discounted Residual Value = Residual Value / $(1+r)^n$ **Equation 3** Where: r = Discount Rate expressed in decimal form (i.e. 3.5% ≡ 0.035) n = Year in which the cost or benefit occurs (current year = Year 0). The Net Present Value (NPV) of a particular option is then determined by considering all of the costs (and benefits) for a particular maintenance strategy throughout the analysis period – as shown in Equation 4. NPV = ∑ Discounted Works Costs + ∑ Discounted Indirect Costs - Discounted Residual Value **Equation 4**
STEP 5 **Initial assessment of results**	The maintenance strategy with the lowest NPV is generally regarded as the most economically beneficial option. However, whole life costing is only one factor when selecting a preferred maintenance option. Other factors such as engineering judgement, network operations, buildability, affordability and risk management also require consideration.

STEP 6 **Undertake sensitivity analysis**	On significant or complex maintenance schemes it may be appropriate to undertake a sensitivity analysis in order to test the effects of certain assumptions used in the previous steps. Such schemes could include: • Those with a value that represents a substantial (or unusually high) proportion of the highway authority's capital maintenance budget. • Works to a part of the network that is likely to undergo development which could affect future usage. For example, a pavement rehabilitation scheme near to where a planned shopping centre is to be built or a new bypass is to be tied-in – both of which could potentially affect future traffic loading (which would have an influence on the long-term performance of the asset). • Those involving innovative treatment types that have not previously been applied on the local network and are therefore considered to involve a degree of risk. The following input parameters can be subject to particular uncertainty: • Unit rates; and • The required timings of individual maintenance interventions. By varying these input parameters across the full range of values that could perceivably be experienced and then repeating the above steps it is possible to assess the potential economic uncertainty. When undertaking this process only one input parameter should be varied at a time. The outcomes will reveal: • Whether the selection of a preferred option (based on lowest NPV) is affected. • The likely variability in the resulting whole life cost of the preferred option. This variability represents a risk and should be managed accordingly. On small to medium scale sites with commonplace maintenance requirements it is unlikely that sensitivity analyses will provide significant benefits – once the highway authority has developed a set of reliable, proven input parameters. All assumptions made and input parameters selected should be documented.
STEP 7 **Arrive at a preferred option**	The initial assessment of results (undertaken in STEP 5) should be revisited when the outcome of (any) sensitivity analysis are available. A final preferred option will then emerge.

WORKED EXAMPLE

A worked example is provided on the following page to demonstrate the whole life costing process.

The worked example considers a generic asset type in need of maintenance. A 25 year analysis period and a discount rate of 3.5% have been assumed. Only the (direct) works costs have been considered.

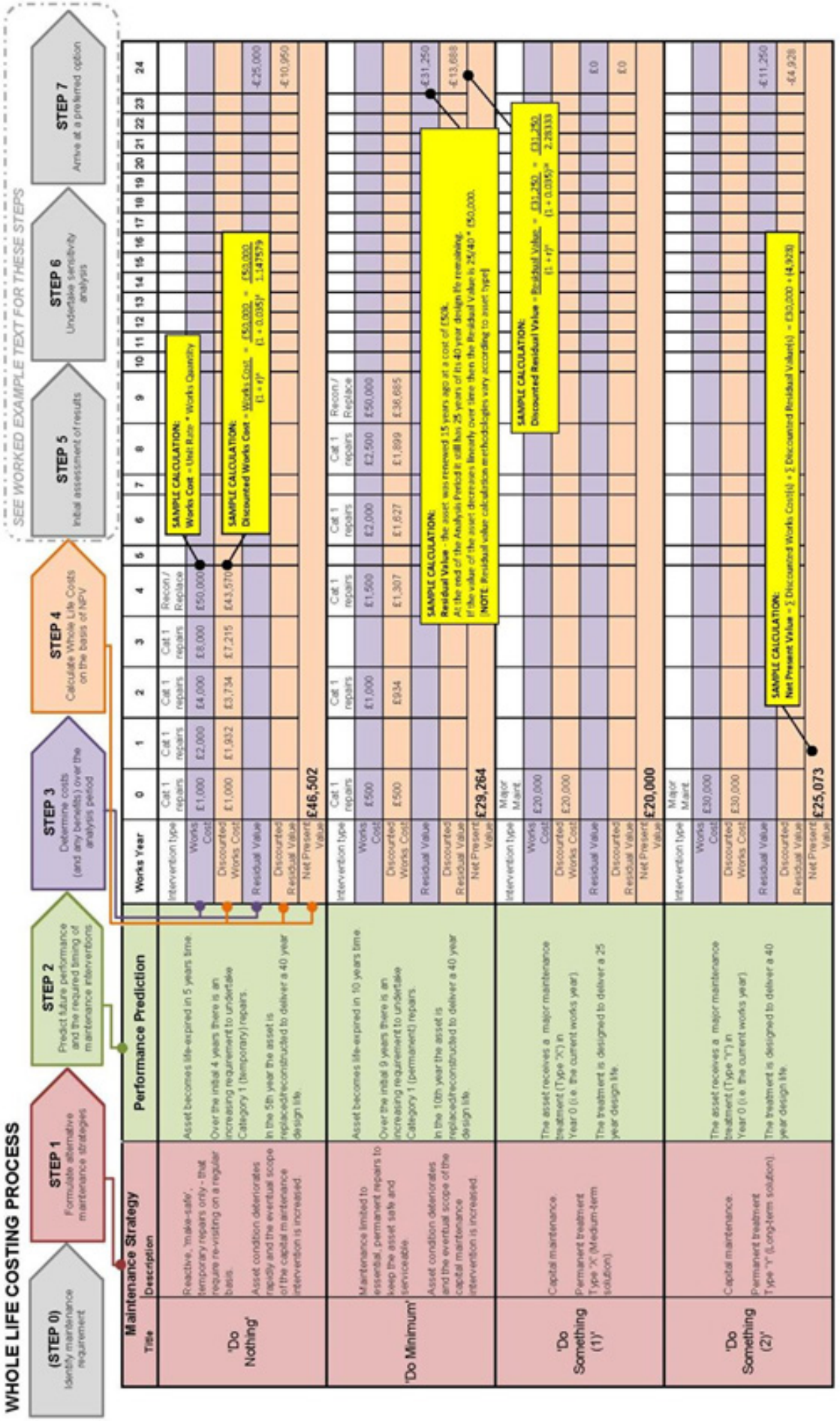
The worked example shows a typical format for presenting a whole life costing analysis. A tabulated (spreadsheet) approach serves to illustrate the maintenance and cost profiles for competing options. It also facilitates subsequent amendments as part of any sensitivity analysis.

The "Do Something (1)" option is seen to have the lowest NPV over the analysis period and therefore emerges as the preferred option.

NOTES:

1) This worked example considers an asset on the Secondary network – where its usage is predicted to be light.

2) Routine maintenance activities are not considered beyond the first major intervention. However, local highway authorities may decide to include the cost of routine maintenance, in accordance with their policies.


WHOLE LIFE COSTING PROCESS
(STEP 0) Identify maintenance requirement
STEP 1 Formulate alternative maintenance strategies
STEP 2 Predict future performance and the required timing of maintenance interventions
STEP 3 Determine costs (and any benefits) over the analysis period
STEP 4 Calculate Whole Life Costs on the basis of NPV
STEP 5 Initial assessment of results
STEP 6 Undertake sensitivity analysis
STEP 7 Arrive at a preferred option
SEE WORKED EXAMPLE TEXT FOR THESE STEPS
Maintenance Strategy
Title
Description
Performance Prediction
Works Year
'Do Nothing'
'Do Minimum'
'Do Something (1)'
'Do Something (2)'
SAMPLE CALCULATION:
Works Cost = Unit Rate * Works Quantity
SAMPLE CALCULATION:
Discounted Works Cost = Works Cost / (1 + r)^t
SAMPLE CALCULATION:
Residual Value - the asset was renewed 15 years ago at a cost of £50k.
At the end of the Analysis Period it still has 25 years of its 40 year design life remaining.
If the value of the asset decreases linearly over time then the Residual Value is 25/40 * £50,000.
[NOTE: Residual value calculation methods/rates vary according to asset type]
SAMPLE CALCULATION:
Discounted Residual Value = Residual Value / (1 + r)^t
SAMPLE CALCULATION:
Net Present Value = Σ Discounted Works Cost(s) + Σ Discounted Residual Value(s)
£46,502
£29,264
£20,000
£25,073

APPENDIX H – DOCUMENTS SUPPORTING ASSET MANAGEMENT

This Guidance describes a number of documents that support the development, implementation and management of the asset management process. The purpose of each of these documents is described below.

Improvement Plan

An Improvement Plan is the outcome of a performance review. It should set out the actions, resources and timescales required to meet the requirements of the approach adopted to asset management. It should also include reference to the expected outcomes of the improvement plan and the ultimate benefit it may provide to the authority and stakeholders.

Implementation Plan

The Implementation Plan is the starting point for implementation the recommendations of this Guidance, the Framework and the other contents of this guidance. It may include: The required actions and those responsible for their completion, a communication strategy to inform affected staff, a programme, possibly including a staged delivery, the funding required. It may also be used to describe support the performance improvements that have been identified from performance monitoring.

Lifecycle Plan

The Lifecycle Plan is the documented outcome of the lifecycle planning process. It may include; the assumptions made, performance requirements, maintenance needs, the decision making process and set out the proposed maintenance strategy, including the timing of interventions.

Highway Infrastructure Asset Management Plan

The Highway Infrastructure Asset Management Plan (HIAMP) is be the documented outcome of the asset management process. It is one way to record and communicate the approach to asset management in a single document, informing relevant staff and stakeholders how highway infrastructure assets are managed over a period of time.

Financial Plan

The Financial Plan should cover investment requirements for the short, medium and longer term. It should provide a basis for supporting future budgetary requirements and ensure funding is appropriately targeted and resource effectively spent.

Highway Maintenance Plan

The Highway Maintenance Plan sets out the operational requirements to maintain the network and identifies the resource requirements to deliver the maintenance service. It is described in detail in Well-maintained Highways.

Risk Action Plan

The Risk Action Plan consolidates the risk register, evaluation, mitigation to be undertaken, timeframes and responsibilities for managing risk associated with Highway Infrastructure Assets. This information can be summarised within the HIAMP or other documentation and should be one of the key inputs into the lifecycle planning process and works programming.

Risk Management Policy

A statement of the overall intentions and direction of an organisation related to risk management.

Asset Management Policy

The asset management policy is a short and concise document that describes the principles adopted in applying asset management to achieve the authority's strategic objectives.

Asset Management Strategy

The asset management strategy should be a clear and concise high-level document setting out how highway infrastructure asset management is delivered in order for the authority to meet its long term corporate goals and objectives.

Data Management Strategy

The Data Management Strategy is a means of the requirements for data and how the requirements may be met over the short term, medium term and long term. The requirements for data should be documented as part of the asset management planning process.

Maintenance Strategy

The Maintenance Strategy an approach to maintain the asset over the short, medium and long term. It is likely to consider a combination of renewal and/or routine maintenance over a specified period. The maintenance strategy will support the development of the Lifecycle Plan.

Investment Strategy

The Investment Strategy is the outcome of the lifecycle planning process. A number of iterations with different maintenance strategies for each asset group may be necessary to optimise the strategy.

Communication Strategy

The communication strategy should set out how asset management will be communicated to stakeholders primarily the public including the wider community and road users. It should consider how this is done including websites, community meetings and leaflets.

APPENDIX I – TYPICAL CONTENTS OF HIGHWAY INFRASTRUCTURE ASSET MANAGEMENT PLAN

Highway authorities may wish to document their approach top asset management in a Highway Infrastructure Asset Management Plan (HIAMP). Guidance on the contents of a HIAMP is provided below:

Executive Summary – Summary of the key results of the HIAMP in terms of the investment required with the various assets broken down by each year of the HIAMP period. It should also illustrate the financial profile for predicted asset performance and the funding required. It should be written and presented in a manner that is appropriate for senior decision makers and non-technical readers.

Introduction – Provide the background to the HIAMP including purpose, historical context including budgets, funding/financing arrangements, relationship with other organisational documents, a summary of key roles and responsibilities and definitions of the asset types covered. A brief description of each section of the HIAMP and their contents should also be included.

Asset Management Policy, Strategy and Levels of Service – This may be part of the HIAMP or a separate document for all staff and senior decision makers respectively. It should summarise the strategic goals and levels of service that are relevant to the HIAMP.

Performance Management – A description of the performance measures in order to monitor performance against its levels of service. This section should also provide details of current and any expected changes in future network demand and any adaptation to environmental changes through the impact of climate change that are likely to impact on the performance required.

Asset Information and Data – A summary of the assets included and excluded, providing explanations for any exclusion. The summary should include a breakdown of assets by type, group, sub-group and components. Ideally visualisation should be provided for each asset type/group to describe construction or renewal dates, material types and other important asset characteristics. This section should also document the approach for collecting data and monitoring the condition of the assets, including any data strategy.

Lifecycle Planning – The approach adopted for lifecycle planning should be documented. It should include; the assumptions made including cost/unit rates used, performance requirements, maintenance needs, the decision making process e.g. minimising whole life costs, the proposed maintenance strategy, including the treatment strategy and the timing of interventions. Visual displays of work quantities and costs per year for each asset group and sub-group should also be provided.

Investment Strategies – Details of the funding required to deliver the lifecycle plan, the forward and annual works programme, including the amounts needed to sustain the current and enhanced levels of performance if appropriate. The breakdown of the financial plan should align with the work types and volumes. The plan should also include the impact of different levels of funding on network performance, whole life costs, etc. It should provide information to support the budgets required for managing the asset.

Work Programming – Work required to manage and operate the network at the required performance levels. The section should summarise how the works programme was developed and prioritised and describe the work volumes (by asset type, group and subgroup), work type and phasing (by year of the HIAMP period). Refer to Section 10 of this document for further information.

Overall risk implications of the plan – Details of the risks in managing highway infrastructure assets. This should include risk to individual assets, including critical assets and how these risks are being mitigated. It should also link to the corporate approach to risk management. In addition it can also include risks to overall delivery of the plan.

Performance Monitoring – Details of how the HIAMP performance will be monitored and the results fed back into the asset management planning process. It can also identify potential improvements and how they will be managed.

Appendices - More detailed information to support the HIAMP as relevant.

APPENDIX J – TYPICAL CONTENTS OF BUSINESS CASE

Authorities may have a corporate approach to developing and presenting business cases. A summary of what may be included is given below.

Executive Summary – Brief summary of key issues.

Context – Local economy, access to services, use of the highway network, value of the highway network, existing service arrangements, the problem being addressed, current approach to asset management and gaps from recognised good practice.

Reasons for considering asset management – The economic benefits provided by highway maintenance and improving highway performance, value for money through longer term investment, meeting stakeholder expectations and public satisfaction.

Strategic fit – Consistency with and contribution to the corporate vision, contribution to the authority's wider asset management policy.

Options – Cost benefit analysis, including 'do nothing', reasoned recommended option, if change is recommended, impact of not changing.

Benefits – Quantitative and qualitative benefits, evaluating benefits, including establishing the base line.

Dis-benefits – Outcomes likely to be perceived as negative by stakeholders.

Risks – Reputational, financial, delivery, how risks will be managed.

Assumptions – Any significant assumptions.

Resources – Financial, time, competences, skills, collaboration.

Timescales – Described over the short term, medium term, long term.

Organisational Issues – Centralised or service based, links to corporate or other asset management groups, staff, procurement and change management.

Milestones – Key activity completion dates.

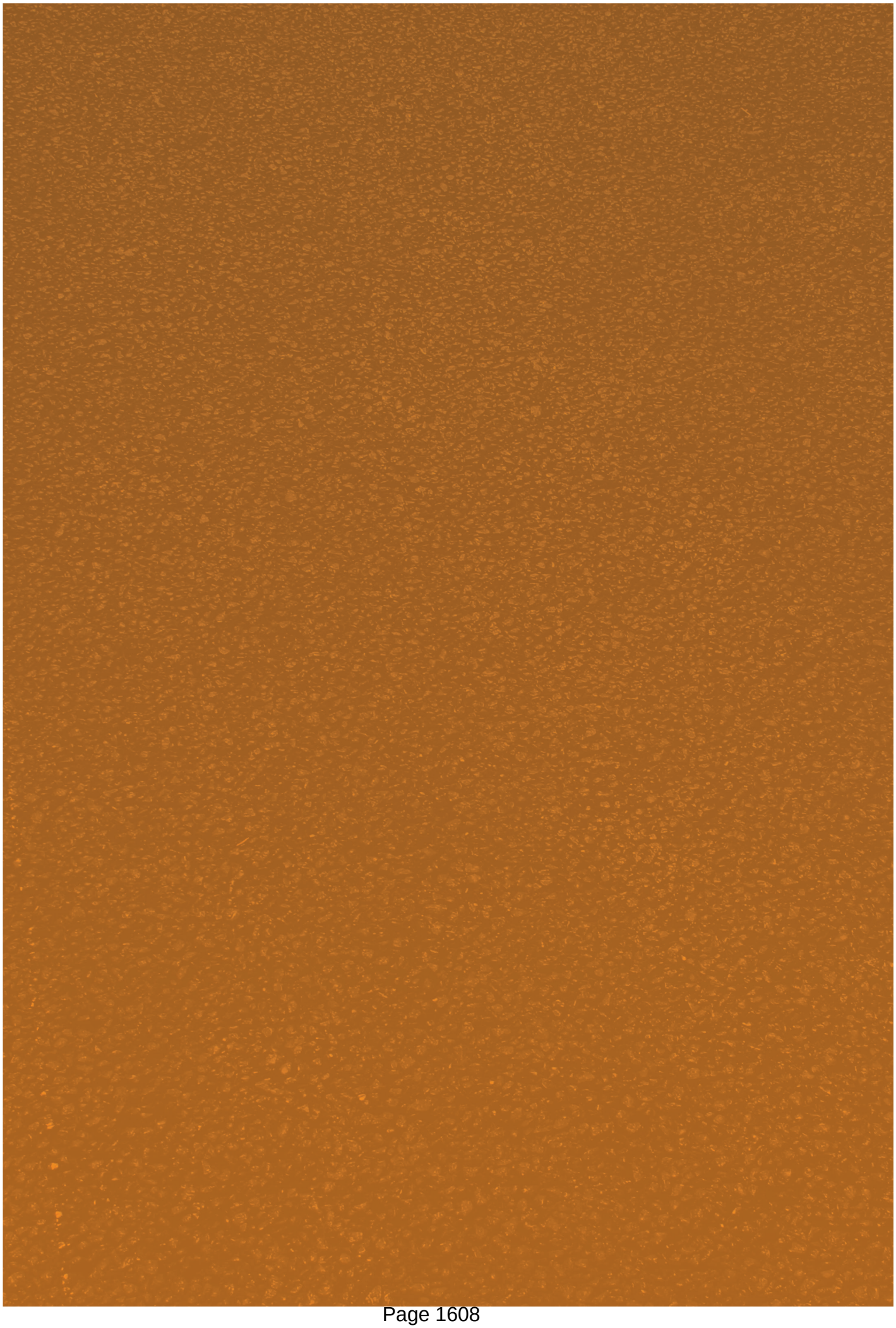
Business Case Review – Annual review, achieving the benefits, meeting the levels of service.

APPENDIX K – ASSET MANAGEMENT ROLES AND RESPONSIBILITIES

There can be no one correct way of defining roles for asset management. They will vary from authority to authority depending on a number of factors and constraints set out in Part A and C of this Guidance. However where roles are defined it is important that they are clearly defined including scope of role and decision making responsibility. Roles and responsibility for asset management within a typical highway authority are set out below.

Elected Members and Senior Decision Makers	
• Leadership, culture and direction for asset management across the authority	
Senior Management Team Sponsor	
• Demonstration of senior management commitment	
Director with Responsibility for Highways	
• Leadership, culture and direction	• Delivery of asset management benefits
• Embedment of behaviours related to a whole life view	• Asset Management Champion (optional)
Highways Asset Manager	
• Develop highways asset management strategy	• Review asset management activities and develop improvements where necessary
• Develop documentation to support asset management	• Ensure work programmes are consistent with levels of service
• Develop the Highways Infrastructure Asset Management Plan and resource requirements	• Work with business and information systems to ensure they meet asset management needs
• Liaise with stakeholders	
Roads and Footways Management	
• Paved areas	• Road markings and road studs
• Drainage	• Road traffic signs
• Geotechnical assets	• Landscaped areas
• Fences, walls, screens and environmental barriers	• Signs and bollards
• Road restraint systems	
Structures Management	
• Bridges	• Retaining walls
• Large culverts	• Tunnels
• Small span structures	• Sign gantries

Lighting Management	
• Lighting	• Energy
• Illuminated signs and bollards	
Information Technology Management	
• Traffic signals	• Information systems
• Variable message signs	
Data Collection and Management	
• Inventory	• Traffic
• Condition	• Construction and maintenance records
Programme Management	
• Portfolio of projects in the works programme	• Impact on the network
• Integrate and optimise projects to minimise	• Procurement associated with projects
Maintenance Management	
• Maintenance works	• Procurement associated with maintenance
• Integrate and optimise planned works	• Minimise impact on the network
Inspection and Condition Measurement	
• Safety and serviceability inspections	• Condition surveys



Highways Infrastructure Asset Management Policy

2018

Version 1.0

21 August 2018

WWW.SOMERSET.GOV.UK

Introduction

Somerset County Council considers that proactive asset management of its highway network will help to deliver the authorities' vision and strategic objectives set out in the County Vision (May 2018):

A thriving and productive County that is ambitious, confident and focussed on improving people's lives - A good highway network is vital for business to thrive and prosper in our rural county. It provides access to education, employment, shops and other services as well as enabling tourism. The investment in the highway network, consisting of the carriageway, footways, bridges and retaining walls, highway drainage systems, street lighting, traffic signals, signs and lines must be planned to facilitate the needs of the economy. A detailed knowledge of the highway network, including quantities, condition, use and performance of its assets will be used for decision making for infrastructure investment. By taking a long term approach we will provide better value for money.

A County where all partners actively work together for the benefit of our residents, communities and businesses and the environment in which we all live - Somerset County Council is customer focused and actively engages with stakeholders in setting levels of service within the budgetary constraints. As the highway authority for Somerset, the County Council has the statutory duty to keep the network safe for communities and service users. The primary document detailing safety defects and their treatment is the Highway Safety Inspection Manual which also sets out how the network is inspected. As well as dealing with safety issues as they arise, Somerset County Council uses asset management principles and maintenance techniques to help prevent safety defects forming in the first place.

A County of resilient, well-connected and compassionate communities working to reduce inequalities - Somerset's highway infrastructure assets provide a vital contribution to the economic health of the county and the quality of the environment, as well as providing a range of social and recreational benefits. Somerset County Council has recognised the benefits of asset management for some time and in 2009 was one of the first authorities to produce a Transport Asset Management Plan (TAMP). Effective asset management continues to be used to target the allocation of resources to where they can be most effective. It should be noted that the application of asset management principles could mean that some roads in poor condition are a lower order of priority for maintenance than a road in better condition; prevention is a more cost effective approach than addressing the symptoms through reactive maintenance.

Purpose and aim of the policy

Transport asset management is a methodology of running the 'business' of operating a highways and transportation network. This policy has been guided by the corporate objectives of the Council, as outlined in the County Vision and the Government's five national goals as reflected in Somerset's Future Transport Plan:

- Support Economic Growth
- Promote Equality of Opportunity
- Contribute to Better Safety, Security and Health
- Improve Quality of Life and a Healthy Natural Environment

- Reduce Carbon Emissions

Somerset's asset management approach is set out in the Highways Infrastructure Asset Management Strategy (HIAMS) 2018 document

Scope
This policy is applicable to all public highways infrastructure managed and maintained by the Council

Policy statement
The Council believes that effective asset management is fundamental to the delivery of its services and the delivery of its long term vision.

Policy detail
In adopting an asset management approach for our entire infrastructure we will be implementing a methodology which includes:

- A systematic approach which takes a long term view
- The consideration of the whole of life costs of maintaining an asset
- The consideration of customer expectations and defined levels of service
- The optimisation and prioritisation of works based on assessed needs derived from the defined levels of service
- The use of lifecycle planning to inform the optimal treatment at each stage of the assets life
- Optimal level of service within the constraints of the current financial position of the Council.

Consultation and engagement
In drafting this policy we have taken note of the public perception surveys, internal and stakeholders and views expressed at a range of public engagement events held in Somerset.

Performance and risk management
The maintenance and management of public infrastructure has been undertaken for many years and in the drafting of this policy we have identified and taken note of all likely risks and performance issues. The mitigation and management of risk have previously been developed in the TAMP 2009 and 2010. These have been reviewed and updated for the HIAMS 2018.

