



Cambridgeshire
County Council

Environment and Transport

Highway Maintenance Network Management Policies and Standards

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OPERATIONAL POLICY, GOOD PRACTICE AND SPECIFICATION FOR NETWORK MANAGEMENT

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OPERATIONAL POLICY AND STANDARDS, GOOD PRACTICE AND SPECIFICATION FOR NETWORK MANAGEMENT

Introduction

- 1.1 This Document sets out the Operational Policies and Standards of Cambridgeshire County Council for the management of its highway network and its highway assets. It defines good practice at present budget levels, together with formal specifications for the management of the highway network.
- 1.2 It sets the policies and strategies for the repair, maintenance and operation of the highway network in Cambridgeshire and provides a reference for Officers and Members in setting out good practice within the County that has been approved by the Environment and Transport Cabinet.
- 1.3 This document reflects Cambridgeshire County Councils implementation of the recommendations of the Code of Practice for Maintenance Management, July 2001, which places a greater emphasis on the need to focus on the needs of the user and the community, and is consistent with the wider principals of integrated transport, sustainability and Best Value.
- 1.4 This document was previously published, up until 2002, as part of the Network Management Plan and has been published since then on the County Council web site.

SPECIFICATION AND CODE OF GOOD PRACTICE OPERATIONAL POLICY AND STANDARDS

- 2.1 The County Council's policy for resource allocation is intended to restrict minor repairs and cyclic work in order to maximise the funds available for more major reconstruction and resurfacing schemes. In setting this policy the County Council is mindful of its primary objective, which is to maintain its highways in a safe condition at the lowest possible cost, whilst at the same time carrying out appropriate maintenance work which will enable all publicly maintained highways to withstand the increased usage to which they are being subjected.
- 2.2 Funds for minor, cyclic and unforeseen work are allocated on a rate per km basis. Table 2.1 indicates the split in kilometres per Division / Agent across the A class, B class, C class and unclassified road network.

Table 2.1

Road Class / Length (km)					
Division/Agent	A Roads	B Roads	C Roads	U Roads	Totals
Cambridge City	46.60	4.74	15.75	229.29	296.38
Huntingdon Agency	7.92	26.48	0.00	232.61	267.01
East Division	117.70	102.33	217.23	400.22	837.48
Fenland Division	59.04	126.23	205.53	401.83	792.63
South Division	122.20	90.47	319.55	608.80	1141.02
West Division	51.64	205.23	302.68	447.87	1007.42
Totals	405.10	555.48	1060.74	2320.62	4341.94

- 2.3 The financial allocations received from Government for Resurfacing and Reconstruction (R&R) schemes are based upon the *classification* of the road. (A class, B class, C class and Unclassified). For this reason all reference to Resurfacing and Reconstruction scheme *submission / allocation* within this document will refer to the road *classification*, whereas all other items, i.e. inspections, maintenance standards and R&R rankings will refer to the *hierarchy categories* from the Code of Practice for Maintenance Management (CoPMM).
- 2.4 The Code of Practice for Maintenance Management (CoPMM) categorises roads into separate Carriageway, Footway and Cycleway 'Maintenance Hierarchies'. These reflect greater the actual traffic / pedestrian / cycle usage and the role of the particular section of highway within the network. A more detailed definition for the difference types of carriageway / footway / cycleway to be included within each of these categories can be found in the CoPMM. The lengths of carriageway, footway and cycleway that Cambridgeshire County

Council maintain, within each of these categories is shown below in Table 2.2, Table 2.3 and Table 2.4.

Table 2.2 – Carriageway Hierarchy

Category	Hierarchy	Length in (km)
2	Strategic (Primary) Route	173.22
3a	Main Distributor Roads	299.94
3b	Secondary Distributor Roads	320.15
4a	Link Roads	849.48
4b	Local Access Roads	2699.35
Total		4342.14

Table 2.3 – Footway Hierarchy

Category	Hierarchy	Length in (km)
1a	Prestige Walking Zone	12.70
1	Primary Walking Routes	25.61
2	Secondary Walking Routes	63.64
3	Link Footways	**
4	Local Access Footways	**
Total		**

(** data to be collected by 2007)

Table 2.4 – Cycleway Hierarchy

Category	Hierarchy	Length in (km)
A	Part of Carriageway	99.70
B	Remote from Carriageway	159.66
C	Cycle Trails	**
Total		**

(** data to be collected by 2007)

Resurfacing and Reconstruction – Submission

- 2.5 Routine Maintenance up to a maximum value of £2,000 per scheme may be authorised by Highway Supervisors. An annual budget of £500,000 for maintenance and minor improvement schemes, each with a value of between £2,000 and £5,000 can be carried out at the discretion of the Divisional Maintenance Engineers or Agency Engineers and are funded from the R&R allocation. These schemes can be allocated throughout the financial year, provided the schemes are supported by both the Parish Council and a County Councillor.
- 2.6 Funding for schemes to a value of over £5,000 is allocated following a priority