The effectiveness and application of this policy will be monitored as part of the on-going management of the service.

Communicating the policy
This policy is available on the Council's website

Evaluation and review
This policy will be reviewed in June 2020

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Highways Infrastructure Asset Management Strategy

2018

Version 0.7

10th January 2018

WWW.SOMERSET.GOV.UK

Contents

Introduction

The highway network is the most valuable publicly owned asset managed by Somerset County Council. Somerset's roads are used by nearly all residents, businesses and visitors to the county. They provide a vital contribution to the economic health of the county and the quality of the environment, as well as providing a range of social and recreational benefits to our service users.
Through the effective asset management elected members will are able to make more informed decisions on investment in the highway network, so that the interests and the needs of the community are best served, the highways and transport service is maintained at the optimum level, within budget constraints, and resources are used to maximise benefits in a timely manner, both now and in the future.

Put simply asset management is a tactical approach that identifies the best allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers. This Highways Infrastructure Asset Management Strategy (HIAMS) builds on earlier work; Somerset County Council first developed a Transport Asset Management Plan in 2009 in order to formalise this approach and embed it in its way of doing business. This approach has been core to the Council's management of the network since then.

The HIAMS was first adopted in 2016. This update incorporates changes since then, including a new County Vision published in May 2018 and the publishing of the new "Well-managed highway infrastructure" Code of Practice in 2016.

1.0 Asset Management

1.1 Background

Somerset County Council has a transport network consisting of over 6,600 km of highway and more than 6,500km of Public Rights of Way. This is by far the most valuable asset that is managed by the Council at approximately £7 billion in value, and is an essential service, underpinning the activity of all residents, visitors and businesses in Somerset. The continuing maintenance and improvement of this network is a significant challenge given its scale and complexity, encompassing a diverse set of highways assets across the contrasting environmental conditions and topography of Somerset.

Against this context it is understood that in order to effectively manage this network and allocate resources optimally that a plan is required that draws together all the strands of highway management in addition to national and local policy guidance to develop a comprehensive approach that balances intended outcomes against the limitations of finite resources and statutory obligations. This document sets out that strategic plan detailing the goals and objectives for the operational management of this vital transport network.

Goals, Objectives, Policies

Highway Asset Management is a way of running the 'business' of operating a highways and transportation network. The separate Highways Infrastructure Asset

Management Policy (HIAMP) incorporates the corporate objectives of the Council, as outlined in the County Vision (May 2018), and the Government's five national goals as reflected in Somerset's Future Transport Plan:

- Support Economic Growth
- Promote Equality of Opportunity
- Contribute to Better Safety, Security and Health
- Improve Quality of Life and a Healthy Natural Environment
- Reduce Carbon Emissions

The policy set out in the HIAMP is adopted in this strategy document to create a comprehensive Asset Management Framework approach that ensures that road safety implications are thoroughly addressed.

1.2 Benefits of Asset Management

This strategy presents wider opportunities to assist SCC in its own performance management, including benchmarking with other authorities, and communication of key messages to stakeholders.

Other benefits include:

- Clarifying SCC's knowledge of asset qualities and condition;
- Producing future budget profiles and works programmes:
- Considering the best options for maintenance of each asset in order to minimise costs over its whole life;
- Planning and managing performance. Improving service delivery, learning from best practice and embedding performance management;
- Managing physical and financial resources. Improving efficiency and effectiveness, maximising resources through medium and long term planning;
- Enabling access to services for SCC customers by providing, maintaining and managing physical networks and services;
- Embedding effective programme and project management.
- Informing the public and liaising with stakeholders on our plans and strategies

In addition to the benefits identified there are several other drivers behind the preparation of the HIAMS. 'The Code of Practice for Highway Maintenance, Rethinking Construction' advocated an integrated approach to the planning and delivery of infrastructure works. In addition "Whole of Government Accounting" requires commercial-style accounts to be drawn up, and the Prudential Code requires local authorities to have explicit regard to option appraisal in terms of being affordable, prudent and sustainable.

2.0 Applying Asset Management

2.1 Asset Management Framework

This strategy document sits alongside the Highways Infrastructure Asset Management Policy document within the Council's wider Asset Management Framework and forms a bridge between the high level strategic vision set out in the County Plan, and other strategic documents, and the operational approach to asset management.

In order to take advantage of proven efficiencies through whole life asset management and provide the direct link between the strategic and operational the Council has created a professional asset management function, focusing on data driven scheme prioritisation and controlling intervention design and specification.

Applying asset management principles will have a material effect on expenditure, and may allow for reinvestment in the network to reduce future revenue costs. The move to a formal, centralised asset management function will enable this.

The centralised asset management function is provided with strategic guidance to effectively deliver the asset management strategy. It manages and analyses objective data to inform the timing of interventions and types of treatments that are appropriate to maintain assets for maximum life and value.

Central to this approach is a way of working that promotes the identification and prioritisation of surface treatment schemes using whole life costing principles as the carriageway is the most valuable asset maintained by the council, accounting for 90% of the value of all the assets owned by SCC.

2.2 Inventory

The Council holds comprehensive highway inventory and condition data, which has been developed and used for a number of years. This has enabled needs based budgets to be allocated and priorities selected using objective data. The need to produce detailed valuations and life cycle plans has provided the opportunity to re-evaluate current data. This analysis has enabled deficiencies and gaps to be identified. These were captured in the original TAMP's Improvement Plan, and formed part of the preparation of the HAMS.

To deliver the Goals and Objectives and achieve the required Levels of Service it is necessary to appreciate the extent of the highway network, the range of assets involved and the condition of the components that sustain it. Equally it is important to understand that the highway is an engineering structure and that to manage and maintain it effectively and efficiently requires knowledge of the individual assets, how many there are, the condition they are in and the materials used. This is inventory and condition data and along with knowledge of the functional requirements provides the quantitative and qualitative measures of the highway assets.

Somerset County Council holds inventory data for the following asset groups:

Carriageways
Footways & Cycleways
Structures
Traffic Control
Signs and Street Furniture

2.3 Levels of Service

Levels of Service describe the quality of services provided by transport assets for the benefit of customers. They are indicators that reflect the Council's broader goals. Levels of service reflect in measurable terms how SCC, as the highway authority, engages with customers and responds to their needs.

They can be categorised as either:

- Condition assessment: preservation of the asset's physical integrity;
- Demand aspirations: the service delivered by the asset in terms of its use.

The levels of service deliver against SCC's mission, to provide excellent services that are accessible, responsive and sustainable, in order to ensure that Somerset is a healthy and vibrant place to work and visit.

Our Levels of Service include:

- **Safety.** The safety of the transport asset and reduce the risk to accidents to all users.
- **Accessibility and economic growth**. Maintain the transport asset so it is accessible to the customer and fit for purpose, enabling movement of goods and people and facilitating business to operate effectively.
- **Environment** (including air quality and congestion). Improved management and maintenance will enable environmental protection to become a key part of all operations. Take measures to reduce emissions and improve air quality, reduce congestion and improve journey times.
- **Demand aspirations**. To inform decisions on the allocation of resources between competing demands.
- **Asset condition**. To maintain the physical condition of transportation highway assets.

Highway inventory and condition data has been developed and used for a number of years in Somerset. This has enabled needs based budgets to be allocated and priorities selected using objective data. The competing needs of each asset and maintenance activity will be ranked against each other utilising defined service levels.

A comprehensive performance management framework (Scorecard) has been developed and implemented to effectively link objectives, targets, priorities and community needs with service improvement and resources.

This will enable us to manage and redirect resources as required to deliver our targets.

2.4 Lifecycle plans

Lifecycle plans document how options are selected for different asset types. They aim to identify the lowest long-term cost for the work required to close the performance gap between current and target performance levels of these assets, and to sustain the performance at the desired level. They enable the optimum resource requirement to be identified to provide the minimum whole life cost for that asset type.

Maintenance lifecycle plans have been prepared for individual sets of assets, taking account of best practice in maintenance techniques and expected performance for various treatments. The lifecycle plans incorporate Whole Life Costing, enabling budget needs to be identified and compared against current funding allocations.

The plans seek to optimise the cycle of activities that the assets will experience throughout their lives, including planning, design, construction, operation, maintenance, rehabilitation/reconstruction, and disposal. They can be used to identify specific maintenance needs through the various stages of the asset life, and provide a link to the short-term planning process.

Full lifecycle plans for each asset type are held in the TAMP 2010.

2.5 Prioritisation

Like all Highway Authorities SCC is facing continued demands on its budgets, and a prioritisation methodology is required to ensure expenditure maximises benefits against the Council's targets and Strategic Objectives.
Prioritisation of maintenance cannot achieve the objectives alone, but they must be considered when ranking individual schemes, and programmes of routine works.

Finance

SCC sets its budgets on a 3 year rolling cycle according to the Medium Term Financial Plan. The capital budget is also set in line with SCC's Capital Strategy, the core principle of which is *"to maximise capital investment within affordable revenue consequences"*.

The annual financial planning process starts in the summer, when officers work up capital and revenue bids to present to Members. Officers are required to set out their proposals, and the LAA and County Plan links to ensure that the funding requested meets overall priorities. The capital bids, which will arise from a series of pressures such as on-going maintenance need and demographic growth, are also required to provide information on sustainability, community safety, long term viability, risk analysis, performance improvement, value for money and deliverability.
Once revenue and capital proposals have been reviewed by they are scored by the Corporate Finance Planning team. They are presented to the Executive Board for initial consideration, and then to Scrutiny Committees. Ultimately, proposals for capital funding and its revenue consequences are formally agreed at Executive Board in February, and then full Council.

Prioritisation process in Somerset

Currently, budgets are allocated to each asset using inventory, condition data and the Council's priorities that are refined each year to achieve delivery of condition targets, and meet public expectations.

The prioritisation process uses the allocated budget for that asset, and ranks the schemes across the county in order of priority using several different criteria. For each asset there is varying knowledge of its condition and future performance, and so an individual ranking system is used when carrying out scheme prioritisation. For assets such as carriageways, where surveys are regularly undertaken, there is a greater knowledge than for example drainage systems, and the process used for ranking these schemes is more developed.

Carriageway asset deterioration model
Using the data obtained from road condition surveys, SCC has been able to profile how its roads will deteriorate over time, and determine the current position on the life time line of the highway asset. This has allowed the carriageway asset to be valued in its present condition, and enables its worth to be forecast as predicted deterioration occurs.

Different road construction and vehicle usage means that not all roads will deteriorate at the same rate. It is possible to forecast peaks and troughs of deterioration, which can be mapped against future investment needs.

Structural Carriageway Scheme Identification
The Carriageway Lifecycle plan describes the condition assessment regime which includes structural, safety and serviceability surveys undertaken by specialist survey machines, and using visual methods. These surveys provide a variety of data which is held in the Pavement Management System (PMS) and can be reported either as GIS overlays or in tabular form for every 10m length of road in the County. The process of scheme identification and prioritisation relies on the functionality within the PMS to rank the severity of defects and identify areas of defect clusters.

Detailed data analysis
The analysis and treatment selection processes carried out in the scheme assessment process is based on the same principles adopted in the network level financial model that forecasts road maintenance requirements for the carriageway lifecycle plans. It is important that the principles applied at the network level are also replicated at the project level to ensure that long-term network level goals can be achieved.

Scheme Effectiveness, Ranking, Value for money
Once the treatments have been assigned the cost for each scheme is calculated by the treatments and unit rates. The schemes can then be ranked by using a number of criteria:

- **Scheme effectiveness:** a measure of how much of the scheme is treating defective lengths of road using defined parameters.

- **Impact on national road condition indicator:** a measure of the effect of the scheme on the reported national road condition indicator.

- **Value for money:** a measure of the cost of the scheme, the predicted life of the treatment and the effectiveness in treating defective lengths of road

Using these criteria scheme scoring sheets are compiled in order to provide a measure of relative ranking. Indirect stakeholder input is also applied, with such ranking factors as proximity to shopping centres, elderly people residential homes etc. These are then added to the technical data to produce a prioritised list.

Highways schemes proposal register (HSPR)
Once a scheme has been identified using the relevant ranking criteria for that asset, it is entered onto a GIS database, HSPR, and can be viewed with other data sets. These data sets may include schemes from other groups, proposed Statutory Undertakers works, events such as Glastonbury Music Festival etc. This allows the works to be programmed and the highway network to be managed, to ensure traffic disruption is minimised.

Added value consultation
Using asset management principles and the scheme selection processes detailed above, Somerset County Council has programmes of maintenance work in advance of the following financial year. This allows the following year's programme of work to be shared with other Council groups such as the Road Safety Partnership, Transporting Somerset, Major Schemes, Traffic Engineering etc.

This early sharing of information allows proposals to be viewed and discussed, if amendments to proposals could in fact aid multiple objectives. This results in joint funding of some schemes and allows the benefit of expenditure at the location to be maximised. At these meetings, the condition survey information is available and often used to discuss the merits of extending the limits or changing the design of a scheme to maximise the benefits.

2.6 Valuation of assets
The Whole Life Government Accounting requirement is that highway assets are valued, and are contained within the authority's accounts. The HIAMS facilitates this process. Assets are valued according to their Gross Replacement Cost, which is how much it would cost to build equivalent assets to current standards now. Using this measure the Council's transport asset valuation as at June 2015 is in the order of £7 billion, while the level of depreciation stands at £500m. Asset management through the TAMP, and now the HIAMS, has enabled better models for deterioration to be developed, providing a more realistic value of the asset consumption. Asset valuation places the value of highway assets in context with other assets owned by the Council. It also helps to make the case for appropriate levels of maintenance funding. The expansion of the highway asset base through highway improvement schemes, and through estate roads in new developments, represents a challenge. The HIAMS provides the opportunity to identify the revenue budgets required to ensure that this increasing stock of assets can be effectively maintained.

2.7 Risk Management

Risk generally falls into two types; tactical and operational. This strategy uses Somerset County Council's risk assessment matrix, shown below, which involves identifying both the likelihood and the impact of an event.

Risk is inherent when dealing with the transport assets and needs to be managed accordingly. Risks generally fall into two types; tactical and operational. The tactical risks are those risks that affect the Council's ability to deliver its core Goals and Objectives; they can typically be dependent on budgets, customer influences or changing weather patterns. Operational risks are those encountered day to day and tend to involve the service delivery on the ground. All risks are owned by those in a position to best manage them.

LIKELIHOOD (A)						
	Very likely 5	5	10	15	20	25
	Likely 4	4	8	12	16	20
	Feasible 3	3	6	9	12	15
	Slight 2	2	4	6	8	10
	Very unlikely 1	1	2	3	4	5
		Insignificant 1	Minor 2	Significant 3	Major 4	Critical 5
		IMPACT (B)				

2.8 Performance management

Carefully constructed performance measures are an essential asset management tool. Their value is in guiding the decisions about managing the network. A comprehensive performance management framework (Scorecard) has been developed and implemented to effectively link objectives, targets, priorities and community needs with service improvements and resources.

These performance measures are:

- **Current** Providing information about current performance;
- **Available** At the fingertips of those who need to know, when they need to know
- **Robust** Providing reliable information.

Effective performance management is critical to ensure delivery of targets and objectives. The SCC performance management processes allow regular monitoring and review of progress towards targets, scheme delivery and expenditure. This will enable us to manage and redirect resources as required to deliver our targets.

Carefully constructed performance measures are an essential asset management tool, helping to guide and inform decisions. Performance monitoring, review and improvement will be used:

- To drive forward and assist in service improvement;
- To ensure improvements are delivered in a robust and measurable way;
- To underwrite and demonstrate improvements, with output, outcome and public satisfaction performance measures;
- To enable external comparison and share best practice.

3.0 Review and Best Practice

The ongoing cycle of preparation of Somerset's HIAMS enables a series of key improvements to be identified, which will advance the Council's asset management practice. The improvement plan details the specific actions to be taken, and outlines which level of service the actions are intended to benefit. Areas identified for improvements fall into two distinct categories; development areas for inclusion in future versions of the HIAMS and recommendations arising from this strategy. This will ensure that the focus is maintained on the outcome of the improvement, and the ultimate benefit it may provide to the customer**.**

Asset Management is structured to support a process of continuous improvement. The performance monitoring and reporting regime will be used to review the plan and its processes. The review activities will include:

- Ongoing Performance Review – looking at the results, the factors contributing to performance, and the options for dealing with poor performance;
- Annual review – the Asset Management Strategy will be reviewed every two years.

4.0 Highways Asset Management Communications Strategy

The highway network is of significant interest to the public and the media. This interest is likely to continue with robust public expectations of how the network should function. In addition, weather conditions and possible resulting damage to the highway network often provide the focus for significant national and local media coverage.

A robust and comprehensive communication plan is essential for an effective highways asset management approach. This requires a focus on community engagement, informing the public and gaining feedback from service users. This is vital to the informed, evidence-based decision making that allows for the continuous service improvement that effective asset management requires.

Engaging with stakeholders to understand their needs and expectations provides the information required to determine and review the service provided by highway infrastructure assets, and hence the asset management activities.

Somerset County Council therefore seeks to provide clarity and transparency in how it makes decisions in the identification, assessment, programming and delivery of asset management activities, including maintenance works, and how the public are involved in making decisions for the service provided by the network.

Providing good quality information to stakeholders on what can be expected from the asset management approach is an important aspect of service to the public. A clear and effective approach to communications within the HIAMS is a means of providing information and responding to challenges relating to programmes of maintenance works and value for money. It also assists with the often high volume of public requests, reports from multiple sources, and media interest in highway maintenance.

This communications plan describes how the asset management approach is actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance.

Somerset County Council achieves its communication plan for highway maintenance through a range of means. This includes stakeholder engagement through routine meetings, public events and the pro-active delivery of messaging on service delivery to the wider public.

The Council maintains daily contact with members of the public, district, town and parish councils, together with elected members. Additionally we have regular contact with other external interested parties, both statutory and voluntary, who can inform and influence our works.

Highway defects can be a major area of requests for service, complaints or claims to an authority. Processes must therefore be in place to deal with these communications and provide high quality reporting and feedback.

Further to this the Council actively seeks feedback from service users that is processed and then used to inform decisions on the future delivery of the highways service.

Key messages for highways asset management:

- Somerset County Council performs well in the way that it manages its highways assets.
- Somerset County Council's highways assets have a very high value, represent a major component of Somerset County Council's assets, and require continuing investment to meet service requirements.
- Government continues to provide substantial levels of capital funding to Somerset County Council which are consistently adding to the asset stock. The HIAMS allows for the most effective use of revenue budgets in order to ensure the existing stock of assets is effectively maintained.

- The HIAMS emphasises the strategic value of highway assets and is an effective tool for driving efficiency and providing value for money.

- The comprehensive approach to asset management represented by the HIAMS will help to ensure that the road safety implications of asset management are also addressed comprehensively.

Brand
All communications follow Somerset County Council's brand footprint, outlined below:

Somerset County Council means
Value for money
Quality and reliability
Leading the way

Somerset County Council is
Open and transparent
Caring and compassionate
Enabling and empowering
Local and in-touch

4.1 Stakeholder engagement
Through the delivery of its service Somerset Highways maintains an interface with members of the public, businesses, visitors to the county, parish councils and elected members. Alongside this it engages with both internal and external stakeholders on a range of issues related to the delivery of the service.

The level of this communication and engagement with stakeholders is typically determined by the type of maintenance required.

The Council also carries out on-going, more substantive, informing and engagement exercises to highlight the service that is provided within the county. This would include one-off events, routine meetings with community stakeholders, publicity and media promotion. The Council conducts publicity drives to promote service information; in the approach to winter the Council carries out a winter service , which includes letters to all parish councils in Somerset, advertising in local media, and articles in the Council's *Your Somerset* publication.

The Council has also begun using social media to inform the public. For example the Council maintains a specific Twitter account for gritting and winter service information.

In addition to routine service delivery more substantial schemes of works typically require more scheme specific stakeholder planning, which would be covered in more detail under the specific project planning for those works.

An outline of the range and categories of stakeholders is set out below within the Communication Plan.

The Council routinely collaborates with a range of other government agencies, third sector organisations and business groups. This includes:

- The five district councils in Somerset;
- Local schools;
- Neighbouring highway authorities;
- Environment Agency (EA);
- Inland Drainage Board (IDB);
- Somerset Rivers Authority SRA);
- Network Rail;
- Local voluntary groups and conservation bodies;
- Highways England;
- The Department for Transport (DfT) and Government Office for the South West
- Avon & Somerset Police and other emergency services:
- South West Heritage Trust;
- Adept Bridges Group;
- Canal and River Trust;
- Exmoor National Park.
- Heart of the South West Local Enterprise Partnership (LEP)
- Business Community/Somerset Chamber of Commerce and Industry

Alongside bi-lateral engagement with stakeholders Somerset County Council also participates in organised regional service area groupings. The South West Highway Alliance (SWHA) is a group representing all the highways authorities in the South West region. Initiated in 2013 it seeks to achieve efficiencies through joint procurement opportunities and the co-ordination of activity to identify best value and the potential for service improvement.

The SWHA also co-ordinates the work programmes of the regional service area groups.

In addition to these regional bodies the Council is itself a stakeholder in projects of national and regional strategic importance, such as the building of the new Hinkley C power station in Somerset. The stakeholder engagement for these projects is covered by the E&CI Major Projects Team and by specific project and programme planning.

Contractors and Statutory Undertakers (SUs)
The Council engages routinely with its major Term Maintenance Contract (TMC) providers – this includes Skanska Ltd and SSE Ltd, as well as WDM Ltd who provide asset information from road condition surveys. The Council also works with other contractors, such as through a new framework contract for Repair and Resilience

works and the Structures framework contract. These contracts stipulate for regular two-way engagement to address problems and improve performance.

Routine meetings are held with SUs to co-ordinate their works to minimise disruption and the duplication of highways maintenance works.

Elected representatives
The Council maintains good networks of contacts with parish councils, elected members and Members of Parliament. Underpinning this is a structure of standing meetings called Area Panels or Cluster Groups with parish/town councils and elected members. These networks of contacts allows for regular two-way reporting highways conditions and feedback. This allows the Council to react to immediate problems and also to develop future programmes of more major works such as carriageway resurfacing, surface dressing, footway resurfacing, and drainage improvements.

As an outcome of the major flooding in Somerset in 2013 and 2014 there have been a greater number of multi-agency groups set up, such as those set up to deliver the Levels and Moors 20 Year Plan. Highway maintenance requests feature heavily in these discussions.

4.2 Reporting and recording
The Council has daily service requests from members of the public, parish councils and elected members. These can be directly to an Area Highway Office or to members of staff. Information and data can be received by telephone, email, traditional letter, Facebook, Twitter, individual and public meetings and personal visits to Area Highway Offices.

Members of the public can report any problems with the Highway by phoning the Somerset Direct service on **0300 123 2224**, or online at Somerset County Council's website at **www.somerset.gov.uk/highwaydefect**

Alternatively the public can use:

Email: RoadsandTransportSD@somerset.gov.uk
Fax: 01823 356936

Or contact the local Area Highway Office directly. All are open 8.30 am – 5 pm weekdays (4.30 pm on Fridays):

Mead Avenue, Houndstone Business Park, **Yeovil BA22 8RT**
countyroads-southsom@somerset.gov.uk

Wells Road, **Glastonbury BA6 9AS**
countyroads-mendip@somerset.gov.uk

1 The Crescent, Taunton TA1 4AE
countyroads-tdeane@somerset.gov.uk

Mart Road Industrial Estate, **Minehead TA24 5BJ**

countyroads-westsom@somerset.gov.uk

Dunball Industrial Estate, **Bridgwater TA6 4TP**
countyroads-sedgemoor@somerset.gov.uk.

Requests and queries made through these reporting mechanisms are recorded and tracked through our EDocs system and Confirm system.

The majority of problems experienced by service users are reported either via the telephone through the Council's Somerset Direct service or through the reporting form on its public website. These are the main means of interface for most members of the public.

Hardcopies of correspondence are also retained on individual Parish files at the Area Highway Offices.

The Council also maintains a dedicated Street Light Fault Line and a web page for street lighting problems and faults.

Communications with stakeholders are considered as part of setting requirements for the asset management system.

Information Systems
The Council uses a number of systems to record correspondence, most notably the Document Management System (EDocs) and Confirm. Street Lighting also uses the FM database.

Confirm
Confirm is the Highways Asset Management System for Somerset County Council. It assists the county council with the decision making, management and maintenance of over 70,000 Highway and Street Work assets throughout the county. It also provides essential links between the authority, our contractors and utility companies systems to enable the successful management of repairs and noticing. Additional to Confirm is Confirm Connect which is mobile asset management solution which enables the transfer of real-time information between the authority and our contractors with highway repairs.

Email Notifications:
The Council has initiated an email reporting system to allow members of the public to be kept informed of the progress of enquiries. When a member of the public contacts the customer contact centre with a pothole enquiry they can opt in to receive emails updates on the various stages of their pothole enquiry to include:

- Acknowledgment of the enquiry
- Notification if the enquiry is/isn't a safety defect (as defined in the Highway Safety Inspection Manual)
- Completion of the enquiry

4.3 How information is communicated

The Council uses a range of means to communicate to service users. A weekly report of planned highway works and activities is sent out to elected members, parish/town councils, Facebook/website managers, press and other partner organisations.

Information boards are placed on sites in the lead up to planned highway works to advise on the nature of the works and the type of traffic management that will be required.

Letter drops are undertaken to advise households and those nearby of impending works, the reasons for them and to provide a ready channel of communication in the event of a query.

Advance Notice signs are used on site to inform communities of upcoming works and letter drops are undertaken to adjoining properties. For some schemes we may go further (for example where there are particular sensitivities around the work or where significant disruption is expected) and utilise press releases, Town/Parish Councils, local interest groups and Village Agents to promote information. In the past we have also made use of bespoke public meetings, exhibitions and presentations to promote schemes and construction arrangements.

The majority of day to day communication is by electronic means, either email or through Confirm. A smaller proportion of communication is through telephone, letter or face to face backed up by writing. Information is recorded and stored either electronically or in paper format depending on the nature of the information. Information of long term relevance to a structure will be stored electronically in the structure asset management system or electronic permanent file. Information pertaining to a specific scheme is stored within the electronic and paper scheme files. General enquiries are recorded on Confirm.

Letter drops and newsletters are used locally to spread information and provide communications details. Parish councils who have particular knowledge of local conditions may also assist in spreading information. Scheme information boards in advance of works will additionally advise the nature and timing of works.

Website and publications

The Council publishes its service standards and polices online on its website to inform the public. The Council's website is the main source of information for the public on general highways issues. The website also details Levels of Service the public can expect, how to contact local highway services, who to contact on specific issues, and how to report any problem relating to the highway. It also includes the capability to directly report issues on the highway using a web form.

Parish Highways Information pack

The Parish Highways Information pack was developed as a result of requests from parish council's following Local Choice events. Parish council's felt that they were not well informed on highways issues and how to engage with the Council to improve the service in their areas.

The pack includes the Levels of Service the public can expect from the Council, how to contact the highway service and how to report problems. It also outlines a range of schemes that the Council has developed to allow direct participation in service delivery by parish councils. This includes employing their own operator to deliver environmental maintenance relating to the highway, the purchasing of enhanced service though the Council's TMC and the operation of community-held Speed Indication Devices.

4.4 How information is used to inform decisions

The Council receives huge amounts of information from the range of sources available to it. This can be through our Confirm system, through asset condition data from our inventory systems, from members of the public speaking directly to us at events, and from the routine surveys that the Council conducts.

Service improvement and evaluation

Since 2008 Somerset County Council has been a member of the National Highways and Transport Network (NHT). This network is a group of 120 Highway Authorities (HA) that enables the measurement and comparison of performance and the sharing of good practice on highways and transport services.

A key element to achieving this is the NHT's annual survey of Public Perspectives on Highways and Transportation Services.

This survey collects public opinions on, and satisfaction with, Highway and Transport Services in Local Authority areas. The NHT survey is a collaborative venture by a significant number of local highway authorities to give residents the chance to comment on highways and transport services provided by their authority. It is governed by a local highway authority steering group and the same questionnaire is used across all authorities so that comparisons can be made. The survey analysis enables benchmarking, trending, mapping and overlaying of data from national down to local ward level.

It involves survey agency Ipsos MORI sending a questionnaire out to randomly selected households in Somerset and processing the returns. Highway Authorities are supplied with data and software to allow them to analyse, map, chart and benchmark their data against other participating authorities. It is a unique, standardised, collaboration between HAs across the UK enabling comparison, knowledge sharing, and the potential to improve efficiencies by the sharing of good practice.

It gives participating Highways Authorities:

- A better understanding of public satisfaction
- A consistent datum for setting service levels and a means of measuring the impact of service improvements
- Access to the best performers and the opportunity to learn from the good practice of others

Survey results are publicly available on the survey website and provide transparency. HAs can use the feedback to manage and improve local services.

Forward Programme
Section 2.5 to this document outlines the prioritisation process for highways work. Within this process the information available through the Council's reporting and inventory systems allows for the development of a Forward Programme. This programme is informed by the stakeholder engagement outlined within the Communications strategy.

Examples of how this works in practice are outlined below:

- Requests for works are recorded and prioritised in conjunction with other relevant technical data (insurance claims, most potholed roads reports, road condition data) to help identify scheme locations and develop a programme of works.

- For schemes within the programme, comments from the public, traders and/or elected members may be reflected in the design or influence the scope, timing and method of working for a scheme.

- Programmes from utility companies may affect the timing of our works or open opportunities for joint network occupation to minimise disruption.

- Information on school bus routes may result in restricted working hours or arrangements to facilitate access through construction sites.

- Request for relocation of street lights for new developments, driveway extensions and request for rectifying non-routine faults. These requests are logged and audited to ensure works are carried out correctly and recharged accordingly.

Some schemes originate from initial requests from stakeholders from one of the communication channels outlined above.

The Forward Programme is communicated to elected members, other stakeholders and the public. The intention of the plan is that it clearly demonstrates what, where and when schemes are to be undertaken. The plan is subject to annual review and updated using the latest sources of data and other information described within the HIAMS.

5.0 Asset type summary

5.1 Types of maintenance

Routine maintenance. Routine maintenance activities are identified through a variety of methods which should ensure that the asset remains safe and available for the user. Routine maintenance tends to focus on SCC's statutory duty to maintain

roads in a safe condition. Routine maintenance falls into 3 categories; scheduled, planned and reactive.

Scheduled. This involves a range of cyclical activities, and can include safety, service and specialist inspections, weed treatment, ploughing road edges to maintain width and programmed work to respond to defects raised through inspections. The frequencies for scheduled maintenance activities can vary and be seasonal for some activities. Many of these activities, whilst not explicitly undertaken to improve carriageway condition, have a preventative effect on the deterioration of the carriageway asset. Often user opinion regards levels of service can be influenced by these scheduled activities, and service levels can fall below user expectations.

Planned maintenance. Planned maintenance describes activities that are programmed in advance, based on information about condition derived from inspections, condition assessment or feedback from users. Plans can be developed for the short, medium and long term and typically are local treatments to deal with specific problems. A balance needs to be struck between the scale of planned maintenance, and more strategic maintenance based on asset management principles. An example would be when a road surface needs patching for safety purposes. There is a point when a renewal of the surface would be a better whole life cost option, even though it is more expensive in the short term than treating just the defective areas. Well planned routine maintenance contributes significantly to maintaining carriageway condition, through addressing carriageway failures at an early stage and preventing deterioration. Routine planned maintenance includes localised patching, edge strengthening and re-profiling to improve drainage, sealing and filling open joints and work to reset covers and repair damage around ironwork.

As part of a planned maintenance regime it is important to consider the impact of utility works on condition and ensure that utility companies meet their obligations to reinstate the carriageway following works, but also to ensure that their apparatus is properly maintained.

Reactive maintenance. Reactive maintenance covers works necessary to maintain assets in a safe condition to the standards set by the Highway Network Management Plan and Highway Safety Inspection Manual, or in response to a weather event or other emergency where a rapid response is required. Reactive maintenance needs can be identified through safety and other inspections or feedback from users. They are not planned in advance and typically are more costly than delivering the same work through a planned maintenance process, and often, due to the urgency, have a shorter life than an equivalent planned treatment. Where reactive maintenance is required due to damage caused by third parties best endeavours are used to recover the cost of any works.

5.2 Asset types

Carriageway
The carriageway is the principal asset of the highway network both in terms of function and financial value. This maintenance of this asset is delivered through a Term Maintenance Contract (TMC).

The carriageway asset can be described as the ‘fabric’ of the road and includes the road structure, including the foundation, structural layers and surface of the road. It also includes a number of ancillary assets such as edge support including kerbing and any formation drainage. Where kerbing is used to delineate the edge of a footway this is included in the footway and cycleway asset group. On road cycle lanes are included as part of the carriageway lifecycle plan. For the purposes of this lifecycle plan only those roads maintained by the County Council in its capacity as highway authority are included.

Footways & Cycleways

The footway and cycleway asset includes all footways and cycleways adjacent to and remote from the carriageway, but excludes ‘on carriageway’ cycle lanes that are included in the carriageway lifecycle plan. The maintenance of this asset is delivered through the TMC. The footway and cycleway asset includes kerbing and edging, the structure including any foundations, structural layers and surface. On many newer schemes ‘shared surfaces’ are provided where the distinction between footway and carriageway is deliberately blurred. In conservation areas, footways can include historic features such as steps, drainage channels, railings etc. that are important to area’s character, but not currently part of this lifecycle plan. Often these features do not meet current design standards, but have to be preserved. In addition, footways are used to enhance public space, with seating, bike stands, litter bins and public art. These features need to be considered separately for lifecycle planning purposes. Footways also include features for mobility impaired users, such as tactile paving.

Maintenance activities for footways and cycleways broadly reflect those applicable to carriageways; however one important distinction is that footways don’t tend to deteriorate due to usage, but more to abuse, particularly due to vehicle overrun and parked vehicles and environmental damage. Therefore routine maintenance that prevents this abuse, and deals with weed growth is important in preventing impairment.

Structures (bridges and retaining walls)

Somerset County Council aspires to “provide excellent services that are accessible, responsive and sustainable to ensure Somerset is a healthy and vibrant place to live, work and visit”. Maintenance of this asset is delivered through a set of framework contracts with a group of suppliers. The Council’s bridge and retaining wall stock is vital in achieving this vision. Without a maintained and functioning structure assets commerce, leisure, education and the most basic day to day functions would be untenable for those who reside and operate in Somerset. The County’s heavy dependency on an aging and expanding structure stock, which binds both rural communities and urban populations together, places very different, ever changing and wide ranging challenges on their management.

Assets included are:

- Bridges and culverts of span 900mm and above;
- Subways and underpasses;
- Piped or ‘Irish’ fords;
- Pedestrian bridges within the highway;

- Walls sustaining the highway, or other ‘highway’ walls retaining adjacent property where failure would have a significant affect on the highway;
- Structural (reinforced) embankments;
- Buried structures (large chambers);
- Other miscellaneous structures (e.g. gantries, anti-incursion measures for railways, etc.).

There are over 2,000 highway bridges owned and maintained by SCC, and about 20km of highway sustaining walls. Of this total approximately 75 are Listed Structures, and 25 are Ancient Monuments.

Traffic Control

The traffic control system asset consists of traffic signals at road junctions, pedestrian crossing facilities (commonly referred to as Pelicans, Puffins or Toucans), Wig-Wags outside fire and ambulance stations, and interactive electronic signage. It also encompasses CCTV systems, bus priority equipment and Automatic Number Plate Recognition (ANPR) equipment. Vehicle activated signage was inherited towards the end of 2006.

Traffic control system installations are sophisticated and subtle combinations of civil engineering (junction layout, kerbing, tactile paving, underground power and communications ducting etc), systems hardware (signal poles and heads, controllers, vehicle activated signs etc) and software (SCOOT – Split Cycle Offset Optimisation Technique, MOVA – Microprocessor Optimised Vehicle Activation, the Fault Management System (FMS) etc). Equipment and ‘intelligence’ are constantly being developed and improved in line with rapid technological development. There are ranges of life expectations for the various elements which are difficult to measure and indeed to predict.

This array of signal assets helps to maintain the safe flow and interaction of vehicles, cycles and pedestrians. These assets convey instructions to road users in a manner, which is clearly visible, both by day and by night. It is extremely important therefore that SCC maintains these to ensure that they remain safe, efficient and effective. Under the Highways Act 1980 SCC has a statutory duty of care to all users on the highway network, and to provide passage for all vehicles. In addition, the Traffic Management Act 2004 places a duty on all Highway Authority Traffic Managers to ensure the expeditious movement of traffic across their own network and those of other Authorities.

Signs and Street Furniture

The purpose of maintaining this asset is to provide a safe highway for users through the provision, replacement, repair and maintenance of advance warning, regulatory and information signs and bollards. This facilitates the free flow of traffic by managing movement through associated Traffic Regulation Orders (TRO), providing information and through warning users of potential hazards. All signing as erected and maintained should be in accordance with the Traffic Signs Regulations and General Directions 2002 (TSRGD).

The maintainable items associated with this asset include: Warning Signs, Regulatory Signs, Information Signs, Directional Signs, Finger arms, Bollards and Marker Posts.

Street Lighting

Good quality street lighting can make a major contribution to key objectives that will deliver Somerset County Council's vision to "provide excellent services that are accessible, responsive and sustainable". Street lighting maintenance is currently delivered through a stand-alone street lighting TMC.

SCC recognises the need to invest and modernise its Street Lighting services to reduce road casualties and reduce crime and the fear of crime. SCC's requirements will be addressed by delivering a sustained level of investment to improve the standards of street lighting and of illuminated signs and bollards. An 'Invest to Save' programme in new LED lighting is being rolled out across the county. The expectation is that this investment will deliver substantial revenue budget reductions in energy and maintenance, while also delivering an improved, more flexible service. LEDs are white light units, supplying improved clarity and distance vision at night; potentially having a positive impact on road safety and anti-social behaviour. LEDs also offer new opportunities for smarter systems of urban and rural lighting as they are more controllable– potentially offering both greater savings and meeting community demands through part night lighting and dimming.

As a rural authority, Somerset has a low crime incidence rate. However there are a number of locations within the urbanised areas which have crime and community safety issues. SCC's Community Safety Strategy aims to tackle actual crime and the negative perceptions that often prevent people from living as fully as they should. LTP's have a vital role to play by delivering well-designed transport improvements that reduce the fear of crime. This could be delivered through improved lighting and CCTV installations completed in conjunction with LTP improvement schemes.

The current inventory indicates that SCC owns and maintains 47,644 lighting columns, 4,717 illuminated traffic signs, 1,671 bollards and 42 feeder pillars. Around 51.1% are over 15 years old. SCC has been proactive in maintaining its stock and over 98% of lighting is working as planned. SCC also has a continuing capital replacement programme. SCC's current Highway Lighting Policy Document 7.4.1.20.04 – Replacement (February 2006), ensures that units are only replaced for the reasons of structural test failures, life expired equipment, vandalism, Road Traffic Collision (RTC) and equipment failure. The replacement asset programme is prioritised in accordance with ILE Technical Report 22, Managing a Vital Asset; Lighting Supports (2007).

The Highway Network has a variety of uses and there are a number of issues surrounding the provision of highway lighting such as road safety, crime and fear of crime. Although these issues are common and accepted within conurbations, there are rural communities that have campaigned to ensure that their village remains intrinsically dark, and who opposed to any lighting proposals in their vicinity. With this in mind the Highway Lighting Policy Document 7.4.1.20.04 – Replacement is adhered to at all times, and ensures that units are only replaced on a one for one basis.

Verges and landscaped areas

Verge and landscape areas include all ‘soft’ assets such as the verges, trees, shrubs and so on. Maintenance of this asset is delivered through the Council’s main highways TMC. Specifically, the maintainable items associated with this asset group include:

- Highway trees;
- Trees on adjacent land within falling distance of the highway;
- Rural verges;
- Urban verges; and
- Hedges

The verge is generally the part of the highway that exists between the carriageway and the highway boundary, excluding the footway and cycleway. The verge may be made up of grass, mud, unbound stone or landscaped.

These assets also provide a vital safety function being generally created and maintained in line with national standards for visibility. In rural settings they can also provide useful refuges for pedestrians and horse riders. In all environments they may act as a conduit for highway and utility apparatus, thereby limiting the distribution of road, cycleway and footway surfaces.

Verges and landscaped areas contribute to the quality of life, its sustainability and its biodiversity and also help define the nature of its highway network. These are viewed as important assets and their preservation for future generations is a key SCC task.

Drainage

Highway surface water drainage systems are designed to:-

- Prevent the accumulation of surface water on carriageways, footways and cycleways;
- Prevent pollution from highway drainage affecting watercourses;
- Reduce future maintenance liability by minimising water damage to the highway structure;
- Prevent nuisance to adjoining landowners by flooding.
- The provision of highway drainage systems and the routine maintenance of them is paramount to the structure of the highway network and accessibility to the network.

The drainage asset comprises highway gullies, kerb offlets, associated pipework, soakaways, catchpits, grips and ditches, and outfalls. Also included are sustainable urban drainage systems (SUDS) and balancing ponds.

Highway surface water drainage is designed only to carry surface water from the road surface. In many cases, the drainage systems are overwhelmed by surface water from adjacent agricultural land, roof water and private property. In many flooding incidences, highway drainage is rarely the single contributory factor and the need to coordinate actions between private landowners and other statutory and non-statutory organisations is becoming more frequent.

Highway gullies and kerb offlets. The purpose of gully cleansing is to remove accumulated detritus in the gullies to ensure the rapid removal of water from the road surface. The continued efficient function of the gullies and their connections depends partly upon the location, the presence of industry and agricultural land, the degree of tree cover, level of rainfall, the extent of kerbing and the frequency of sweeping.

Gullies are being maintained on a reactive basis in response to service requests or identified maintenance need. Sites where regular flooding occurs have been identified and remedial measures taken to alleviate the problems where possible.

No regular and planned cleansing arrangements are made for kerb offlets, manholes, soakaways, catch pits, interceptors or cattle grids. This is carried out on a reactive basis as required.

Material arising from all road drainage emptying and cleansing operations are disposed of in accordance with Environment Agency requirements.

Outfalls, ditches, grips and Highway surface water carrier drains (pipework). Outfalls, highway ditches, grips and pipework are being maintained on a reactive basis in response to service requests or identified maintenance need. Sites where regular flooding occurs have been identified and remedial measures taken to alleviate the problems where possible.

However, the current policy is under review and the proposed maintenance regime will be to re-cut grips once per year and check and clean outfalls once per year. Publicly maintainable ditches to be re-cut as required. Where ditches are privately owned, the Highway Authority will contact the landowner requesting the works to be carried out.

Culverts. These are contained in the lifecycle plan for structures. The routine works undertaken on the drainage asset have been sub-divided into activities, the standards of which have been displayed in tabular form and are followed by details on objectives and response arrangements.

Winter service

Winter service within a large rural county is vital to ensure that access to goods and services is maintained in winter periods. Precautionary treatment routes were well established but historically there were no specific parameters against which to assess changes or new requests. A rationalisation process identified and agreed the following set of parameters:

Strategic routes, using highway maintenance hierarchies; freight routes; emergency locations (fire, police, ambulance stations and dialysis centres); links with adjoining Counties and major settlements, identified from addressable properties; settlements above 500 ft (identified by mapping addressable properties and contour data) and access routes to the larger urban and rural schools.

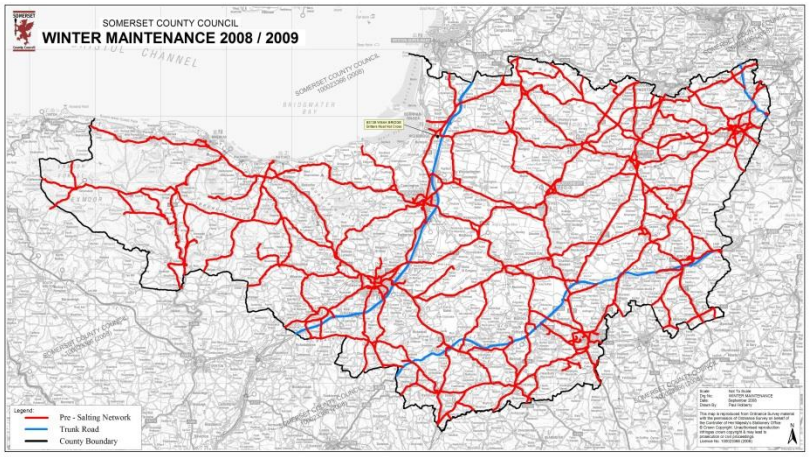
Winter service criteria

Road length statistics		
Pre-Salting routes layer	Distance km	Running total
Strategic and County Routes	969	
Freight Routes	22	991
Emergency Location Links	27	1018
Adjoining Counties Links	43	1061
Major Settlement Links	25	1086

Settlements above 500ft Links	46	1132
Urban/Rural School Links	12	1144
Area Manager Input	115	1259
Internal Route Continuity	171	1430
Total	**1430**	

In this way it is possible to appreciate the cost implications of each layer and the impact on the overall budget. It also provides a robust set of parameters that both explains and justifies which roads are to be treated and why.

The overall assessment is reviewed for route continuity.



Winter service routes are distributed by leaflets in libraries and public offices. Winter service help is also provided in rural areas by maintaining grit bins, grit heaps and salt bags. Their locations are mapped and plotted as inventory datasets. SCC owns a fleet of Winter Gritting vehicles for use on the Pre-salting road network. SCC also own snow ploughs for these gritting vehicles and snow ploughs which are kept and used by farmers and farming contractors throughout the County.

Rights of Way

Somerset has one of the longest rights of way networks in the country. With over 9000 paths the total length stands at 6129 km. The following table shows the lengths and percentages for the different categories of Public Rights of Way (PRoW) in Somerset.

An informal agreement exists whereby responsibility for the inspection and surface maintenance of some surfaced PROWS rests with Somerset Highways. All other functions relating to these surfaced paths rest with the Rights of Way team, this agreement is currently being formalised.

As Highway Authority, Somerset County Council has a duty to maintain the rights of way network. Under an agency agreement part of the maintenance & enforcement function is devolved to Exmoor National Park Authority (ENPA)

Summary

Adoption of the HIAMS, the asset management principles outlined within it, and the detailed approaches to each asset type, allows Somerset County Council to maximise the value of its capital and revenue spending in order to maintain the condition of the highways assets within the constraints of available budget. Core to this approach is a clear understanding of the link between the strategic with the operational, day-to-day delivery of the service to best effect. This relies of a sound understanding of the condition of the network combined with a deeper awareness of

public perceptions and demands of the service. This allows for an informed, targeted and efficient basis for future delivery of the highway maintenance service in Somerset for the benefit of all residents, visitors and businesses in Somerset.

	Exisiting Footway Hierarchy					
	FW1		**FW2**		**FW3**	
	m	**kms**	**m**	**kms**	**m**	**kms**
Mendip	10,251	10.25	7,571	7.57	457,946	457.95
Sedgemoor	10,226	10.23	17,552	17.55	477,606	477.61
South Somerset	20,626	20.63	11,454	11.45	685,315	685.32
Taunton Deane	7,874	7.87	11,245	11.25	489,416	489.42
West Somerset	2,638	2.64	7,213	7.21	122,897	122.90
Totals		51.62		55.04		2,233.18
Inspection Frequency		Monthly		3-Monthly		6-Monthly

	OLD HIERACHY		NEW HIERACHY		Difference between old/new
	m	kms	m	kms	kms
Monthly	2,638	3	7,366	7	5
3-Monthly	7,213	7	4,874	5	-2
6-Monthly (rural)	122,897	123	120,423	120	-2
Annual (rural)	10,966	11	10,966	11	0
Totals	143,714	144	143,629	144	0

		Well Managed Infrastructure - Footways - After Re							
FW4		**F1**	**F2**		**F3**		**F4**		
m	**kms**		**m**	**kms**	**m**	**kms**	**m**	**kms**	
76,313	76.31	0	10,251	10.25	7,571	7.57	72,985	72.99	
56,232	56.23	0	10,226	10.23	17,552	17.55	95,312	95.31	
77,765	77.77	0	21,032	21.03	11,492	11.49	126,034	126.03	
36,747	36.75	0	7,874	7.87	11,245	11.25	108,528	108.53	
10,966	10.97	0	7,366	7.37	4,874	4.87	25,414	25.41	
	258.02	0.00		56.75		52.73		428.27	
	Annual			Monthly		3-Monthly		6-Monthly	

additional inspection days
days
0.50
-0.05
-0.05
n/a
0.40

iew of AO Inputs			
F5		F6	
m	kms	m	kms
389,276	389.28	76,313	76.31
383,411	383.41	56,232	56.23
569,316	569.32	77,765	77.77
381,554	381.55	36,747	36.75
95,009	95.01	10,966	10.97
	1,818.57		258.02
	6-Monthly		Annual

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CARRIAGEWAY HIERARCHY

		Existing Carriageway Hierarchy							*Well Managed Highway - Carriageway - Area Office Inputs*											
		2 - Strategic Route	3A Main Distributor	3B - Secondary Distributor	4A - Linking Road	4Bi - Local Collector Road	4Bii - Local Road	Total	2 - Strategic Route	3 - Main Distributor	4 - Secondary Distributor	5 - Link Road	6 - Local Link Road	7 - Local Access Road	8 - Minor Road	9a - Lanes	9b - Minor Lanes	10 - Green Lanes & Tracks	11 - Disused Tracks	Total
Mendip	*Overall*	81689	189715	49261	114244	274291	825511	1534711	81689	192258	46718	160239	10780	620483	326928	30588	24689	31973	8366	1534711
	Urban	23557	53016	4913	35498	53751	235193	405928	23557	53016	4913	47835	9568	251502	7534	4452	791	2164	596	405928
	Rural	58132	136699	44348	78746	220540	590318	1128783	58132	139242	41805	112404	1212	368981	319394	26136	23898	29809	7770	1128783
Sedgemoor	*Overall*	32278	139989	31761	113155	174785	612479	1104447	32278	140892	47162	115559	15959	478400	221843	29420	13275	6721	2938	1104447
	Urban	13889	64934	15742	53090	52891	261628	462174	13889	66208	26810	49071	7793	271126	15805	8973	0	1998	501	462174
	Rural	18389	75055	16019	60065	121894	350851	642273	18389	74684	20352	66488	8166	207274	206038	20447	13275	4723	2437	642273
South Somerset	*Overall*	37550	239097	58610	59575	493215	1096026	1984073	37550	241597	61182	68592	23835	1040896	450177	10529	11626	33072	5017	1984073
	Urban	8962	91702	22954	22881	106934	348993	602426	8962	91702	22386	24643	19122	417405	10352	778	1094	3595	2387	602426
	Rural	28588	147395	35656	36694	386281	747033	1381647	28588	149895	38796	43949	4713	623491	439825	9751	10532	29477	2630	1381647
Taunton Deane	*Overall*	11499	128941	8341	121306	197615	653488	1121190	11707	106216	52421	166886	28288	450388	284559	11142	3493	4199	1891	1121190
	Urban	2776	62270	5743	45665	46261	224684	387399	2776	54269	15929	64575	28288	216906	3822	813	21	0	0	387399
	Rural	8723	66671	2598	75641	151354	428804	733791	8931	51947	36492	102311	0	233482	280737	10329	3472	4199	1891	733791
West Somerset	*Overall*	0	141446	75898	55769	207956	476525	957594	0	158779	51896	61944	35262	229446	336003	38037	25323	17749	3155	957594
	Urban	0	22186	12488	11845	25308	77044	148871	0	22186	10672	13167	17587	73522	5170	5295	683	589	0	148871
	Rural	0	119260	63410	43924	182648	399481	808723	0	136593	41224	48777	17675	155924	330833	32742	24640	17160	3155	808723

	OLD HIERACHY		NEW HIERACHY		Difference between old/new	additional inspection days
	m	kms	m	kms	kms	days
Monthly	1,226,075	1,226	1,262,345	1,262	36	0.50
3-Monthly	464,049	464	573,220	573	109	2.18
6-Monthly (rural)	1,062,717	1,063	1,620,918	1,621	558	11.16
Annual (rural)	2,516,487	2,516	1,837,417	1,837	-679	n/a
Totals	5,269,328	5,269	5,293,900	5,294	25	13.85

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STRUCTURES SAFETY INSPECTION MANUAL

October 2018

DRAFT

Project name	Highways Code of Practice Implementation Project
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Structures Safety Inspection Manual

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1 INTRODUCTION

1.1 This manual sets the standards for the inspection of structures on the public vehicular highway network and is designed to give guidance on Somerset County Council's policy and procedures relating to Structures Safety Inspections. It applies to highway structures over, under, or alongside the highway, where the structures are owned and maintained by the County's Highway Structures' Service

1.2 Other bridge maintainers or/and owners of structures on the County's highway network may apply different standards and principals to the safety inspections of the assets for which they are responsible.

1.3 As the Highway Authority, Somerset County Council has a statutory duty under the Highways Act 1980 to maintain the highway network, ensuring that the Structures are safe and that the public can use them without obstruction.

1.4 To ensure a consistent countywide approach is followed a formalised Inspection System that prescribes the frequency of inspections and the method of assessment, recording and actioning of defects has been adopted. The Safety Inspection regime provides the basic information for addressing the first core objective of structure maintenance and network safety.

1.5 The inspection regime also assists in providing evidence for a defence in any case of litigation brought against the County Council that alleges it has not conformed with its statutory duties.

1.6 This Manual has been developed taking into account:

- Somerset County Council's overall policy
- The vision and priorities of the Corporate Plan;
- Objectives of the Local Transport Plan;
- Legislation, particularly Highways Act (1980);
- Well-managed Highway Infrastructure – A Code of Practice (October 2016);
- BD63 – Inspection of Highway Structures
- CSS – Bridge Condition Indicators
- SCC – Highway Structures – Service Plan
- SCC – Highway Structures – Inspection Regime
- Inspection Manual for Highway Structures, 2007
- Structures' Service Life Cycle Plan

1.7 National recommendations for the provision of highway maintenance have, until now, been defined within three specific Codes of Practice, namely Well-Maintained Highways, Well-Lit Highways and the Management of Highway Structures. The content of these three Codes of Practice is now brought together

under a new overarching Code of Practice entitled Well Managed Highway Infrastructure which was published in autumn 2016.

1.8 The Well Managed Highway Infrastructure Code of Practice encourages the development of a locally determined risk-based approach to highway maintenance, aligned to central government's expectation that local highway authorities will adopt and develop appropriate asset management activities.

1.9 The Well Managed Highway Infrastructure Code of Practice is not a statutory document but comprises a framework of guidance and standards for the highway maintenance service. As a national document, the Code of Practice has recognised that there has been increasing divergence from the principles and practices recommended in the aforementioned three Codes of Practice due to budget pressures, automony in service provision and differing local service user's priorities.

1.10 Those undertaking structures safety inspections or managing the inspection process will need to refer to this document, which forms part of the Council's Asset Management Plan.

2 LEGISLATION

2.1 Section 41 of the Highways Act 1980 imposes a duty on the Highway Authority (Somerset County Council) to maintain those Structures that are "highways maintainable at public expense".

2.2 The majority of claims against a local Highway Authority arise from an alleged breach of Section 41.

2.3 Section 58 of the Highways Act 1980 states that a statutory defence against third party claims is provided where the Highway Authority can establish that reasonable care has been taken to "secure that the part of the highway to which the action relates" to a level commensurate with the volume of ordinary traffic such that it "was not dangerous to traffic".

2.4 Section 130 of the Highways Act 1980 places a general duty on the Highway Authority to "assert and protect the rights of the public" in their lawful use of the highway.

3 SCOPE OF THE STRUCTURES SAFETY INSPECTION MANUAL

3.1 This Structures Safety Inspection Manual details the process for the identification, prioritisation and resolution of safety issues.

4 THE PURPOSE OF STRUCTURES SAFETY INSPECTIONS

4.1 Safety inspections are designed to identify issues likely to create danger or serious inconvenience to users of the network or the wider community. The risk of danger is assessed on site and the defect identified with an appropriate priority response.

4.2 The purpose of Structures safety inspections is therefore:

- To identify issues which are hazardous to the highway structure users;
- To identify the priority with which these perceived hazard must be reconciled;
- To collect condition data on the assets in order to assist the asset management of the highway structure network and future maintenance programmes;
- To provide evidence that Somerset County Council has fulfilled its statutory obligation to maintain highway structures in a safe, fit for purpose condition.

5 SAFETY DEFECT: INVESTIGATORY CRITERIA

5.1 Section A.5.8 of the Code of Practice – Well Managed Highway Infrastructure states that:

"Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. Such defects should include those that are considered to require urgent attention as well as those where the locations and sizes are such that longer periods of response would be acceptable."

5.2 This Manual is a guide to assist the Structures Inspector and other staff in undertaking a risk assessment of the defect or issue. It provides a framework which links condition criteria to risk assessment of issues; it is a starting point in the decision making process. Structures' staff are expected to use their own judgement to assess the risks that apply to the particular onsite circumstances and use their expertise to assess whether any intervention is required, and if it is, select the most suitable priority for resolution. As a result there will be circumstances where the priority assigned is different to those recommended in this Manual.

5.3 Where issues with potentially serious consequences for network safety are made safe by means of temporary signing or works, arrangements are to be made to ensure the continued integrity of the signing or works is maintained, until a permanent solution can be effected.

5.4 The Inspection Manual notes that many highway structures have historic features that would not be acceptable in current scheme designs.

6 RISK MANAGEMENT

6.1 Due to the varied stock and the fact that all structures are different with potentially different levels of risk, all of the County's structures are treated the same with the severity/nature of the issue being the main critera for determining response time from the Structures Service. However the Area Highways office staff will attend all sites within 3 working days, immediately if the situation warrents it.

7 INSPECTIONS

7.1 Structures' Inspections fall in to two groups Planned Inspections (with sub-categories of General Inspections (GI) and Principle Inspections (PI) and Unplanned/Reactive Inspections (with sub-categories of Special Inspections (SI) which would form a (reactive) Safety Inspections) (see Appendix A for more detail)

7.2 Planned Inspections

7.2.1 The Highways Inspection Team undertake planned safety inspections of the highway network and this task is covered by the Highways Safety Inspection Manual (HSIM). If during this process any issues are identified affecting a structure then these are directed to the Structures Servicefor further investigation in the form of a Special Inspection..

7.2.2 The Structures' Service Planned Safety Inspections take the form of General (GI) or Principal Inspections (PI) and these are undertaken in accordance to the Inspection Manual for Highway Structures and CSS Bridge Condition Indicator system. See Appendix A for further details.

7.3 Reactive Inspections (Special Inspections)

7.3.1 Special Inspections may also be initiated in reaction to an enquiry from many sources, for example a member of the public, a statutory undertaker, a landowner, the emergency services or a County Councillor. Reactive inspections will also include responding to those issues that have been raised and logged as a result of the planned inspections.

7.3.2 If the enquiry is logged on the Confirm Reporting System then in the first instance a member of the relevant Area Highways office would attend site to determine what the issue is and depending on what was found one of the following would be carried out:

7.3.2.1 If the hazard is a highway hazard they will deal as necessary.

7.3.2.2 If the enquiry resulted in a safety hazard to the structure then they would arrange via their Term Maintenance Contract (TMC) Contractor for the site to be made safe. Any information relating to the issue including photos would be sent to the Structures Service. If deemed to be serious/urgent it would also be reported via the telephone to the Structures Service immediately and a Stuctures Inspector would attend site as soon as possible. Upon receipt of this notification, it would be arranged for the Structures' Framework Contractor to take over the site safety/TM within 48 working hours of being informed. This would be regularily inspected and maintained, untll such time as a permanent repair is effected.

7.3.2.3 If there were no safety hazard to the structure then brief details of the issue along with photos would be sent through to the Structures Service. Upon receipt of these the Structures Service would review the information and arrange for a Structures Inspector to visit the

site as appropriate. Adding any minor works to the workbank as necessary.

7.3.3 Reactive Inspection Timescales

7.3.3.1 Safety Related/Serious – Generally within 2 hours of notification on a working day depending on location (if this is not possible then we would request the Area Highways Office to make the site safe using their TMC Contractor and we would attend the site the following day See 7.3.2.2 above.

7.3.3.2 Minor or general enquiries – Within 10 working days or when next in the area depending on nature of enquiry See 7.3.2.3 above.

8 TRAINING AND COMPETENCY

8.1 All personnel involved in planned or reactive Structure inspections will have suitable experience and/or training and be competent to work on structures and the highway network.Training needs will be reviewed on a regular basis to identify any areas where training may prove beneficial or experience is lacking.

8.2 All personnel undertaking a planned or reactive inspection should also be qualified in the current Chapter 8 Safety at Street Works and Road Works standards

9 RECORDING OF INSPECTIONS AND ISSUES

9.1 Planned Inspections

9.1.1 The results of planned inspections are recorded on the Structures Management System (SMS) using the Condition Indicator inspection reporting system.

9.1.2 Any issues arising from planned inspections that the inspector feels needs urgent action/investigation should also be raised with Team Leaders without delay. The issues will be investigated further and prioritised before being added to the workbank. If however action is deemed to be urgent then these will be assigned to a member of the team to progress urgently and issue to our contractor..

9.2 Reactive Inspections

9.2 Issues and results arising from reactive inspections or received from other 3rd parties will be reviewed, prioritised and added to the workbank as appropriate.. A record is kept of the enquiry and subsequent inspection on the structures permanent filing system.

10 INSURANCE CLAIM INSPECTIONS

10.1 Although it is not usual to receive an insurance claim inspection requests, these would be treated as a reactive inspection.

11 STATUTORY UNDERTAKERS APPARATUS

11.1 Section 81 of the New Roads and Street Works Act (1991) places a duty on statutory undertakers (utility companies) to maintain their apparatus to the reasonable satisfaction of the Highway Authority.

11.2 When an inspection identifies statutory utility apparatus that is deemed unsafe and requiring attention, notification will be sent to the appropriate party requiring them to undertake remedial action under Section 81 of NRSWA.

11.3 If remedial action is not carried out within a reasonable time period, the Highway Authority may undertake repairs and recharge their reasonable costs.

11.4 If remedial action is urgently required, the statutory undertaker must be given the opportunity to rectify the defect prior to the Highway Authority affecting a repair.

12 RESOLUTION OF ISSUES

12.1 Where a safety issue can be resolved through Council-led works, the contractor awarded the work shall ensure as far as possible that the works resulting from the Safety Inspections is undertaken within the response time specified by the Structures Office.

APPENDIX A

STRUCTURES INSPECTION TYPE, AND FREQUENCY

(a) Safety Inspection

The purpose of a Safety Inspection is to identify obvious deficiencies in the structure which represent, or might lead to, a danger to the public and therefore require immediate or urgent attention.

Safety inspections are not specific to highway structures and generally cover all fixed assets on the highway network. The inspection is generally carried out by trained highway maintenance staff from the highways inspection team, using a slow moving vehicle or on foot, at intervals appropriate to the road class.

The inspection is undertaken at frequencies which ensure the timely identification of safety related defects and reflect the importance of the particular route or asset. The inspections may also be as a result of a notification of a defect from a third party, eg police or public.

As such, the Safety Inspection only provides a cursory check of those parts of a highway structure that are visible from the highway.

In addition to planned Safety Inspections, the Council has a corporate responsibility to safety that requires all staff to report anything on the highway network needing urgent attention. Staff are encouraged to be vigilant at all times when moving about the network and to report any concerns about the condition of a structure.

Follow up action for a highway structure in response to a concern raised by a Safety Inspection may include a call-out where a member of the structures team attends the site to determine whether further action is required, eg close part of the structure, carry out a special inspection, undertake testing, schedule remedial works.

(b) General Inspection (GI)

The purpose of a General inspection is to provide information on the physical condition of all visible elements of a highway structure.

A general inspection comprises a visual inspection of all parts of the structure that can be inspected without the need for special access equipment or traffic management arrangements. This should include adjacent earthworks and waterways where relevant to the behaviour or stability of a structure.

Prior to undertaking a General Inspection, the inspector should review the structure records and familiarise themselves with the characteristics of the structure, the condition at the time of the last inspection and any significant maintenance/modifications since the last inspection.

General Inspections shall be nominally scheduled for 24 month intervals. When a General Inspection coincides with a Principal Inspection, only the latter is undertaken.

(c) Principal Inspection (PI)

The purpose of a Principal Inspection is to provide information on the physical condition of all inspectable parts of a structure. A Principal Inspection is more comprehensive and provides more detail than a General Inspection.

A Principal Inspection comprises a close examination, within touching distance, of all inspectable parts of a structure. This will include adjacent earthworks and waterways where relevant to the behaviour or stability of the structure. A Principal Inspection should utilise as necessary suitable inspection techniques, access and/or traffic management works. Suitable inspection techniques may include hammer tapping to detect loose concrete cover and paint thickness measurements. Testing is not a requirement for a Principal Inspection.

Appropriate alternatives to close examination may be used for areas of difficult or dangerous access, eg obscured parts of a structure and confined spaces. Closed circuit television may be an appropriate alternative in some circumstances.

Prior to undertaking a Principal Inspection, the inspector/engineer should review all the structure records. Where special access or traffic management measures are required, a method statement should be prepared and agreed by the Supervising Engineer before undertaking the inspection.

Principal Inspection Intervals

The Principal Inspection interval for individual structures shall be determined by risk assessment based on the structure type, road class and the ease of access to all inspectable parts of the structure. The risk assessment shall categorise the structure into one of 5 groups for Principal Inspection category in accordance with Tables 2 & 3, by considering the following factors:

(a) Structural complexity. The more complicated the structural form, the more benefit and knowledge will be gained by a detailed inspection over and above the routine general inspections;
- simple structures may include single or multi-span arch bridges, simply supported concrete bridges without movement joints or mechanical bearings, timber and stone slab structures, masonry or mass concrete gravity retaining walls, and reinforced concrete walls
- complex structures will include wrought or cast iron structures, truss structures and bridges with half joints, and may include multi-span composite or concrete bridges or moveable structures
- moderately complex structures may include small span multi-span composite or concrete structures, and moveable structures

(b) Nature of road crossing or being crossed by the structure. A & B roads form the primary route network and therefore experience higher volumes of vehicular traffic including heavy traffic, than the C & unclassified road network.

(c) Ease of access to the structure. Where access is restricted by the height of a structure, adjacent obstructions or controlled by a third party, the general inspection process will only provide limited information on the structural condition. Greater confidence can be had in the condition and performance of a structure where all parts of it have been subject to a comprehensive and regular general inspection, than in a structure where access to key structural elements has been restricted.

(d) Position of the wall relative to the highway. Where a wall is remote from the highway, the impact of wall failure on the highway is reduced.

According to the risk assessment, individual structures shall be graded into high, moderate, low, very low and specialist access risk categories and the principal inspection interval shall be in accordance with table 4.

The inspection category for an individual structure may, if considered appropriate by the Supervising Engineer, be adjusted to take into account additional site-specific factors not identified under these headings that will have a bearing on the overall category.

The principal inspection period for structures risk assessment category for individual structures shall be periodically reviewed by the Supervising Engineer taking into account history and performance of similar structures.

Changes to inspection category along with justification shall be documented on the structure file for future reference.

Table 2: Principal Inspection Risk Matrix for Highway Structures (excluding Retaining Walls)

	Structure accessible from underneath, soffit within arms reach	Structure accessible from underneath, soffit visible	Structure soffit not accessible or visible eg highway, railway, river or canal	Structure soffit not accessible or visible. Confined Space/ Diving team needed for access, not for scour inspection (see note 3)
Complex structure on high speed or heavily trafficked roads – A & B roads	Zone 3j	Zone 4g	Zone 4h	Zone 4i
Complex structure on other roads	Zone 3h	Zone 3i	Zone 4e	Zone 4f
Moderately complex structure on high speed or heavily trafficked roads – A & B road	Zone 2e	Zone 3g	Zone 4c	Zone 4d
Moderate complex structure on other roads	Zone 2d	Zone 3f	Zone 4a	Zone 4b
Simple structure on high speed or heavily trafficked roads – A & B road	Zone 1e	Zone 2c	Zone 3c	Zone 3d
Simple structure on other roads	Zone 1c	Zone 1d	Zone 3a	Zone 3b
Simple structure with minimal vehicular traffic off the highway network (see note 1),	Zone 1a	Zone 1b	Zone 2a	Zone 2b

Notes:

1 This category is for those structures with minimal highways traffic, either on or off the highway network eg Tarr Steps. Highway footbridges (see note 2) should be individually considered under complexity and accessibility criteria.

2 As distinct from Rights of Way footbridges.

3 Scour inspection should be considered as part of the Principal Inspection and if separate inspection required, carried out as a Special Inspection.

Table 3: Principal Inspection Risk Matrix for Highway Retaining Walls

	Inspected from the highway. Easy access or visibility eg footways or wide verges available providing good visibility of structure, traffic management not required.	Inspected from the highway. Difficult access or visibility eg poor adjacent visibility, traffic management required for inspection.	Inspected from private or open access land. Easy access or visibility eg accessible from adjacent farmland or shallow watercourse, good visibility	Inspected from private or open access land. Difficult access or visibility
Retained height over 4.8m	Zone 13a	Zone 14a	Zone 13c	Zone 14b
Retained height between 2.4 & 4.8m	Zone 12a	Zone 13b	Zone 12c	Zone 13d
Retained height between 1.5 & 2.4m	Zone 11c	Zone 12b	Zone 11h	Zone 12d
Retained height under 1.5m (note 1)	Zone 11b	Zone 11e	Zone 11g	Zone 11j
Retaining wall remote from highway (note 2)	Zone 11a	Zone 11d	Zone 11f	Zone 11i

Notes:

1 Walls under 1.5m retained height are generally the responsibility of the highways area office. This category is only for those structures where the structures team are responsible for the individual structure.

2 Remote from highway is considered to be the greater of [retained height + 1m] or 4m away from carriageway or footway edge.

Table 4: Principal Inspection Intervals for Highway Structures

Colour	Risk Category	Principal Inspection period
	High Risk structures	6 years
	Moderate Risk structures	12 years
	Low Risk structures	General Inspection only
	Very Low Risk structures	General Inspection only
	Specialist access team	12 years

(d) Special Inspection (SI)

The purpose of a Special Inspection is to provide detailed information on a particular part, area or defect that is causing concern, or an inspection which is beyond the requirements of the General/Principal Inspection regime.

A Special Inspection may comprise a close visual inspection, testing and/or monitoring and may involve a one-off inspection, a series of inspections or an ongoing programme of inspections.

Special Inspections are carried out to individual structures when a need is identified by the Supervising Engineer, and should be considered for:

a) Structures that have weight restrictions or other forms of restriction to reduce traffic loading
b) Structures where an assessment has indicated that the theoretical strength capacity of the structure is below current standards
c) Structures strengthened by the used of bonded plates
d) Cast iron structures
e) Structures that have to carry an abnormal load where similar loads are not known to have been carried
f) Structures in areas of mineral extraction, where subsidence occurs
g) Structures involved in a major accident or incident
h) Probing of foundations after flooding events. Where the possibility of scour is identified, further Underwater Inspections may be required
i) Structures where specific defects identified through the General/Principal Inspection programme require additional investigation

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7.4.1.20 HIGHWAY LIGHTING, ILLUMINATED TRAFFIC SIGNS AND BOLLARDS

INTRODUCTION

Description:
The purpose of highway lighting and associated equipment is to provide a safe and efficient system to ensure the safety of all road users. It also assists in meeting police requirements for the prevention of crime, to reduce the level of night-time road traffic accidents and to engender a feeling of comfort and security in the community.

Somerset currently operate and maintain approximately 49,000 lighting columns, 4,500 illuminated traffic signs and 1,777 illuminated bollards. The county database indicates that approximately 31% of the lighting column stock is over 30 years old.

The majority of underground and overhead electricity services to our stock is operated mainly by two Distribution Network Operators within Somerset, namely Western Power Distribution and Scottish and Southern. Western Power's area cover approximately two-thirds of the county while Scottish and Southern control the remaining one third which is roughly divided by a line drawn between Yeovil and Frome. There are also a small number of 'Embedded Networks' currently maintained by Independent network operators within Somerset.

For convenience and to ensure a comprehensive explanation of all the aspects involved separate documents are issued within the Highway Lighting, Illuminated Traffic Signs and Bollards Policy Document that relate to the following categories:-

7.4.1.20.01	Maintenance
7.4.1.20.02	Term Lighting Maintenance Contract
7.4.1.20.03	Structural Testing
7.4.1.20.04	Replacement
7.4.1.20.05	Distribution Network Operator's (DNO's) and Energy Supplies
7.4.1.20.06	New Installations
7.4.1.20.07	Wayleaves
7.4.1.20.08	Crime and Disorder
7.4.1.20.09	Conservation / Heritage / Environmental Sensitive sites
7.4.1.20.10	Environmental Design and Zoning
7.4.1.20.11	Light Sources
7.4.1.20.12	Attachments
7.4.1.20.13	CCTV Installations
7.4.1.20.14	Festive Lighting
7.4.1.20.15	Illuminated Signs and Bollards
7.4.1.20.16	New Technology
7.4.1.20.17	Removal of Lighting Systems

Issues and Trends: Refer to separate sections for specific details
Existing Standard: Refer to separate sections for specific details
Minimum Standard: Refer to separate sections for specific details
Best Value Code of Practice Standard: Somerset wish to ensure that wherever practicable all highway lighting management operations are in compliance with the document entitled 'The Well Managed Highway Infrastructure Code of Practice', in particular the recommendations contained within the 'Well Lit Highways' part of the document. Additionally all works wherever appropriate will comply with the requirements of but not be confined to the publications detailed in Appendix K of the above document.
Review Actions: Refer to separate sections for specific details

MAINTENANCE

7.4.1.20.01

Description:
The purpose of Highway Lighting Maintenance is to provide a safe and efficient system of Highway Lighting that ensures the continued safety of all Road users. It also assists to meet Police requirements for the reduction of crime, to reduce the level of nighttime road traffic accidents and to engender a feeling of comfort and security in the community.

Issues and Trends:

- The overall condition and age of the existing lighting, illuminated traffic sign and bollard stock throughout the County is causing concern.
- Problems are being experienced with particular types of equipment and severely deteriorating stock needing urgent replacement. Currently about 31% of the lighting stock is life expired and over the prescribed design life of 30 years
- Electrical, visual, structural and non-destructive structural testing is presently being carried out on sample stock identified through age and type profiling
- Concern regarding light pollution has led to the implementation of replacement equipment being specified that will reduce light pollution. To-date over 50% of SCC stock meets this requirement
- Formal EU tendering procedures have been used to award Term Lighting Maintenance contracts. The current contract is performance based and was awarded in September 2012 for eight years with the option of a four year extension.
- Specialist Contractors are employed to carry out structural testing and any other testing not included within the Term Lighting Maintenance Contract.

Existing Standard:

- SCC Term lighting maintenance contract
- In accordance with The Well Managed Highway Infrastructure Code of Practice

.

Minimum Standard:

1. As existing Standard
2. All other relevant SCC Policy and Standards documents

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice

Review Actions:

- Review procedure annually.
- Continually review contract clauses for continuous improvement within subsequent contract documentation

TERM LIGHTING MAINTENANCE CONTRACT

7.4.1.20.02

Description:
To meet the requirements of Policy 7.4.1.20.01 it is considered essential that a Term Lighting Maintenance contract (TLMC) is regularly reviewed and awarded through formal EU procedures. This will also ensure the principles of best values, indicator performances and Highway Management Asset Plan are maximised.

Issues and Trends:

- TLMC addresses the following maintenance issues:
  - Performance audits and indicators
  - Emergency response to RTA's and vandalised equipment
  - Bulk clean and lamp change
  - Electrical Testing
  - Visual Structural testing
  - General fault repairs
  - Mains supply faults
  - Data capture and updating records
- TLMC addresses the following capital replacement issues
  - Performance audits and indicators
  - Replacement of equipment subject to emergency response
  - Major replacement of equipment subsequent to fault reporting
  - Major schemes subsequent to scheduled testing
  - Co-ordination of service works
  - Data capture and updating records

Existing Standard:

- Existing SCC Term lighting maintenance contract
- In accordance with The Well Managed Highway Infrastructure Code of Practice

.

Minimum Standard:

1. As existing Standard
2. All other relevant SCC Policy and Standards documents

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice

Review Actions:

1. Review procedure annually
2. Continually review contract clauses for continuous improvement within subsequent contract documentation
3. Review length of TLMC to ensure best value requirements are maintained

STRUCTURAL TESTING
7.4.1.20.03
Description: Lighting columns and illuminated traffic signposts are generally designed for a 25 - 40 year life expectancy depending on the type of unit. To ensure structural integrity and safety of Somerset equipment is maintained and to comply with National guidelines it is necessary to carry out regular structural testing of equipment.
Issues and Trends: • Approximately 31% of lighting stock has exceeded the design life of 30 years. • Visual, loss of section and applied load structural tests are currently being carried out • Problems have been identified with specific types and manufacturers of equipment, which also require structural testing. • Previous funding has restricted the number of units that have been structurally tested annually and the subsequent replacement of equipment
Existing Standard: None
Minimum Standard: 1. ILE TR 22 Lighting columns and sign posts: Planned inspection regime 2. In accordance with The Well Managed Highway Infrastructure Code of Practice 3. Compliance with SCC Asset Management Plan
Best Value Code of Practice Standard: In accordance with ILE TR 22 and In accordance with The Well Managed Highway Infrastructure Code of Practice.
Review Actions: 1. Review procedure annually. 2. Review structural testing procedures. 3. Review technology.

REPLACEMENT

7.4.1.20.04

Description:
Lighting columns and illuminated traffic signposts are generally designed for 25-40 year life expectancy depending on the type of unit. Highway Lighting is required to install new schemes and replace existing equipment where necessary throughout the county. Consideration should take account of local and environmental factors when designing these schemes. See also policy 7.4.1.20.11
.

Issues and Trends:

- Equipment is required to be replaced for a number of reasons:
  - Structural test failures
  - Life expired equipment
  - Vandalism
  - Road Traffic Accident (RTA)
  - General or specific type equipment failure
- Approximately 31% of lighting stock has exceeded the design life of 30 years
- Previous funding has restricted the number of units that have been replaced on an annual basis
- Replacement programme and prioritisation will be in accordance with ILE TR 22, linked with SCC Highway Asset Management Plan

Existing Standard:
Equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification.

Minimum Standard:

1. SCC TLMC specification
2. ILE TR 22 Lighting columns and sign posts: Planned inspection regime
3. In accordance with The Well Managed Highway Infrastructure Code of Practice
4. Compliance with SCC Asset Management Plan

Best Value Code of Practice Standard:
In accordance with ILE TR 22 and In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure annually.
2. Review technology.
3. Review design specification in accordance amendments to TLMC documentation

DISTRIBUTION NETWORK OPERATOR'S & ENERGY SUPPLIES

7.4.1.20.05

Description:
Wherever practicable electricity supplies to highway lighting equipment are owned by the local Distribution Network Operator (DNO) or Independent Distribution Network Owner (IDNO). Under these circumstances the DNO/IDNO responsibility ends at their termination cut-out either in the base of each unit, mini pillar or in a purpose built control box.
Somerset contains the following DNO's and IDNO's, Scottish & Southern, Western Power Distribution and GTC.
In addition to the above, SCC operates a number of private cable networks mainly in the major conurbations throughout the County.
Energy is supplied through a competitive tendering process to ensure best value.

Issues and Trends:

- Specification of works includes for all new electricity supplies where possible to be provided by DNO's/IDNO's
- SCC in association with all other South West authorities are negotiating with DNO's and IDNO's to enter into a service level agreement (SLA)
- SLA will include target times for works and penalties for DNO's / IDNO's exceeding prescribed times.
- Wherever possible DNO and IDNO operations are included within SCC TLMC and are managed and supervised by the term lighting maintenance contractor.
- All private supply networks are subject to health and safety regulations and are required to be installed and tested in accordance with BS 7671: 2008+A3:2015.
  (Please note that BS7671:2018 Requirements for Electrical Installations. IET Wiring Regulations is scheduled for publication in July 2018).
- Energy contracts are procured through the SCC Sustainability group.
- SCC highway lighting data-base provides detailed information of energy consumption
- SCC highway lighting data-base needs to be continually updated in order to continue with operating a competitive energy contract.
- Contracts for energy supply will generally be over a shorter period due to the extreme fluctuations of fuel and generating cost.

Existing Standard:

1. SCC Term Lighting Maintenance Contract (TLMC)
2. BS 7671: 2008+A3:2015
3. Energy is procured through SCC Energy Team.

Minimum Standard:
As existing standard.

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure annually.
2. Review technology.
3. Review DNO regulations as and when applicable

NEW INSTALLATIONS

7.4.1.20.06

Description:
Funding for new installations is currently not available through County Council financing.
All such works are required to be funded by third parties such as Parish or Town Council's, Developers through Section 38 or 106 agreements or capital schemes, highway safety schemes and enhancement works.

Issues and Trends:

- Full capital funding must be secured by the initiator
- Design of scheme must be approved by SCC
- Specification of equipment and installation will comply with current SCC requirements
- SCC will conduct an audit of completed installation prior to approval
- New installations must be located on either existing adopted highway / Public Right of Way or on land that will be adopted as public highway
- On approval of new installation, equipment is added to SCC maintenance database at which time unit references for the equipment will be provided
- Additional revenue costs associated with maintenance and energy of new installations are met by SCC

Existing Standard:
Equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification.

Minimum Standard:

1. SCC TLMC specification
2. In accordance with The Well Managed Highway Infrastructure Code of Practice
3. Compliance with SCC Asset Management Plan
4. Third parties should be heading towards the provision of electronic plans in an agreed SCC format for the implementation of designs.

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure annually.
2. Review technology.
3. Review design specification in accordance amendments to TLMC documentation

WAYLEAVES

7.4.1.20.07

Description:
Highway Lighting is required to install new schemes and replace existing equipment throughout the County. Due to restrictions in some areas of the Highway it is sometimes necessary to install lighting units and ancillary equipment either on or in private property.

Issues and Trends:

- Previous agreements entered into between other authorities and property owners are considered null and void.
- Wayleave agreements are only entered into at the request of a property owner.
- Initial negotiations are entered into between property owner and Highway Lighting Manager.
- Formal agreements are prepared by legal services.

Existing Standard:

- Standard Licence agreement for wayleaves
- Payments are only made annually on demand

Minimum Standard:

1. Equipment specification and installation will comply with SCC Term Lighting Maintenance Contract
2. SCC must authorise contractor to carry out any installation.
3. Written permission from property owner is required if installation is required prior to formal wayleave being signed.
4. Contractor must obtain permission of property owner prior to commencement of installation

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice

Review Actions:

1. Review procedure biannually.
2. Review design specification.
3. Review technology.
4. Review licence procedure

CRIME AND DISORDER
7.4.1.20.08
Description: Highway lighting installations have been shown to impact on the fear of crime and disorder. Studies have shown that improved lighting reduces the fear of crime. Increasingly Highway lighting is receiving requests for enhanced lighting through the Community Safety Group, Police and Town Council's
Issues and Trends: • No budget allocation to provide specific lighting through the councils' highway lighting budget for Crime and Disorder. • Technical advice is provided • New Designs will be in compliance with BS 5489 2013 BS EN 13201
Existing Standard: • In compliance with BS 5489 2013 BS EN 13201 • In accordance with The Well Managed Highway Infrastructure Code of Practice
Minimum Standard: 1. Equipment specification and installation will comply with SCC Term Lighting Maintenance Contract and above standards where applicable. 2. SCC must authorise contractor to carry out any installation.
Best Value Code of Practice Standard: In accordance with The Well Managed Highway Infrastructure Code of Practice.
Review Actions: 1. Review procedure biannually. 2. Review design specification. 3. Review technology.

CONSERVATION /HERITAGE /ENVIRONMENTALLY SENSITIVE SITES

7.4.1.20.09

Description:
Highway Lighting Section receives requests for the design of lighting schemes within conservation, Heritage or Environmental sensitive areas. Additionally replacement of existing equipment in these areas is also necessary. Consideration will be given for the implementation of sympathetically designed schemes, which will also reduce light pollution.

Issues and Trends:

- Consultation with local interested parties and other external bodies is required e.g. SCC Heritage group, Campaign for Dark Skies (CfDS)
- Specification of equipment will be different to standard equipment used elsewhere
- Equipment specified must meet the technical performance criteria for standard equipment used elsewhere.
- Capital and whole life cost implications. It will be the responsibility of the proposing body to finance the additional costs incurred on any scheme over and above the cost of installing standard equipment
- Impact on maintenance regimes e.g. stock issues and routine maintenance programme

Existing Standard:
None.

Minimum Standard:

1. Consultation and subsequent agreement with local interested parties and external bodies with regard to equipment specification and overall scheme.
2. Receipt of additional costs incurred prior to placement of order for proposed scheme
3. SCC must authorise contractor to carry out any installation.
4. Installation of equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification.

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure biannually.
2. Review design specification.
3. Review technology.

ENVIRONMENTAL DESIGN AND ZONING

7.4.1.20.10

Description:
Highway Lighting is required to install new schemes and replace existing equipment throughout the County. Consideration should take account of local and environmental factors when designing these schemes. Zoning of the network will be introduced to accommodate appropriate standards.

Issues and Trends:

- The highway Lighting network will be divided into five zones as detailed below and in accordance with Road Hierarchy.
  - Zone 1 Conservation Heritage and Environmental Sites
  - Zone 2 Low brightness sites (Rural locations outside Zone 1)
  - Zone 3 Medium brightness sites (Urban location)
  - Zone 4 High brightness sites (Urban centres with high night time usage
  - Zone 5 Special sites requiring High brightness (within Zones 1 to 3)
- Specification of new equipment e.g. section 38 or 106 sites will be subject to design requirements for the appropriate Zone in compliance with BS 5489 20123/BS EN 13201
- Existing equipment will be replaced on one for one basis and will usually not be in compliance with BS 5489 2013/BS EN 13201

Existing Standard:

- Somerset Highway Biodiversity Action Plan
- BS 5489 2013/BS EN 13201
- In accordance with The Well Managed Highway Infrastructure Code of Practice
- SCC Term Lighting maintenance contract

Minimum Standard:

1. Equipment specification and overall scheme design will comply with SCC Term Lighting Maintenance Contract and above standards where applicable.
2. SCC must authorise contractor to carry out any installation.
3. Installation of equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification.

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure biannually.
2. Review design specification.
3. Review technology.

LIGHT SOURCES

7.4.1.20.11

Description:
The type of light source impacts on the nighttime environment due to the variances of colour appearance and rendition. Operating costs differ for different types of light sources due to the varying lamp efficacies. Additionally different types of light sources have varying life expectancies. With the exception of LED generally the closer the source is to a pure white light then the more expensive the operating costs will be in terms of both maintenance and energy.

Issues and Trends:

- Low pressure sodium (SOX), High Pressure sodium (SON) and high pressure mercury (HPMV) lamps are being phased out due to environmental concerns and a desire to improve the lit scene by reducing light pollution and sky glow.

- LED lanterns were trialled throughout Somerset in 2013 and were later approved for installation as the 'standard lanterns' going forward on all our replacement units.

Existing Standard:
Equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification.

Minimum Standard:

1. SCC TLMC specification
2. In accordance with The Well Managed Highway Infrastructure Code of Practice
3. Compliance with SCC Asset Management Plan
4. The following types of light sources will be used in Somerset in accordance with policy 7.4.1.20.10 Environmental Design and Zoning
   - LED

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure annually.
2. Review technology.
3. Review design specification in accordance amendments to TLMC documentation

ATTACHMENTS

7.4.1.20.12

Description:
Highway Lighting Section receives requests for attachments to Highway lighting units. The majority of lighting units throughout the County are not designed to accept the additional loads. The electrical supply to Highway lighting units is un-metered and taken from appropriate DNO mains networks

Issues and Trends:

- The structural integrity of existing lighting units may be compromised with additional attachments.
- Electrical safety of existing lighting units may be compromised.
- It is essential that the safety of the public and operational staff is maintained during commissioning de-commissioning and throughout the duration of the temporary installation.
- Authorisation and certification is required for all installations.

Existing Standard:
None.

Minimum Standard:

1. SCC must authorise the contractor to carry out any installation on SCC equipment. SCC's Term Lighting Maintenance Contractor or a contractor approved by SCC Highway Lighting Manager can carry out work on highway lighting installations
2. No additional lighting units, attachments and or ancillary equipment shall be fitted without prior SCC written approval (See SCC procedure 7.4.1.20.12PR)
3. Evidence must be provided to show that adequate public liability insurance is in place.
4. When appropriate, evidence must be provided to show that the DNO has issued a certificate of un-metered supplies.
5. Installation of equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification and CSS Code of Practice for the Installation, Operation and Removal of Seasonal Decorations.
6. With the exception of Lighting columns or posts specifically designed for the purpose, units must be structurally tested and certification provided to meet with SCC requirements.

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure biannually.
2. Review design specification for attachments.
3. Review structural testing procedures.
4. Review technology.

CLOSE CIRCUIT TELEVISION INSTALLATIONS

7.4.1.20.13

Description:
Highway Lighting Section receives requests for CCTV installations on the Highway. These requests are linked to the utilisation of existing systems throughout the County. The majority of lighting units throughout the County are not designed to accept the additional loads and or provide a separate source of energy. The electrical supply to Highway lighting units is un-metered and taken from appropriate DNO mains networks. However, it is possible to provide CCTV installation on certain lighting units. This can further increase the contribution highway lighting makes to community safety.

Issues and Trends:

- The structural integrity of some existing lighting units may be compromised with the installation of CCTV equipment.
- Electrical safety of existing lighting units may be compromised.
- It is essential that the safety of the public and operational staff is maintained during commissioning de-commissioning and throughout the duration of the installation.
- Authorisation and certification is required for all SCC installations.
- Specific issues relating to ownership, public liability replacement and maintenance of equipment.

Existing Standard:
None.

Minimum Standard:

1. SCC must authorise CCTV appointed contractor to carry out any installation on SCC equipment. SCC's Term Lighting Maintenance Contractor or a contractor approved by SCC Highway Lighting Manager can carry out any highway lighting installations.
2. All permanent CCTV equipment incorporating a Highway Lighting installation will consist of purpose-designed posts or masts that will remain in the ownership of the CCTV Authority. This will include all charges relating to installation, operation and maintenance of both the post/mast and CCTV equipment.
3. Any Highway lighting equipment attached to permanent CCTV posts or masts will remain in the ownership of SCC. This will include all charges relating to installation, operation and maintenance of the lighting equipment.
4. No additional lighting units, attachments and or ancillary equipment shall be fitted without prior SCC written approval on SCC equipment.
5. Evidence must be provided to show that adequate public liability insurance is in place.
6. When appropriate, evidence must be provided to show that the DNO has issued a certificate of un-metered supplies.
7. Installation of Highway lighting equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification and CSS Code of Practice for the Installation, Operation and Removal of Seasonal Decorations.
8. With the exception of Lighting columns or posts specifically designed for the purpose, units must be structurally tested and certification provided to meet with SCC requirements.

Best Value Code of Practice Standard: In accordance with The Well Managed Highway Infrastructure Code of Practice.
Review Actions: 1. Review procedure biannually. 2. Review design specification for CCTV and other attachments. 3. Review structural testing procedures. 4. Review technology.

FESTIVE LIGHTING

7.4.1.20.14

Description:
Highway Lighting Section receives requests for Festive Lighting installations attached to Highway lighting units. The majority of lighting units throughout the County are not designed to accept the additional loads. The electrical supply to Highway lighting units is un-metered and taken from appropriate DNO mains networks.

Issues and Trends:

- The structural integrity of existing lighting units may be compromised with additional attachments.
- Electrical safety of existing lighting units may be compromised.
- It is essential that the safety of the public and operational staff is maintained during commissioning, de-commissioning and throughout the duration of the temporary installation.
- Authorisation and certification is required for all installations.

Existing Standard:
None.

Minimum Standard:

1. SCC's approved Term Lighting Maintenance Contractor or a contractor approved by SCC's Highway Lighting Manager can carry out any installation.
2. No additional lighting units, attachments and or ancillary equipment shall be fitted on any lighting units without prior SCC written approval (See SCC procedure…).
3. Evidence must be provided to show that adequate public liability insurance is in place.
4. Evidence must be provided to show that the DNO has issued a certificate of un-metered supplies.
5. Installation of equipment will comply with SCC, Term Lighting Maintenance Contract (TMLC) specification and the CSS Code of Practice for the Installation, Operation and Removal of Seasonal Decorations.
6. With the exception of lighting columns specifically designed for the purpose, units must be structurally tested and certification provided to meet with SCC requirements.

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice

Review Actions:

1. Review procedure biannually.
2. Review design specification for attachments.
3. Review structural testing procedures.
4. Review technology.

ILLUMINATED TRAFFIC SIGNS AND ILLUMINATED BOLLARDS

7.4.1.20.15

Description:
There are approximately 4,500 illuminated traffic signs (ITFS) and 1,777 illuminated bollards (IB) throughout Somerset that are maintained within the highway lighting term lighting maintenance contract (TLMC). Designs of all ITFS and IB schemes are the responsibility of others and highway lighting deals solely with their maintenance and replacement.
It should be noted that variable message and traffic-actuated signs are managed and maintained by SCC traffic control.

Issues and Trends:

- The siting of all ITFS and IB's are such that they are inherently susceptible to road traffic accident damage and vandalism
- Specification of equipment and installation will comply with current SCC requirements and take account of the above in terms of whole life costing.
- On approval of new installation designed by others, all authorised equipment is added to SCC maintenance database.
- Additional revenue costs associated with maintenance and energy of new installations are met by SCC.
- Light emitting diode (LED) lamp technology is being used within SCC equipment

Existing Standard:
Equipment will comply with SCC, Term Lighting Maintenance Contract (TLMC) specification.

Minimum Standard:

1. SCC TLMC specification
2. In accordance with The Well Managed Highway Infrastructure Code of Practice
3. Compliance with SCC Asset Management Plan
4. Third parties should be heading towards the provision of electronic plans in an agreed SCC format for the implementation of designs.

Best Value Code of Practice Standard:
In accordance with The Well Managed Highway Infrastructure Code of Practice.

Review Actions:

1. Review procedure annually.
2. Review technology.
3. Review design specification in accordance amendments to TLMC documentation

NEW TECHNOLOGY
7.4.1.20.16
Description: It is essential to keep abreast of new technology within the lighting industry. Consideration should only be given to the use of new technology after careful consideration and evaluation of issues relating to whole life costings and best value.
Issues and Trends: • No specific budget allocation for trials of new technology is available, however where opportunities exist e.g. new developments, this will be considered. • Light emitting diode (LED) lamp technology is being used within SCC equipment. • The use of LED for belisha beacons on crossings has also commenced.
Existing Standard: None
Minimum Standard: 1. Any Equipment to be installed must comply with all relevant BS / EN specifications and or codes of practice. 2. SCC must authorise contractor to carry out any installation.
Best Value Code of Practice Standard: None
Review Actions: 1. Review procedure annually. 2. Review specification. 3. Review technology.

REMOVAL OF LIGHTING SYSTEMS

7.4.1.20.17

Description:
The purpose of highway lighting and associated equipment is to provide a safe and efficient system to ensure the safety of all road users. It also assists in meeting police requirements for the prevention of crime, to reduce the level of night-time road traffic accidents and to engender a feeling of comfort and security in the community. However there may be instances where Town and Parish Councils desire that existing lighting systems be permanently removed.

Issues and Trends:

- Casualty and road accident reduction trends
- Duty of care in maintaining existing equipment in a safe condition
- Increased awareness of crime and the fear of crime issues/concerns
- Increased awareness of environmental issues/concerns
- No budget allocation for removal of lighting equipment
- The views of the community

Existing Standard:
None

Minimum Standard:

1. Only under exceptional circumstances will consideration be given for the removal of lighting systems. The applicant will need to demonstrate that safety; the fear of crime and security will not be compromised by the removal of any lighting system and through consultation there is strong community support for removal of the lighting.
2. Written requests to be submitted to Highway Lighting Manager for consideration. Where an application does not compromise the above risks to the County Council, the relevant Portfolio Holder will be consulted.
3. The applicant will meet all costs relating to the removal of the lighting system.
4. SCC will authorise SCC Term Lighting Maintenance Contractor (TLMC) to carry out any removal of equipment.

Best Value Code of Practice Standard:
None

Review Actions:
Review procedure annually.

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RIGHTS OF WAY SAFETY INSPECTION MANUAL

October 2018

DRAFT

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Rights of Way Safety Inspection Manual

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1 INTRODUCTION

1.1 This manual sets the standards for Rights of Way (RoW) inspection on the public RoW of Somerset (and associated structures) and is designed to give guidance on Somerset County Council's policy and procedures relating to RoW Safety Inspections.

1.2 As the Highway Authority, Somerset County Council has a statutory duty under the Highways Act 1980 to maintain the RoW network, ensuring that the RoW are safe and that the public can use them without obstruction.

1.3 To ensure a consistent countywide approach a formalised Inspection System that prescribes the frequency of inspections and the method of assessment, recording and actioning of defects has been adopted. The Safety Inspection regime provides the basic information for addressing the first core objective of RoW maintenance, network safety.

1.4 The Inspection System regime also assists in providing the evidence for a defence in any case of litigation brought against the County Council where lack of adequate maintenance has been alleged by a third party.

1.5 This Manual has been developed taking into account:

- Somerset County Council's overall policy and RoW Maintenance & Enforcement Policy;
- Rights of Way Improvement Plan 2
- The vision and priorities of the Corporate Plan;
- Objectives of the Local Transport Plan;
- Legislation, particularly Highways Act (1980);
- Well-managed Highway Infrastructure – A Code of Practice (October 2016);
- Rights of Way Circular 1/09

1.6 National recommendations for the provision of highway maintenance have, until now, been defined within three specific Codes of Practice, namely Well-Maintained Highways, Well-Lit Highways and the Management of Highway Structures. The content of these three Codes of Practice is now brought together under a new overarching Code of Practice entitled Well Managed Highway Infrastructure which was published in autumn 2016.

1.7 The Well Managed Highway Infrastructure Code of Practice encourages the development of a locally determined risk-based approach to highway maintenance, including RoW, aligned to central government's expectation that local highway authorities will adopt appropriate asset management. The document does not go into detail with regard to management and maintenance of RoW, with more detail available in Circular 1/09.

1.8 The Well Managed Highway Infrastructure Code of Practice is not a statutory document but comprises a framework of guidance and standards for the highway maintenance service. As a national document, the Code of Practice has recognised that there has been increasing divergence from the principles and practices recommended in the aforementioned three Codes of Practice due to financial pressures, the need for local discretion and diversity in service provision and differing local service user's priorities.

1.9 Those undertaking RoW Safety Inspections or managing the inspection process will need to refer to this document, which forms part of the Council's Asset Management Plan.

2 LEGISLATION

2.1 Section 41 of the Highways Act 1980 imposes a duty on the Highway Authority (Somerset County Council) to maintain those RoW that are "highways maintainable at public expense".

2.2 The majority of claims against a local Highway Authority arise from an alleged breach of Section 41. Section 58 of the Highways Act 1980 states that a statutory defence against third party claims is provided where the Highway Authority can establish that reasonable care has been taken to "secure that the part of the highway to which the action relates" to a level commensurate with the volume of ordinary traffic such that it "was not dangerous to traffic".

2.3 Section 130 of the Highways Act 1980 places a general duty on the Highway Authority to "assert and protect the rights of the public" in their lawful use of the highway.

3 SCOPE OF THE RoW SAFETY INSPECTION MANUAL

3.1 This RoW Safety Inspection Manual details the process for the identification, prioritisation and resolution of safety issues.

3.2 The County Council currently delegates certain functions to Exmoor National Park Authority (ENPA) by way of an Agency Agreement. This includes inspections of RoW, and certain bridges as specified within the Agreement. The approach ENPA takes to inspections and prioritisation of issues is detailed in Appendices D-F. Wherever possible, approaches to inspection and prioritisation will be aligned between the authorities to achieve greater consistency. Unless specifically referenced, the detail of this document deals with the area of Somerset excluding ENPA, but does include those bridges within ENPA that the County Council are responsible for.

3.3 It is not unusual for there to be overlap between the highway record and the Definitive Map. In such circumstances the Highways Safety

Inspection Manual will ordinarily take precedence, unless it can be shown that the highway record is incorrect.

4 THE PURPOSE OF RoW SAFETY INSPECTIONS

4.1 Safety inspections are designed to identify issues likely to create danger or serious inconvenience to users of the network or the wider community. The risk of danger is assessed on site and the defect identified with an appropriate priority response.

4.2 The purpose of RoW safety inspections is therefore:

- To identify issues which are hazardous to RoW users and which must be dealt with as a priority;
- The safety inspection regime forms a key aspect of Somerset County Council's strategy for managing liability and risk;
- To collect condition data of the network in order to assist the asset management of the RoW network and future maintenance programmes;
- To provide evidence that Somerset County Council has fulfilled its statutory obligation to maintain the RoW in a safe condition.

5 SAFETY DEFECT: INVESTIGATORY CRITERIA

5.1 Section A.5.8 of the Code of Practice – Well Managed Highway Infrastructure states that:

"Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. Such defects should include those that are considered to require urgent attention as well as those where the locations and sizes are such that longer periods of response would be acceptable."

5.2 This Manual is a guide to assist the RoW Wardens and other staff in undertaking a risk assessment of the defect or issue. It provides a framework which links condition criteria to risk assessment of issues to act as a starting point in the decision making process. RoW staff are expected to use their judgement to assess the risks that apply to the particular onsite circumstances and use their expertise to assess whether any intervention is required, and if it is, select the most suitable priority for resolution. As a result there will be circumstances where the priority assigned is different to those recommended in this Manual.

5.3 Where issues with potentially serious consequences for network safety are made safe by means of temporary signing or works, arrangements are made to ensure the continued integrity of the signing or works is maintained, until a permanent solution can be effected.

5.4 Many highways have been dedicated and adopted with historic features that would not be acceptable in a current RoW design. This might include steps, cellar openings or drainage arrangements that present potential trip situations. These should not be recorded as issues, as in law the RoW has been dedicated with these encumbrances and the public must take appropriate care.

6 RISK MANAGEMENT

6.1 Degree of Deficiency and Nature of Response

6.1.1 Issues are assessed based upon route hierarchy and the severity of the issue.

6.1.2 The investigatory level, is determined for each issue on the network by evaluating the likely impact (should the risk occur) and the probability of it actually occurring. The resulting risk factor determines the priority and approximate timescale to investigate the issue. The response levels are summarised in the following prioritisation matrix.

		LIKELY IMPACT				
		V. serious	Serious	Moderate	Minor	V. minor
PATH CATEGORY	1*	U	H	H	M	L
	1	U	H	M	M	L
	2	U	M	M	L	L
	3	U	M	L	L	L

6.1.3 The recommended response levels in the table are detailed as follows:

U - Urgent priority issue : investigated within 48 hours
H - High priority issue : investigated within 1 month
M - Medium priority issue : investigated within 3 months
L - Low priority issue : investigated within 6 months

The timescales commence following assignment of the issue.

6.1.4 Low priority issues are those that are likely to have minor impact, and where they are moderate, there is a low probability of the impact due to the path being rarely used. Equally those issues that have a serious impact are investigated as a high priority, regardless on the higher category paths, ie: those most likely to be used. The exception to this approach is where the likely impact is very serious, the issue is treated as an urgent priority regardless of path category.

6.1.5 The recommended timescales given above, and within Appendices D and F, are not always achievable due to the number of issues in relation to the amount of staff resource, therefore they should be regarded as best practice as opposed to mandatory, with every effort taken to investigate those Urgent and High priority issues within time.

6.2 Issue Register

6.2.1 Although it is not possible to identify every risk or issue, the issues identified within the Issue Register (Appendix A) encompass a wide range of issues likely to be encountered on RoW. This enables the Officers to prioritise the majority of issues encountered on RoW.

6.2.2 The Issue Register for RoW Issues is for guidance only. The issues contained within the register and the associated severity are for guidance only. The path status, ie: footpath/ bridleway/ restricted byway/ byway open to all traffic, and local knowledge could result in the issue severity and thus response time being assessed differently. Where possible, any deviations should be recorded.

6.2.3 The register incorporates issues that may not be the responsibility of the Highway Authority such as utility trench reinstatements and iron works, privately maintained structures and surfaces, or hazards caused by third parties such as obstructions in the highway. The officer must satisfy themselves that the Authority's obligations in respect of duty of care are fully met, and where appropriate that all relevant information is notified either directly to the third party concerned or to the appropriate person/section responsible for dealing with the issue. When such hazards are deemed dangerous, the Officer must ensure that the site is made safe by the Highway Authority as soon as is practicable.

7 RoW NETWORK HIERARCHY

7.1 The RoW network hierarchy is a critical part of the system for prioritising investigation of issues. The different categories of the hierarchy are shown in the following table.

Path Category	Description
1*	National & regional promoted trails.
1	District and parish level promoted routes. Well used local routes.
2	Occasionally used routes.
3	All other paths.

7.2 The table shows the 4 path categories based on usage levels and users' expectations. Category 1* paths are set by Somerset County Council. Categories 1, 2 & 3 have been agreed in consultation with the parish and town councils across the county. User groups were also encouraged to input into the process. Where councils did not undertake the exercise, categorisation has relied on officer knowledge. All submissions from

councils are vetted by Officers to ensure that they are a realistic representation of usage levels.

7.3 Path categories will change over time as land use and society changes. For these reasons, the dynamic nature of the network can be taken into account by Officers when setting the priority level and also when setting any timescales for resolution following investigation of an issue.

8 INSPECTIONS

8.1 Planned RoW Inspections

8.1.1 Planned inspections of RoW are almost exclusively undertaken by trained volunteers. Resource levels do not allow for Officers to undertake planned inspections.

8.1.2 Planned inspections have evolved out of performance indicator monitoring. BVPI 178 'Rights of Way Easy to Use' used to be the national indicator for RoW. This has since been dropped, however many Highway Authorities continue to use a modified methodology to monitor their performance.

8.1.3 Devon County Council had their modified Condition Criteria endorsed by the then County Surveyors' Society and it is the methodology used by Somerset County Council (see Appendix B). It is used to not only monitor the Council's performance in terms of percentage of the network 'easy to use' but it also acts as the planned inspection regime.

8.1.4 A 10% sample of the network is inspected every year, meaning that every path in Somerset is inspected routinely once every ten years. The Council is now in it's 2nd decade of routine inspections. The sampling in the 1st decade was done on a decreasing random sample basis, with an even geographic spread. The order of inspection is now set so that there is certainty that each path will have a routine inspection every 10 years.

8.1.5 Each fiscal year sample is split into quarters, May, August, November & February. Volunteers are engaged prior to each survey month with any paths to be surveyed being received by volunteers in advance of the 1st day of the survey month. It is expected that the inspections will take place within the survey month. However, it is not always possible for volunteers to survey all the paths within the given month, hence a tolerance of 2 weeks is permitted either side of the survey month.

8.1.6 Any valid issues arising from a planned inspection are recorded by the volunteers and subsequently logged on the ROAM system.

8.1.7 It is noted that the methodology for planned inspections is not entirely risk-based and the route categories of the Devon County Council document are different to those adopted by Somerset County Council. There is merit in every path being surveyed once every 10 years, and to

move to a risk-based approach for planned inspections in addition to the current approach, would currently prove to be too cumbersome to administer when reliant on volunteer resources. It is also important to retain the Devon County Council Condition Criteria and associated route categories to ensure there is the ability to benchmark with other authorities.

8.1.8 There is a much wider network of volunteers that help to address not having a completely risk-based approach to planned inspections. The vast majority of parishes have a Parish Path Liaison Officer (volunteer) and each of the Council's promoted trails have a Trail Watchers Scheme. Both volunteer roles help to provide a greater localised vigilance for issues that may arise on the network. Part of their remit is to report any issues to the Council.

8.2 Planned RoW Structures Inspections

8.2.1 Inspections of structures, including bridges, has been separated out within this section. The potential severity of an injury resulting from an issue with a structure or bridge is far greater than other assets on the RoW network, hence a specific approach is taken towards planned inspections for structures.

8.2.2 Planned RoW structures inspections are be broken down into safety, general, principal and special (see Appendix C for more detail). The lowest risk structures are subject to a safety inspection by virtue of the planned RoW inspection by volunteers once every 10 years (see above). Higher risk structures, due to span and/or invert, are inspected by competent Officers or consultants on a more regular basis. The breakdown of structure type and the inspection type is summarised in a table in Appendix C.

8.2.3 Structures subject to a general, principal or special inspection will be assigned a condition level ranging from 1 to 5 (see Appendix C for more detail). Condition levels are recorded on ROAM and can only be amended once the structure has been repaired/ replaced or a subsequent inspection has shown improvement/ deterioration.

8.2.4 First general inspections on all bridges on the RoW network should be complete by the end of 2018. The sequencing of inspections thereafter has been given much consideration with regard to balancing risk and the available resource for such activity. It is proposed that sequencing will now be done on a geographic basis to ensure efficieny of effort with regard to resources. See 'Recording of Inspections and Issues' for how any issues will be monitored.

8.3 Reactive Inspections

8.3.1 Inspections may also be initiated in reaction to an enquiry from many sources, for example a member of the public, a volunteer, a landowner,

the emergency services or a County Councillor. Reactive inspections will also include responding to those issues that have been raised and logged as a result of the planned inspections.

8.3.2 Such issues will be priority assessed using the Issue Register, path category and prioritisation matrix (see Appendix A), and inspected in line with the recommended timescales.

8.3.3 Reactive inspections in relation to higher risk RoW structures will be added to the bridge record on ROAM and the condition level reviewed further to the previous planned inspection for that structure. Any issues identified will be logged on ROAM for attention of the appropriate Officer.

9 TRAINING AND COMPETENCY

9.1 All personnel involved in planned RoW inspections must have received appropriate face-to-face training in relation to Appendix B (PROW Condition Criteria) from a competent Officer. Any issues arising from a planned inspection will be subject to a reactive inspection by a competent Officer, hence the training and competency requirements are lower for those involved with planned path inspections, given that they are primarily volunteers.

9.2 All staff involved in planned structures inspections and reactive inspections must be competent. There is no recognised qualification or certification for RoW safety inspections. Training needs will be reviewed on a regular basis to identify any areas where training may prove beneficial.

9.3 All personnel undertaking a planned structures inspection or reactive inspection should attain competency in the current Chapter 8 Safety at Street Works and Road Works. The majority of personnel will be qualified to the City & Guilds Street Works standard.

10 RECORDING OF INSPECTIONS AND ISSUES

10.1 Planned RoW Inspections

10.1.1 The results of planned RoW inspections are recorded on spreadsheets for performance monitoring purposes, with any issues being logged separately on the ROAM system following receipt of the inspection.

10.1.2 Any urgent issues arising from planned inspections should be raised with Officers without delay. The issue will also be recorded in the normal way with a note to record any action already taken.

10.2 Planned RoW Structures Inspections

10.2.1 The results of planned RoW structures inspections are recorded on the structure record on ROAM. Where an issue has been identified, this will be logged on ROAM and assigned to the appropriate Officer. It is then for that Officer to assess investigatory priority as per any other issue. Issues are generally logged for structures with condition levels 3, 4 and 5.

10.2.2 Where an inspection results in closing a structure as it is too unsafe for public use, then the closure will be checked every 8 weeks.

10.2.3 A survey of assets was undertaken in 2006/07, however it is acknowledged that this is not a complete record and will continue to be updated as and when unrecorded structures are found.

10.3 Reactive Inspections

10.3.1 Issues arising from planned inspections or received from other 3rd parties are recorded on the ROAM system and are then subject to a reactive inspection. A record is kept of the report, even if an issue is subsequently not found.

10.4 Insurance Claim Inspections

10.4.1 An Officer will respond to insurance claims as a reactive inspection, and if an issue is identified this will be recorded on the ROAM website.

10.5 Statutory Undertakers Apparatus

10.5.1 Section 81 of the New Roads and Street Works Act (1991) places a duty on statutory undertakers (utility companies) to maintain their apparatus to the reasonable satisfaction of the Highway Authority.

10.5.2 When an inspection identifies statutory utility apparatus that is deemed unsafe and requiring attention, notification will be sent to the appropriate party requiring them to undertake remedial action under Section 81 of NRSWA.

10.5.3 If remedial action is not carried out within a reasonable time period, the Highway Authority may undertake repairs and recharge their reasonable costs.

10.5.4 If remedial action is urgently required, the statutory undertaker must be given the opportunity to rectify the defect prior to the Highway Authority affecting a repair.

11 RESOLUTION OF ISSUES

11.1 Where a safety issue can be resolved through Council-led works, the contractor or volunteers awarded the work shall ensure as far as possible

that the works resulting from RoW Safety Inspections is undertaken within the response time specified by the Officer.

11.2 Some safety issues will be reliant on action from 3rd parties to resolve them. Officers will advise 3rd parties of the timescales for action and the implications of non-compliance.

11.3 The approach to maintaining and enforcing the availability of the RoW network is set out in the RoW Maintenance & Enforcement Policy, which is an appendix to the Rights of Way Improvement Plan 2.

12 USE OF THE ROAM (EXPLORE SOMERSET) WEBSITE

12.1 ROAM is the internal name for the public facing website 'Explore Somerset'. Officer log in to ROAM allows for greater functionality than that which is available to the public.

12.2 The public are able to report issues directly onto Explore Somerset and these are self-assigned by the relevant Officer. Issues are broken down into defects, nuisances, route queries and improvements. This Manual is primarily concerned with the defect and nuisance types of issues.

12.3 The path category is recorded for every path number on ROAM. Officers have the ability to amend the issue priority at any time, and to add Officer comments and any actions taken. The ROAM system retains a 'change history' for each issue providing an audit trail of what was or wasn't done and why.

APPENDIX A

RoW ISSUE REGISTER

The severity of issues has been determined by considering a combination of the potential to cause harm to the public and the effect the issue has on the ease of use of the path. The following table is not a definitive list of issue types but shows the severity of the typical issues that get reported. The following table is used to prioritise issues within the RoW network for investigation.

Severity of issue	Type of issue (examples only – not exhaustive)
VERY SERIOUS	Wall/cliff/bank collapse - adjacent to or retaining Firearms use - on or across path Asbestos, chemical spill, etc Tree – hung (trunk not fully on the ground) Bull in field Dangerous animal (including dogs) Bridge – lifted by high waters (unstable) Bridge – faulty substructure Bridge – collapse
SERIOUS	Threatening dogs – on path Threatening behaviour by a person Tree – on ground, obstructing passage Barbed wire/electric fence - across Padlocked gate Bridge – handrail missing/damaged Bridge – tread missing/rotten Bridge – bank erosion around abutments Restriction of width/ height – not usable
MODERATE	Signpost – missing/damaged/wrong direction or status Waymark – wrong direction or status Cropping Ploughing Undergrowth - enclosed Overgrowth - enclosed Surface - disturbance Surface - poor reinstatement Surface – slippy Surface – gullying/washing out/flooded Unauthorised use – causing damage Misleading notice Obstruction – agricultural (machinery/manure/crops) Obstruction – permanent (building/hedge/fence/wall) Stile – step(s) wobbly/missing Stile – too high Stile – handhold missing/damaged Stile – overgrown Steps – riser/tread damaged/missing Steps – handrail damaged/missing Gate – dropped (difficult to use) Gate – overgrown Barbed wire/electric fence – adjacent Bridge – collapsed/ recently missing Bridge – tread slippy
MINOR	Gate – latch/hinge faulty (cause poor catching) Waymark – missing/requires replacing Undergrowth – unenclosed Tree – on ground but free passage

	Mud – linear Bridge – missing (long term)
VERY MINOR	Unauthorised use - not causing damage Restriction of width – usable Mud – point (eg: gate/stile) Threatening dogs – adjacent to path Surface – potholes Overgrowth – unenclosed Stile – too low Stile – netting cut by dog walkers

Path Category	Description
1*	National & regional promoted trails.
1	District and parish level promoted routes. Well used local routes.
2	Occasionally used routes.
3	All other paths.

		LIKELY IMPACT				
		V. serious	Serious	Moderate	Minor	V. minor
PATH CATEGORY	Category 1*	U	H	H	M	L
	Category 1	U	H	M	M	L
	Category 2	U	M	M	L	L
	Category 3	U	M	L	L	L

U - Urgent priority issue : investigated within 48 hours
H - High priority issue : investigated within 1 month
M - Medium priority issue : investigated within 3 months
L - Low priority issue : investigated within 6 months

APPENDIX B

PROW Condition Criteria

Background and Introduction

In December 2000 the Government published Best Value Performance Indicators (BVPI's) as an annual measure of performance. BVPI no. 178 is the measure of "the percentage of total length of footpaths and other rights of way which are easy to use by members of the public". The BVPI describes PROW that are Easy to Use as:

1. Signposted or waymarked where PROW leave the road in accordance with the authority's duty under s.27 of the Countryside Act 1968 and to the extent necessary to allow users to follow the path
2. Free from unlawful obstructions and other interference, (including overhanging vegetation) to the public's right of passage;
3. With surface and lawful barriers (e.g. stiles, gates) in good repair and to a standard necessary to enable the public to use the way without undue inconvenience.

DEFRA sponsor the DCC PSA 'Improving Access to the Countryside' and expect it to be measured using the methodology for reporting the BVPI (developed by CSS, IPROW and the Countryside Agency). The methodology considers whether the condition of the path is easy to use for all legitimate purposes and assumes the users are suitably attired and equipped with the relevant 1:25000 O.S. map. It directs that the following items and conditions be assessed.

Structures

- Signpost (roadside) – *where a sign is required under s.27 of the Countryside Act 1968.*
- Waymark (along the route) – *when the route is otherwise unclear (when using a 1: 25,000 scale O.S. map).*
- Highway Authority steps, barriers (safety/amenity) and Revetments.
- Bridges (including culverts, stepping-stones and constructed fords), Gates and Stiles.

Obstructions and Disrepair

- Wall/fence/hedge/electric fence/cattle grid/other barrier
- Tree/bough or temporary deposit
- Illegal or misleading signs/ intimidating beast or person
- Building or quarry
- Muddy/boggy, flooded, rutted etc
- Upgrowth and/or Overgrowth
- Barbed wire or electric fence adjacent to line of path
- Cross-field not reinstated / Headland ploughed – *i.e. does not meet ROW Act '90 criteria*

PROW may pass or fail the 'easy to use' test depending on the degree of obstruction, interference and inconvenience from any of the listed items. Furthermore, the methodology states the following circumstances as automatically failing the test:

- Where a legally required (i.e. s.27 Countryside Act 1968) roadside signpost is missing, of incorrect status, pointing in the wrong direction or not visible (e.g. overgrown).
- Where Highway Authority barriers/steps/revetments need immediate repair or replacement.
- Where a bridge is missing or needs immediate repair or replacement
- Where a stile or gate needs immediate repair or replacement
- Any wall, fence, hedge, electric fence etc across a path
- Any sign or notice the effect of which is to deter public use of the path
- A building or a quarry across the path
- A significant body of water across the path
- Any animal or human deterring the use of the path

NB. Currently there are no nationally agreed criteria to assist in objective assessment of exactly how these factors may be interpreted. Consequently, DCC has developed criteria to evaluate the degree of obstruction, interference and inconvenience and reduce variation from subjectivity during survey and inspection. DCC PROWs have also been categorised to reflect their nature and use and this affects the determination of ease-of-use for certain conditions.

PROWs' are assessed on a whole Route basis (as defined by Parish_Status_Number) or by each discrete link (defined as a section unit in the digitised record on the map). The DCC/WDM PROW Info System enables attribution of data to each Section Unit and can then calculate how each whole Route is affected.

This note gives detailed guidance on the criteria (characteristics and standards) for assessing the condition of DCC PROW. Column 2 illustrates the combination of criteria for calculating the DCC interpretation of "easy to use"

Route Categorisation (reflecting level and type of use and the ordinary traffic of the neighbourhood)	
RC1 *'Bumblebee routes'* In and around towns and villages linking destinations that people could journey to on foot, off road (schools, churches, post office, shops, recreational areas etc.), may be described as functional routes. RC2 *'Butterfly routes'* Usually of longer distance providing recreational facility e.g. dog walking, hacking, rambling. Characterised by circular routes, which may be interconnected by quiet lanes, giving easy access to the countryside from areas of settlement (towns and villages). RC3 *'Buzzard routes'* Where the nature of the terrain or remoteness from population attracts users looking for a more unkempt, natural, wild or challenging experiences of countryside (the ordinary traffic). Also, anachronistic routes and some cul-de-sacs e.g. where they do not provide access to an area of public access or advantage. NB International, National and Regionally promoted trails may have sections described by any of these categories. The management framework and standards for these trials may demand higher standards than those suggested by the condition criteria for serviceability associated with these categories.	
Unofficial Diversions (UD)	**Effect on ease-of-use**
Where users have to, or choose to, diverge from the definitive line e.g. to pass by an obstruction. N.B. Do not record defects on a UD1 – a UD1 is not a UD if it has a defect that would make a definitive line fail Ease of Use.	Ploughing / cropping infringements dealt with immediately by letter and further enforcement if the breach is repeated even if a UD gives ease of use.
UD1 User convenience and able to rejoin way (using a 1:25,000 OS Map). These enable the user to by pass obstructions providing there is no repair or maintenance obligation to do this.	Mitigates certain obstructions by indicating capability of use
UD2 Traditionally maintained diversions and permissive paths. May exist to by-pass obstructions or have been long established by user preference/convenience and, with landowner permission, repair and maintenance is acceptable.	Mitigates obstructions on the definitive line given landowner permission to use the diversion.
UD3 Definitive Line and O.S. Map line inconsistent	None – to be clarified with O.S.
UD4 Potential definitive line drafting error	None – to be clarified with DMR team
UD5 Official Diversion required (may be used with other UDs')	No effect unless also UD1 / UD2
Notes The matters giving rise to the diversion MUST always be recorded for prioritised action. Definitive line assumed to be up to 10m wide on the ground unless there are clear boundaries e.g. hedge, bank, track, ancient feature etc. Consequently, variations within an unbounded 10m swathe are not diversions of any kind.	
Field Edge Obstructions	**Effect on ease-of-use**
Where the surface of the path has been ploughed / cultivated / covered with crop.	
FE0 Cultivated but remaining firm and level enough to use	No effect
FE1 less than 1.5m width available, crop over 250mm high	Fails Footpath unless also UD1
FE2 less than 3.0m width available, crop over 250mm high	Fails Bridleway unless also UD1
FE3 line obscured and/or surface in soft or uneven tilth	Fails all unless also UD1

Cross Field Obstruction	Effect on ease-of-use
Where the surface of the path has been ploughed / cultivated / covered with crop and the line of the path is not re-instated. NB Assume 14 days since cultivation has elapsed unless direct evidence to contrary.	
XF0 Cultivated but remaining firm and level enough to use with clear sight lines	No effect
XF 1 less than 1.0m width available, crop over 250mm high	Fails Footpath unless also UD1
XF 2 less than 2.0m width available, crop over 250mm high	Fails Bridleway unless also UD1
XF 3 line obscured and/or surface in soft or uneven tilth	Fails all unless also UD1

Upgrowth			Effect on ease-of-use
Record as point feature e.g. at stile or gateway, if it severely restricts use. Will be linear feature where recorded over 2m obstructed length. Record only if width of the way remaining free is less than 0.5m or if less than 1.5m on Bridleways where UG4:			
Code	Vegetation	height in meters	
UG 1	Woody/injurious	100mm – 250mm	Fails on RC1unless also UD1
UG 2	Leafy (soft)	250mm – 500mm	Fails on RC1unless also UD1
UG 3	Woody/injurious	Over 250mm	Fails any route unless also UD1
UG 4	Any type	Over 1.0m (inc. woodland plantations)	Fails any route unless also UD1
Examples of injurious vegetation include thistle, bramble, thorn, and nettle.			
N.B. Record estimate of date for seasonal clearance by calendar month e.g. 05 for May and 05,08 for May and August. This should be done where continued growth is likely to have a detrimental effect on serviceability e.g. significantly restricting free width available			

Overgrowth		Effect on ease-of-use
Vegetation growing (overhanging) from adjacent hedge, woodland or plantation. May be recorded as point feature e.g. at stile or gateway or where passage is severely restricted. Otherwise, record where length extends beyond 2 metres along Way or is a frequently repeated point feature. Recorded according to the degree of encroachment into the available width of a way.		
Code	width x height remaining free	
OG 1	less than 2.0m w &/or 3.0m h	Fails Bridleway unless also UD1
OG 2	less than 1m w &/or 2.0m h	Fails RC1Footpath unless also UD1
OG 3	less than 0.5m w &/or 1.75m	Fails all Footpath unless also UD1
N.B. Record estimate of date for seasonal clearance by calendar month e.g. 05 for May and 05,08 for May and August. This should be done where continued growth is likely to have a detrimental effect on serviceability e.g. further restricting free width available		

Adjacent Fencing	Effect on ease-of-use
Electric fence or barbed wire alongside the way recorded where there is risk of injury from contact or fear of contact where:	
E1 User forced to be within 2m of electric fence	Fails Bridleway unit
E2 User forced to be within 1m of electric fence	Fails footpath unit
W1 User forced to be within 2m of barbed wire	Fails Bridleway unit
W2 User forced to be within 1m of barbed wire	Fails footpath unit
Assessment of these criteria should take account of other features e.g. a slope or bank forcing proximity to hazard and at bridle gateways where electric fences should be 2m from the gateposts and 2m from the end of the bridle gate throughout the arc of its swing.	
Surface Condition	**Effect on ease-of-use**
Record surface criteria only where width of way remaining free is less than 0.5m. Except S5 & S6 where less than 1.5m free.	
S1 standing/running water > 100mm deep and step-over distance of>0.5m	Fails all RC1 footpaths unless also UD1
S2 standing/running water > 200mm deep and step-over distance of>0.75m	Fails all footpaths unless also UD1
S3 muddy/boggy/rutted in excess of 100mm deep	Fails all RC1 unless also UD1
S4 muddy/boggy/rutted in excess of 200mm deep	Fails all unless also UD1
S5 subsidence or potholing to the extent that pedestrians or horses could be injured.	Fails all unless also UD1
S6 Surface contamination by injurious/ material e.g. broken glass, flints, dangerous waste, unconsolidated rubble, etc.	Fails all unless also UD1
Also record estimate of date for remediation if required.	
Wilful Obstructions/Nuisances	**Effect on ease-of-use**
Activities and actions specifically designed to deter or prevent access or giving risk of serious personal injury	
WO1 Actual threat from person or animal on the path e.g. "get off my land…", attacking or aggressive animal	Fails all
WO2 Animal proven to be or specified as dangerous in law on path/in field e.g. Dairy Bulls etc.	Fails all
WO3 Intimidating/threatening/misleading sign e.g. *"Keep out"* or unqualified *"Private"* signs NOT acceptable. *"Bull in Field"* type is acceptable regardless of whether Bull is present. *"Private Road"* and similar are acceptable providing the Way is correctly signed at the same place.	Fails
WO4 Temporary deposit e.g. Agricultural or Industrial/building materials	Fails unless UD1

Structures about which information is collected					
Stile – • One step • Two step • Ladder • Other	Gate • Bridleway • Pedestrian • Kissing • Field	Bridges etc. • Foot • Bridle • Vehicular • Stepping Stone • Constructed Ford • Culvert • Causeway	Buildings /walls • Built • Under construction • transient • Tunnel or Arch	Signpost • Fingerpost • Plaque • Waymark Post	Other • Boardwalk • Steps • Revetments • Safety Barrier • Handrails

Gates	Effect on ease-of-use
The condition of any gate across the path that may give rise to undue inconvenience or risk of injury. Inconvenience to equestrians should be assessed from horse and riders perspective.	
GA1 Width less than 1.5m on Bridleway or 3m on Byway EXCEPT where this is likely to have been between 1.2 and 1.5m at the time the route was established and it is not reasonably practicable to replace with a 1.5m gateway. Such locations should be recorded together with the actual width available. Turning areas at bridle gates of less than 3m diameter should be noted in comment field on database.	Fails Bridleway/ Byway unless UD1
GA2 Not law fully present or authorised	None
GA3 Difficult (for the ordinary traffic – according to route category and status) to open/close e.g. jammed	Fails. NB A gate suitable for RC3 may not be suitable for RC2 and a gate suitable for RC2 may not be suitable for RC1
GA4 immovable / inoperable e.g. secured shut by (tightly knotted) twine, rope, chain or wire	Fails all
GA5 Barbed or electric wire attached to handhold or catch area	Fails all

Fences, hedges and other barriers across way	Effect on ease-of-use
B1 Electric fence without insulated handle for disconnecting or suitable insulation for crossing	Fails footpaths unless also UD1
B2 Electric fence regardless of insulation or means of disconnection.	Fails any Bridleway or Byway unless alsoUD1
B3 Other fence or hedge	Fails all unless also UD1
B4 Wall or building	Fails all unless also UD1
B5 Fallen trees and branches unsafe to clamber over by ordinary traffic of the route	Fails all unless also UD1
B6 Quarry	Fails all unless also UD1
B7 Electric fence less than 500mm high e.g. strip grazing wire that can be stepped over	Fails RC1 unless also UD1

Stiles	Effect on ease-of-use
The condition of any stile across the path that may give rise to undue inconvenience or risk of injury.	
ST1 hand/foot hold missing or unsafe	Fails all
ST2 More than 300mm between ground and step and or more than 750mm between step and top rail	Fails RC1 unless also UD1
ST3 Slippery surface	Fails RC1 unless also UD1
ST4 Barbed or electric wire attached to hand or foot hold	Fails all
Bridges etc.	**Effect on ease-of-use**
The condition of any bridge (including culverts) across the path that may give rise to undue inconvenience or risk of injury	
BR0 watercourse with no bridge	Fails all if surface criteria also fail
BR1 Steps, decking or handrails missing or unsafe	Fails all if BR3
BR2 Supporting structures damaged or defective	Fails all if BR3
BR3 Imminent risk of injury to user	Fails all
Other Structures	**Effect on ease-of-use**
The condition of any structure or modification for ease of use across potentially difficult terrain e.g. boardwalk, ford, steps, revetment safety barrier, causeway.	
OS1 Insecure/Missing/Defective	Fails all if OS2
OS2 Imminent risk of injury	Fails
Signs and Way Marks	**Effect on ease-of-use**
Deficiencies which prevent or compromise the user from finding and following the way. Waymark recorded as missing only if 1:25000 maps don't clarify direction or change of status.	
SP/WM1 Missing	Fail
SP/WM2 Totally obscured or wording illegible	Fail
SP/WM3 Not correctly aligned	Fail
NB. A public right of way wholly within a built up area and with a hard surface provided along its complete length and with a clearly defined route may be excluded from measurement.	

APPENDIX C

RoW STRUCTURES INSPECTION TYPE, FREQUENCY AND CONDITION LEVELS

This inspection regime takes into account the DMRB and BD 63/17 in principle, however resources do not allow for inspection frequencies as per these standards. The structures across the RoW network are not usually subject to the same loadings and traffic flows as those primarily covered by the standards and a suitable frequency has been adopted as a result. Terminology has been kept similar where possible with detailed information provided where it differs from the standards.

1. INSPECTION TYPES

Safety Inspection

The purpose of a safety inspection is to identify defects on basic bridges and structures where the danger to the public is low.

These inspections are carried out as part of the planned RoW path inspections with each path being surveyed once every 10 years. They are a basic visual look undertaken on foot from a safe point. The path surveys are generally carried out by trained volunteers

General Inspections

The purpose of a general inspection is to provide information on the physical condition of all visual elements of the structure. General inspections are a more detailed look at the structures and involve a more detailed inspection of all component parts of the structure which can be inspected safely without the need for specialist equipment. All measurements will be documented and a full photographic record taken. General inspections will be carried out every 8 years.

Staff carrying out inspections will be suitably trained to look for defects and deterioration in all construction types and materials. Staff will also be fully trained in safe working practises adjacent to and within water.

Prior to undertaking a general inspection, the inspector will ideally review the previous inspections for familiarisation and comparison purposes.

Principal Inspections

The purpose of a principal inspection is to provide more detailed comprehensive information on the physical condition of all parts of more complex structures and/or where private rights could affect the condition of the structure.

Principal inspections are a more full detailed ‘hands on’ inspection of all component parts of the structure which can be inspected using appropriate techniques. Principal inspections will only be carried out if a GI identifies the need for a more in depth inspection of more complex structures.

Principal inspections will be undertaken by a suitably qualified engineer. Prior to undertaking a principal inspection, the inspector will review the previous inspections for familiarisation and comparison purposes.

Special Inspections

The purpose of a special inspection is to provide more detailed comprehensive information on the physical condition of all parts of structures. Special inspections are a full detailed 'hands on' inspection of all component parts of the structure, including those inaccessible points. For example - diving surveys to inspect submerged sections of the bridge. Special inspections will be carried out on all significant structures where a general or principal inspection is not adequate at an appropriate frequency.

Special inspections will be carried out by suitably qualified teams. Prior to undertaking a special inspection, the inspector will review the previous inspections for familiarisation and comparison purposes.

2. INSPECTION FREQUENCIES

The table below sets out inspection frequencies for all structures the Council is responsible for. Where structures owned by others are not under an adequate inspection and maintenance regime, the County Council will undertake inspections at the frequencies set out below and liaise with the owner regarding appropriate maintenance.

Structure Type	Number (approx. at Feb 2016)	Inspection Frequency	Inspection Type
Fords, stepping stones and causeways	**46**	10 Years	Safety Inspection
Culverts equal to or less than 2m span (excluding type 2 culverts)	**924**	10 Years	Safety Inspection
Non-vehicular bridges equal to or less than 2m span (excluding culverts and stone arch bridges)	**158** **789**	Invert ≤ 500mm = 10 Years > 500mm = 8 years	Safety Inspection General Inspection
Non-vehicular bridges, excluding stone arch bridges, span over 2m & equal to or less than 6m	**271** **1257**	Invert ≤300 or > 300 & ≤ 500mm with at least 1 handrail = 10 Years All others = 8 years	Safety Inspection General Inspection
Non-vehicular bridges, excluding stone arch bridges, over 6m span	**204**	8 years	General Inspection*
Type 1 Bridges with vehicular use (usually private) equal to or over 2m span	**493**	8 years	General Inspection*

Type 2 Bridges with vehicular use (usually private) less than 2m span. Also multiple span culverts and culverts over 1m span (with or without vehicular use)	**572**	8 years	General Inspection
Non-vehicular stone arch bridges	**71**	8 years	General Inspection*
Other structures for example: retaining walls, dams and tunnels	**30**	8 years	General Inspection*
Missing Bridges	**32**	N/a	N/a
Total	**4817**		

*** Principal/Special Inspections where required.**

3. BRIDGE CONDITION ASSESSMENTS

As part of the general inspections Inspectors are required to assign a condition to each structure. The conditions are set out below but it should be noted that the examples given are not exhaustive:

Level 1 - Very good condition/As built condition.

Level 2 - Moderate defects, requires general maintenance, e.g. small defects not affecting stability of the bridge or safety of the bridge/public such as vegetation growth, mortar loss, moderatel levels of rot, moderate surface rust, concrete/masonry cracking, bank erosion/scour.

Level 3 - In poor condition, repairs required soon, 'e.g. defects which may affect the stability of the bridge and cause danger to the public in the near future such as bank erosion/scour, deep rot, significant surface rust, handrails missing/broken, trip/slip hazards, rebar exposure, some mortar loss, other missing parts including masonry.

Level 4 - Significant danger to the public – footpath closure required, e.g. any significant fault which could affect the stability of the bridge or pose a danger to the public such as bridge not secured in place, unstable or collapsing substructure or superstructure, significant masonry loss, severe rot and rust, loss of section, missing/broken elements such as deck or handrails.

Level 5 - Bridge missing.

APPENDIX D

Activity being assessed:	**Maintenance responsibility for Rights of Way**
Date of assessment:	**27/09/2017**
Activity participants who may be harmed/at risk:	
Potential accidents/concerns (Likely places/ways that people could be harmed)	**What control measures will be put in place? (**Have you included all reasonable precautions that could be taken to avoid injury?)
Users injured from slips trips and falls on path surfaces	Inspections to be carried out every two years by competent individual inspecting against nationally agreed BVPI 178 standards and Managing Visitor Safety in the Countryside, 2003, good practice guidance. Good reporting systems and record keeping in place for public complaints (online (SCC system), phone, email, written). Reactive inspections to be carried out following public reports within two weeks or sooner for higher risk situations.
Users injured from slips trips and falls on bridges, steps, stiles and other built structures	Structures to be constructed in accordance with British standard (Roads and Highways Manual) and/ or BTCV Footpaths handbook (ISBN 0946752311). Our engineer assessed standard bridge design drawings should be followed for new bridges. In shaded or wet areas where algae can build up weld mesh or studs will be added to wooden surfaces. Inspections to be carried out every two years by competent individual. Good reporting systems and record keeping in place for public complaints (online, phone, email, written). Particular care should be taken to look for timber supported steps constructed without bearers and these must be repaired as soon as possible. Reactive inspections to be carried out following public reports within two weeks or sooner for higher risk situations.
Users injured by overhanging vegetation, thorns etc.	Annual paring programme in place to help keep paths cut back. Landowners made aware of their responsibilities via online information and reactive verbal/written contact. Inspections to be carried out every two years by competent individual inspecting against nationally agreed BVPI 178 standards. Good reporting systems and record keeping in place for public complaints (online, phone, email, written). Reactive inspections to be carried out following public reports within two weeks or sooner for higher risk situations.
Users injured by falling branches or trees	Hazardous trees on public rights of way procedure in place and reviewed at least every two years or in case of accident. See procedure. Note. Trees alongside a public right of way are landowner responsibility unless growing from the

	surface of the highway. Our inspections are aimed to achieve good practice above and beyond this. Inspections carried out every two years by competent individual (Level 1 LANTRA Tree Safety Assessment). Good reporting systems and record keeping in place for public complaints (online, phone, email, written). Reactive inspections to be carried out following public reports within two weeks or sooner for higher risk situations.
Users injured by protruding nails or other sharp elements from rights of way furniture	Note. Responsibility for maintaining gates and stiles lies with the landowner unless agreed otherwise. Inspections to be carried out every two years by competent individual inspecting against nationally agreed BVPI 178 standards. Good reporting systems and record keeping in place for public complaints (online, phone, email, written). Reactive inspections to be carried out following public reports within two weeks or sooner for higher risk situations or reported to landowners for action.
Unusual or unobvious drops alongside public rights of way – injuries from falls	Responsibility for unusual or man-made hazards alongside public rights of way lies with the landowner however in especially hazardous situations, particularly in busy and more urban locations where there is a vertical drop of more than 1m and where the path width is less than 1.5m (footpaths) or less than 3m (bridleway +) safety rails should be considered. Inspections to be carried out every two years by competent individual inspecting against nationally agreed BVPI 178 standards. Good reporting systems and record keeping in place for public complaints (online, phone, email, written). Reactive inspections to be carried out following public reports within two weeks or sooner for higher risk situations.
General notes	Anyone carrying out formal path inspections should receive induction training from an experienced member of staff with regards to the BVPI 178 standards, and methods for testing furniture, particularly bridges. Public accident reports should be entered into accident book at Exmoor House.
Users injured by livestock	Reports of attacks or near misses should be carefully recorded. Land manager should be contacted to be made aware of details by telephone and followed up in writing. Complainant should be advised to report issue to HSE. See procedure for dealing with livestock injury or near miss reports.

APPENDIX E

These standards are used for the 2 yearly planned path inspections.

Exmoor National Park Authority

Minimum Standards for Public Rights of Way & Adopted Permitted Paths

Background and Introduction

Exmoor National Park Authority leads on inspection and maintenance for Public Rights of Way within the National Park, in part acting within its delegated powers from Somerset and Devon County Councils.
In partnership with Somerset and Devon County Council our network is assessed against the nationally agreed 'Open and Easy to Use' (BVPI 178) standard. However, we generally aim to achieve a standard that is higher than the BVPI minimum criteria and this document provides an outline of this 'Exmoor Standard'.
This document is based upon the DCC guidelines for the BVPI 178 standard but goes further in some areas where we feel this is appropriate to the public expectation within Exmoor National Park. This standard has been endorsed by the Exmoor Local Access Forum.

PROW that meet the Exmoor Standard should be:

1. **Signposted or waymarked where PROW leave the road in accordance with the authority's duty under s.27 of the Countryside Act 1968 and to the extent necessary to allow users to follow the path. The sign should be within easy sight of the road, easy to read (for the ROW user), not hidden by vegetation and pointing in the correct direction.**
2. **Free from unlawful obstructions and other interference, (including overhanging vegetation) to the public's right of passage;**
3. **With surface and lawful barriers (e.g. stiles, gates) in good repair and to a standard necessary to enable the public to use the way without undue inconvenience.**

The methodology considers whether the condition of the path is easy to use for all legitimate purposes and assumes the users are suitably attired and equipped with the relevant 1:25000 O.S. map once outside of the village environment. It directs that the following items and conditions be assessed.

Structures

- Signpost (roadside) – *where a sign is required under s.27 of the Countryside Act 1968.*
- Waymarks and signage (along the route) – *when the route is otherwise unclear (when using a 1:25,000 scale O.S. map).*
- Highway Authority steps, barriers (safety/amenity) and revetments.
- Bridges (including culverts, stepping-stones and constructed fords), gates and stiles, boardwalks.

Obstructions and state of repair

- Wall/fence/hedge/electric fence/cattle grid/other barrier
- Tree/bough or temporary deposit
- Illegal or misleading signs
- Intimidating/dangerous beast or person
- Building or quarry
- Surface condition - muddy/boggy, flooded, rutted, landslips etc.
- Upgrowth and/or Overgrowth
- Barbed wire or electric fence adjacent to line of path
- Cross-field not reinstated / Headland ploughed – *i.e. does not meet ROW Act '90 criteria*

PROW may pass or fail the Exmoor Standard depending on the degree of obstruction, interference and inconvenience from any of the listed items. Furthermore, the methodology states the following circumstances as automatically failing the standard:

- Where a legally required (i.e. s.27 Countryside Act 1968) roadside signpost is missing, of incorrect status, pointing in the wrong direction or not visible (e.g. overgrown).
- Where Highway Authority barriers/steps/revetments need immediate repair or replacement.
- Where a historically available bridge is missing or needs immediate repair or replacement
- Where a stile or gate needs immediate repair or replacement (A or E ticket)
- Any wall, fence, hedge, electric fence etc across a path
- Any sign or notice the effect of which is to deter public use of the path
- A building or a quarry across the path
- A significant body of water across the path
- Any animal or human deterring the use of the path

Exmoor National Park Authority
Minimum Standards for Public Rights of Way & Adopted Permitted Paths

Route Categorisation (reflecting level and type of use and the ordinary traffic of the neighbourhood)
Routes are categorised to reflect the level of ability expected of an ordinary user in that location and some of the standards vary to reflect this expected ordinary traffic.

Route Category 1

In and around towns and villages linking destinations that people could journey to on foot, off road (schools, churches, post office, shops, recreational areas etc.), may be described as functional routes. Generally within 3km of a settlement or very popular parking area where most users would not be carrying an OS map. Also includes adopted promoted routes and other unusually popular routes that are outside the 3km zone.

Route Category 2

Usually of longer distance providing recreational facility e.g. dog walking, hacking, rambling. Characterised by circular routes, which may be interconnected by quiet lanes, giving easy access to the countryside from areas of settlement (towns and villages). Generally within 5km of a settlement or very popular parking area.

Route Category 3

Where the nature of the terrain or remoteness from population attracts users looking for a more unkempt, natural, wild or challenging experiences of countryside (the ordinary traffic). Also, anachronistic routes and some cul-de-sacs e.g. where they do not provide access to an area of public access or advantage. Generally more than 5km from a settlement or very popular parking area.

NB International, National and Regionally promoted trails may have sections described by any of these categories. The management framework and standards for these trials may demand higher standards than those suggested by the condition criteria for serviceability associated with these categories.

Field Edge Obstructions	Meets standard?
FE0 Where the surface of the path has been ploughed / cultivated / covered with crop.	
FE1 Cultivated but remaining firm and level enough to use	No effect
FE2 less than 1.5m width available, crop over 250mm high	Fails Footpath
FE3 less than 3.0m width available, crop over 250mm high	Fails Bridleway
FE4 line obscured and/or surface in soft or uneven tilth	Fails all
Cross Field Obstruction	**Meets standard?**
Where the surface of the path has been ploughed / cultivated / covered with crop and the line of the path is not re-instated. NB Assume 14 days since cultivation has elapsed unless direct evidence to contrary.	
XF0 Cultivated but remaining firm and level enough to use with clear sight lines	No effect
XF1 less than 1.0m width available, crop over 250mm high	Fails Footpath
XF2 less than 2.0m width available, crop over 250mm high	Fails Bridleway
XF3 line obscured and/or surface in soft or uneven tilth	Fails all

Exmoor National Park Authority
Minimum Standards for Public Rights of Way & Adopted Permitted Paths

Upgrowth		Meets standard?
Record short section issues (under 2m distance) e.g. at stile or gateway, if they severely restrict use. Otherwise, issues of less than 2m distance can be tolerated. Fails standard only if width of the way remaining free is less than 1m or if less than 1.5m on Bridleways (or width or path surface if less).		
Vegetation	height in meters	
UG1 Woody/injurious	Over 100mm	Fails on RC1&2
UG2 Leafy (soft)	Over 250mm	Fails on RC1&2
UG3 Woody/injurious	Over 250mm	Fails any route
UG4 Any type	Over 1.0m (inc. woodland plantations)	Fails any route
Examples of injurious vegetation include thistle, bramble, thorn, and nettle.		
N.B. Regular fails for upgrowth on any route will require changes to the regular maintenance programme.		
Overgrowth		**Meets standard?**
Vegetation growing (overhanging) from adjacent hedge, woodland or plantation. Consider as an issue when at stile or gateway or where the issue extends beyond 2 metres along the way or is a frequently repeated point feature.		
width and height remaining free		
OG1 less than 2m w &/or 3m h		Fails Bridleway
OG2 less than 1m w &/or 2m h		Fails RC1 & 2 Footpath
OG3 less than 0.5m w &/or 1.75m h		Fails all Footpath
N.B. 3m satisfies BHS advice. We will cut at 3.4m but only less than 3m would fail a route. Regular fails for overgrowth on any route will require changes to the regular maintenance programme.		
Adjacent Fencing		**Meets standard?**
Electric fence or barbed wire alongside the way recorded (regardless of warning signage) where there is risk of injury from contact or fear of contact where:		
E1 User forced to be within 2m of electric fence		Fails Bridleway
E2 User forced to be within 1m of electric fence		Fails footpath
E3 Adjacent electric fence without warning signs attached*		Fails all
W1 User forced to be within 2m of barbed wire		Fails Bridleway
W2 User forced to be within 1m of barbed wire		Fails footpath
N.B. Assessment of these criteria should take account of other features e.g. a slope or bank forcing proximity to hazard and at bridleway gateways where barbed wire or electric fences should be at least 2m from the swinging end of the gate throughout the arc of its swing.		
*Any electric fence alongside a public path shall be identified by securely fastened warning signs at intervals of no more than 50 metres. The signs shall be at least 100mm x 200mm. The background colour of both sides shall be yellow. The inscription shall be black and shall be the substance of **TAKE CARE - ELECTRIC FENCE**, ideally with a shock symbol. The inscription shall be indelible, inscribed on both sides and have a height of at least 25mm.		

Exmoor National Park Authority
Minimum Standards for Public Rights of Way & Adopted Permitted Paths

Surface Condition	Meets standard?
Fails surface criteria only where width of way remaining free is less than 0.5m or 1.5m for Bridleways. Except 5 & S6 where less than 1.5m free.	
S1 standing/running water > 50mm deep and step-over distance of >0.5m	Fails RC1
S2 standing/running water > 100mm deep and step-over distance of >0.75m	Fails RC1 and RC2
S3 muddy/boggy/rutted in excess of 50mm deep and continuous for more than 1m	Fails RC1
S4 muddy/boggy/rutted in excess of 100mm deep and continuous for more than 1m	Fails all
S5 subsidence or potholing to the extent that pedestrians or horses could be injured. (See specific guidance document)	Fails all
S6 Surface slippery or contaminated by injurious material e.g. broken glass, flints, dangerous waste, unconsolidated rubble etc. (See specific guidance document)	Fails all
Wilful Obstructions/Nuisances	**Meets standard?**
Activities and actions that deter or prevent access or risk serious personal injury	
WO1 Actual threat from person or animal on the path e.g. "get off my land…", attacking or aggressive animal	Fails all
WO2 Animal known to be or specified as dangerous in law on path/in field e.g. Dairy Bulls etc.	Fails all
WO3 Intimidating/threatening/misleading sign e.g. "*keep out*" or unqualified "*Private*" signs NOT acceptable. "*Bull in Field*" sign is acceptable only when a Bull is present and must not indicate that the Bull is dangerous. "*Private Road*" and similar are acceptable providing the Way is correctly signed at the same place.	Fails all
WO4 Temporary deposit e.g. Agricultural or Industrial/building materials	Fails

Exmoor National Park Authority
Minimum Standards for Public Rights of Way & Adopted Permitted Paths

Gates	Meets standard?
The condition of any gate across the path that may give rise to undue inconvenience or risk of injury. Inconvenience to equestrians should be assessed from horse and riders perspective.	
GA1 Width less than 4'6" on Bridleway* or 3m on Byway. Minimum turning areas of 3m should be available on both sides of bridle gates. (EXCEPT where the width was less at the time the route was established and it is not reasonably practical to replace with the modern width (historic walls or posts etc. - such locations should be recorded together with the actual width available).	Fails Bridleway/ Byway
GA2 Not lawfully present or authorised	Fails all
GA3 Difficult (for the ordinary traffic – according to route category and status) to open/close	
A. any need to lift to open or operate latch	Fails RC1,
B. A heavy lift would fail RC2.	Fails RC1 and RC2
C. Damaged hinges that cause gate to lean or fall would fail RC3.	Fails All
GA4 immovable / inoperable e.g. secured shut by (tightly knotted) twine, rope, chain or wire	Fails all
GA5 Barbed or electric wire attached to handhold or catch area	Fails all
Nb. New Kissing gates/ Easy Access Kissing Gates will be designed in accordance with Scottish Natural Heritage, Paths for All guidance and/or in accordance with Footpaths a Practical Handbook published by BTCV. Latches must be easy to use for normal users and on Bridleways/Byways we aim to use latches that are operable from horse back	
*Should aim to increase hunting gate widths to 5' when replacing posts and gate, wherever practical to do so.	

Fences, hedges and other barriers across way	Meets standard?
B1 Electric fence without insulated handle for disconnecting or suitable insulation for crossing. Note. Where handle is fitted for electric fence it should be between 1 and 1.5m height and should not obstruct the use of existing gates	Fails footpaths
B2 Electric fence regardless of insulation or means of disconnection.	Fails any Bridleway or Byway
B3 Other fence or hedge	Fails all
B4 Wall or building	Fails all
B5 Fallen trees and branches unsafe to clamber over by ordinary traffic of the route (any branches or trees that cannot be removed by hand and obstruct the way should be dealt with).	Fails all
B6 Quarry	Fails all

Exmoor National Park Authority
Minimum Standards for Public Rights of Way & Adopted Permitted Paths

Stiles	Meets standard?
The condition of any stile across the path that may give rise to undue inconvenience or risk of injury.	
ST1 hand/foot hold missing or unsafe	Fails all
ST2 Should meet British Standard BS5709. Max of 300mm between ground and step/between steps. Max of 450mm between step and top rail. Width between posts 600mm minimum. Should include a grab post (on RC1 and RC2) extending between 500 and 700mm above top rail that is near to the steps (350-450mm for parallel steps or 500-600mm for cross steps). See BS5709 Explanation document.	Fails all
ST3 Slippery surface or broken wire netting.	Fails all
ST4 Barbed or electric wire attached to hand or foot hold	Fails all
Note. Dog gates to be installed upon public request with permission of LO.	
Bridges etc.	**Meets standard?**
The condition of any bridge (including culverts) across the path that may give rise to undue inconvenience or risk of injury. Assessed within its original construction standard.	
BR0 watercourse with no bridge or other suitable crossing where this was available when the way was recorded.	Fails all if surface criteria also fail
BR1 Steps, decking or handrails damaged, missing or unsafe	Fails all
BR2 Supporting structures damaged or defective	Fails all
Nb. Bridge design will be assessed at point of replacement to see if Tramper accessibility (min width 72cm + ramps of 1:12) can be reasonably achieved. Nb. Replacement bridges will meet standard as defined by Path Bridges - Planning, Design, Construction and Maintenance, published by Paths For All 2006 and will also be in accordance with the Design Manual for Roads and Bridges published by the Highways Agency.	
Other Structures	**Meets standard?**
The condition of any structure or modification for ease of use across potentially difficult terrain e.g. boardwalk, ford, steps, revetment, safety barrier, causeway, stepping stones.	
OS1 Insecure/Missing/Defective	Fails all if surface criteria also fail
Nb. New structures will be designed in accordance with Scottish Natural Heritage, Paths for All guidance and/or in accordance with Footpaths a Practical Handbook published by BTCV.	

Exmoor National Park Authority

Minimum Standards for Public Rights of Way & Adopted Permitted Paths

Signs and Way Marks	Meets standard?
Deficiencies which prevent or compromise the user from finding and following the way.	
SP/WM1 Missing	Fail
SP/WM2 Totally obscured or wording illegible	Fail
SP/WM3 Not correctly aligned or not easily visible from the road	Fail
NB. Waymark recorded as missing only if 1:25000 maps don't clarify direction or change of status. Roadside signage must be within easy sight of the road, easy to read, not hidden by vegetation and pointing in the correct direction. Words Public Footpath, Public Bridleway or Restricted Byway must be included at roadside but are not always necessary elsewhere. A public right of way wholly within a built up area with a hard surface along its complete length, with a clearly defined route, and which is obviously a public route may not need to be signed where this has been agreed with the Parish Council in writing.	

APPENDIX F

ENPA Guidance for prioritisation of ROW issues and faults

Note. This approach is for prioritisation of all issues on pubic rights of way and 'adopted' permissive routes. The statutory duties of SCC and DCC as delegated by the agency agreements will be delivered on all routes but this approach will help to control what order work is done in at periods of full capacity.

Priority code	Path category
1	Routes within 3km of village and town centres, & other popular routes inc. national/regional promoted routes & routes in popular guides.
2	Routes within 5km of village and town centres
3	All other routes

Priority code	Nature of issue / fault
1	Very serious emergency works. (Path to be closed whilst works arranged) High risk health and safety issues.
2	High level safety issues inc. ((Path may need to be closed whilst works arranged) • Health and safety issues where there is a significant hazard (e.g. hanging trees, stock gates, faulty bridges)
3	Legal and Statutory Duties and lower level safety issues inc. • Signage from the Highway, surfacing works, drainage work • New obstructions (e.g. fallen trees) • Health and safety jobs where a significant hazard will develop within one year if not addressed • Actions that will maintain the ENP special qualities • Actions that will significantly reduce costs in the future
4	Discretionary activities and Improvements to existing network inc. • Actions contributing to convenience, accessibility, enjoyment and longevity • Structures, vegetation clearance, general signage and waymarking • Projects to meet requirements of ENPA site management plans (where not already accounted for above)
5	Development and enhancement of the network inc. • new links etc.

		Nature of issue / Fault				
		1	2	3	4	5
Path Catagory	1	E	A	A	B	B
	2	E	A	B	B	B
	3	E	B	B	B	B

Priority	Target timescale *
E = Emergency works	within one working day
A = High Priority	within 10 working days
B = Medium Priority	within 50 working days
Dr = Dry ground needed	When dry weather allows

* Target for Field Services Team following production of ticket by Ranger Team

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Project Name – Highways Code of Practice Implementation Project

Traffic Control Safety Inspection Manual

Version : Draft – 0.1

Date of Issue : 20 April 2018

Owner : Neil Guild
(Highways Asset Improvement Officer – Highways and Transport Commissioning)

Author : A R Boyle

Traffic Control Safety Inspection Manual

SOMERSET County Council

Traffic Control Inspection Manual

Economic and Community Infrastructure Operations

Traffic Control Unit – B2W

Traffic Management and Road Safety Group

Somerset County Council

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Somerset, TA1 4DY

Tel: 0300 123 2224

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CONTENTS

1 INTRODUCTION

The maintenance management of Somerset's Traffic Control Systems is undertaken by the Traffic Control Unit of the Traffic Management and Road Safety Group. The scope of work includes:

- Inspections
- Responsive maintenance
- Routine maintenance
- Pro-Active maintenance
- Equipment upgrades to meet changes in legislation, specifications and standards

The annual maintenance and inspection programme for Somerset's Traffic Control Systems is discharged through a Partnering Contract with a third party Term Maintenance Contractor (currently Siemens) which covers the maintenance function for the entire County.

Traffic signals are inspected and maintained generally in accordance with Department Standard TD 24/97 "All Purpose Trunk Roads Inspection and Maintenance of Traffic Signals and Associated Equipment" which is part of the Design Manual for Roads and Bridges issued by Highways England.

The scope of equipment includes:

- Traffic Signal controlled junctions and shuttles
- Pelican Crossings
- Puffin Crossings
- Toucan Crossings
- Wig-Wag Signals (Fire / Ambulance Stations)
- Equestrian Crossings
- Variable Message Signs
- Bus Lane Enforcement Cameras
- Vehicle Actuated Signs
- CCTV cameras
- Urban Traffic Control System (Instation and on-street equipment)

2 INSPECTIONS & MAINTENANCE

2.1 SUMMARY

2.1.1 This manual sets out inspection and maintenance requirements for permanent traffic signals and associated equipment at junctions, emergency vehicle stations and signalled pedestrian crossings on County roads within Somerset.

2.1.2 Performance requirements for traffic signals are set out in equipment specifications covering the equipment provided at individual installations.

2.2 OVERVIEW

2.2.1 The inspection and maintenance procedures specified in this manual are intended to ensure that traffic signals continue to perform in accordance with the equipment specifications, and safety levels are not eroded.

2.3 PERSONNEL

2.3.1 All personnel employed on maintenance and inspection work shall be appropriately qualified and have relevant training on the equipment to be maintained.

THIS IS THE END OF THIS SECTION OF THE REPORT

3 INSPECTION REQUIREMENTS

3.1 GENERAL

3.1.1 The purpose of the procedures described in this Chapter is to detect operational failure and to identify physical or operational deterioration so that appropriate remedial and/or preventive action may be taken.

3.2 REMOTE MONITORING

3.2.1 Some operational functions are capable of being remotely monitored by either Remote Monitoring Systems (RMS) or Urban Traffic Control (UTC) Systems. Where such monitoring is provided it is expected that the fault log will be regularly checked. This will ensure that faults which occur on the monitored functions are quickly identified, enabling remedial action to be instigated and repairs to be checked.

3.2.2 Within Somerset, all permanent traffic signal installations are remotely monitored via RMS or UTC.

3.2.3 The minimum capability of the remote monitoring systems shall be to detect the failure of the following items;

1 Mains supply failure and Controller switch off or automatic shutdown
2 Signals stuck
3 Vehicle red lamp inoperative
4 Other signal lamp inoperative
5 Detector Fault Monitor activated
6 Lamp dimming - failure to operate in a 24hr period
7 Fault Log contents
8 Loss of UTC or MOVA control
9 Manual Mode of operation selected

3.2.4 More modern systems will be capable of monitoring other failures as well.

3.3 INSPECTION

3.3.1 A complete site inspection of each installation shall be carried out at periods not greater than 12 months. Each inspection shall cover the following;

1 Controller operational
2 Operation of all signal lamps and Regulatory signs
3 Signals stuck
4 Detector Fault Monitor Lamp illuminated
5 Operation of Pushbuttons and other manual inputs
6 Illumination of all ‘wait’ and other indicator lamps
7 Operation of audible and tactile signals
8 No gross misalignment of Signals or Above Ground Detectors and no obvious deterioration in optical performance of signals
9 Physical condition of push button units and detector housings
10 Physical condition of poles, signal heads, support brackets and backing boards (including any white edge tapes etc.)
11 Physical condition of regulatory and variable message signs
12 Obscuration of signs, signals or Above Ground Detectors by lamp columns, signs etc.
13 Operation of red lamp monitor circuit
14 Operation of all user selected and fall back modes
15 Maximum Green, Minimum Green, Inter-green and Pedestrian Blackout times
16 Lamp Dimming
17 Fault Log Contents
18 Reversion to Fallback Mode of Operation
19 Correct operation of all detectors including above ground detector alignment
20 Operation of all Manual Panel facilities
21 Illumination of all Manual Panel indicators
22 Operation of cable-less linking

23 Operation of local links to other apparatus

24 All equipment clock times

25 Illumination and operation of variable message signs

26 Operation of Speed Assessment or Speed Discrimination Equipment (SA/SDE)

27 Operation of ancillary equipment e.g. Outstation Monitoring Unit (OMU), Outstation Transmission Unit OTU etc.

28 Condition of earth connections, wiring, pole cap assemblies and mechanical support of cables

29 Condition of cabinet, door seals, locks and hinges

30 Condition of cabinet base sealing or gas plinth ventilation as applicable

31 Accessibility of equipment cabinet

32 Data sheets and Log Books present in cabinet

33 Condition of earth connections and wiring to poles

34 Condition and effectiveness of all bonding and earthing

35 Physical condition of loop and feeder slots and their sealing

36 Condition of road markings and studs

37 Mast arm assembles, which shall be inspected in accordance with the Design Manual for Roads and Bridges, Volume 3. Section 1, Part 4 (ref 5) or in accordance with the requirements of the Overseeing Department.

THIS IS THE END OF THIS SECTION OF THE REPORT

4 MAINTENANCE PROCEDURES

4.1 ROUTINE MAINTENANCE

4.1.1 Residual Current Devices shall be test tripped at least yearly, or as directed by the manufacturer; and always before installation.

4.1.2 Back-up batteries shall be replaced in accordance with the manufacturers' schedules.

4.1.3 Lamps shall be bulk changed before they have exceeded their normal specified life. No lamp change frequencies are defined in the Term Maintenance Contract. The onus is with the Term Maintenance Contractor to determine the optimum cost-effective and operational period to undertake such activities.

4.1.4 Lens Cleaning - Signal lenses, regulatory signs, above-ground detection (with visual capabilities) and variable message signs shall be cleaned at least yearly.

4.2 NON-ROUTINE MAINTENANCE

4.2.1 All defects shall be reported without delay to the maintenance contractor for attention. Defects are classified as:

1. An **Urgent Fault** – which comprises one or more of the following;

a) All signals unlit or;
b) Signals failing to change or;
c) Signals giving conflicting indications or;
d) Pushbutton tactile and/or audible devices not working or;
e) Signals damaged and in a dangerous condition or;
f) Red lamp failure or;
g) Indicative green arrow (IGA) failure at locations where there is only one IGA or filter arrow or;
h) Detection Faults that are not cable, loop or joint Faults or;
i) UTC and MOVA data transmission Faults or;
j) Lamps stuck on dim;
k) Defective signals which although not falling into any of the above categories will produce excessive queues and which have produced demonstrable abnormal traffic conditions which require urgent attention;
l) Head out of alignment.

2. A **Lamp Fault**;

a) One signal aspect, one Wait indicator or one regulatory sign unlit when it should normally be illuminated. If two or more signal aspects or wait indicators are unlit then two or more Fault Reports will be issued.

3. A **Less Urgent Fault** is defined as a Fault that is neither an Urgent Fault or a Lamp Fault.

4.2.2 Care must be taken to ensure that temporary repairs are permanently repaired as soon as possible.

4.3 FAULT RESPONSE TIMES

4.3.1 The Term Maintenance Contractor should respond to Fault Reports in accordance with the timescales as tabulated below;

Fault Type	Notification	Attendance by:	Damage Repair within:
URGENT FAULT	Before 12:00 hrs noon	16:00 hrs same day	24 hrs from Attendance
	12:00 hrs to 18:00 hrs	08:00 hrs following day	24 hrs from Attendance
	18:00 hrs to midnight	16:00 hrs following day	24 hrs from Attendance
LAMP FAULT	Anytime	24 hrs from being notified	24 hrs from Attendance (but signal heads mounted on gantries or Faults requiring armoured cable replacement within five Working Days)
LESS URGENT FAULT	Before 12:00 hrs noon	12:00 hrs following day	Five Working Days from Attendance (but for Faults requiring slot-cutting work within ten Working Days).
	12:00 hrs to 18:00 hrs	18:00 hrs following day	
	18:00 hrs to midnight	24:00 hrs following day	

4.3.2 The time scales for response, unless specified elsewhere, are timed from Notification and Attendance.

4.3.3 “Notification” means the time in which the Fault Report is made available to the Contractor.

4.3.4 “Attendance” means to attend the site and commence action necessary to make the Traffic Signal and Ancillary Equipment safe and restore operation.

4.3.5 “Damage Repair” means the complete restoration of the signal unit to perfect working condition.

4.3.6 Where, in the opinion of the Service Manager or Duty Officer, a Fault occurs at any site that requires Attendance within a response time that is shorter than that set out above then he instructs the Term Maintenance Contractor to provide an Emergency Response.

4.4 RECORDS AND MONITORING

4.4.1 An efficient and effective service can only be provided if comprehensive records of the layout, specification and operational settings of the equipment on site, together with its fault history, are readily accessible by maintenance and supervisory staff. These documents should afford a complete historical record covering at least the previous 5 years.

4.4.2 As a minimum, plans showing the equipment and layout, and any site specific safety instructions shall be held in the equipment cabinet on site, together with a log book in which brief details of tests, alterations, repairs and inspections of the installation shall be recorded.

4.4.3 Arrangements shall be made for updating all records.

4.4.4 Inspection personnel shall be provided with report/record forms which shall set out the various items to be checked. These shall be completed at the time of the inspection, and delivered to the supervising engineer.

4.5 FAULT MANAGEMENT SYSTEM

4.5.1 Comprehensive records shall be maintained of all faults reported, their causes, details of subsequent repairs and of routine maintenance work.

4.5.2 Within Somerset, all permanent traffic signals faults are logged, updated and monitored via a proprietary Fault Management System (FMS) named InView. This is a web based system operated and maintained by the current Term Maintenance Contractor (Siemens).

4.5.3 Records must be reviewed regularly to identify repeat faults at individual sites or abnormal frequency of similar faults at different sites. Appropriate action should be taken if such situations are identified.

4.5.4 Records of defects and action taken shall be retained for the period of at least five years.

THIS IS THE END OF THIS SECTION OF THE REPORT

5 SAFETY

5.1 ROAD SAFETY

5.1.1 The requirements of Chapter 8 of the Traffic Signs Manual, shall be observed at all times when carrying out inspections/ maintenance.

5.1.2 Due regard should be paid to the requirements of the New Roads and Street Works Act 1991 and Construction (Design and Management) Regulations 2015 when carrying out maintenance work at an installation.

5.2 ELECTRICAL SAFETY

5.2.1 All traffic control systems installed on highways shall comply with the requirements of the IEE Wiring Regulations (BS 7671). Equipment installed shall comply with the issue of the IEE Wiring Regulations applicable at the time of installation. If any changes are made to the cabling of an installation, the whole installation shall be upgraded to meet the requirements of the current version of BS 7671.

5.2.2 The electrical safety checks must be carried out by an appropriately qualified and competent person as required by BS 7671.

5.2.3 The Contractor is required to ensure compliance with the Electricity at Work Regulations by the use of appropriate contract conditions or training of staff directly under his control.

5.3 PRESENCE OF GAS

5.3.1 Should the engineer suspect the presence of gas, the Gas Company's emergency service shall be immediately informed and their advice sought.

THIS IS THE END OF THIS SECTION OF THE REPORT

6 REFERENCES

ISO 9001:2015

British Standard 7671 (2015) Requirements for Electrical Installations

The Electricity at Work Regulations 1989

Traffic Signs Manual: Chapter 8, Traffic Safety Measures and Signs for Road Works and Temporary Situations (2009)

Manual of Contract Documents for Highways Works (MCHW)

New Roads and Street Works Act 1991

Construction (Design and Management) Regulations 2015

Local Transport Note 1/98 – The Installation of Traffic Signals and Associated Equipment

Design Manual for Roads and Bridges (DMRB)

Somerset Technical Advice Note 11/17 (STAN 11/17) Specification & Guidelines for the Design, Installation and Maintenance of Traffic Signals in Somerset.

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This document is also available in Braille, large print, on tape and on disc and we can translate it into different languages. We can provide a member of staff to discuss the details.

We value diversity. We are committed to promoting equality of opportunity and fair access to services based on need.

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Somerset County Council
Cabinet - 12 September 2018

Report of the Scrutiny for Policies and Place Committee on Revenue Budget Monitoring Report 2018/19

Chair: Cllr Anna Groskop
Division and Local Member: All
Lead Officer and Author: Jamie Jackson – Deputy Strategic Manager – Democratic Services
Contact Details: 01823 359040 jajackson@somerset.gov.uk

1. Summary

1.1. This report summarises the recommendations arising from the Scrutiny for Policies and Place Committee meeting on 11 September 2018 having considered the Revenue Budget Monitoring Report 2018/19 and related in-year savings proposals.

1.2. The Committee have requested that the Interim Director of Finance provide a Revenue Budget Monitoring report or update at each of the Committee's meetings until the end of the current financial year.

2. Recommendations and comments from the Committee

2.1. Following public representation and lengthy debate, significant concern was raised regarding the proposal to reduce funding for Citizen's Advice Bureau (CAB) services. It was widely recognised that the CAB provides a wide range of valuable services and that the relatively small investment by SCC enables huge benefits. Concern was raised that reducing funding now would create additional issues and expense in the future.

1. **Proposed by Cllr L Leyshon, seconded by Cllr John Hunt**

   In relation to ASC 03, the Scrutiny for Policies and Place Committee recommends that the Cabinet considers the possibility of a stepped decrease in funding for CAB services to allow the opportunity for the CAB to undertake their own transformation.

2.2. Public representation and significant concern was also raised regarding the proposal to re-model support for Young Carers. Members were concerned that this would represent a false economy and could result in more young people being referred to Children's Services. Members also questioned the accuracy of the budget for this service.

2. Proposed by Cllr M Lewis, seconded by Cllr John Hunt

With regard to CAF 20, The Scrutiny for Policies and Place Committee recommends that the Cabinet reconsiders the Young Carers element of the savings proposals until a robust business case has been developed and put forward.

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3. Consultation

3.1. The Committee Chair invited all Councillors to attend this Scrutiny meeting, specifically the members of the Adults and Health and Children and Families Scrutiny Committees, who were provided with specific briefings by the relevant Cabinet Member and Lead Commissioner and the Interim Director of Finance on 6th September. All Members present were provided with the opportunity to fully contribute at the meeting.

4. Implications

4.1. The Committee carefully considered the covering report and attachments, and asked for further information about the implications at the meeting. For further details of the reports considered by the Committee please contact the author of this report.

5. Background papers

5.1. Further information about the Committee including the agendas and reports from 11th September 2018 meeting are available via the Council's website. http://democracy.somerset.gov.uk/mgCommitteeDetails.aspx?ID=184

Note: For sight of individual background papers please contact the report author.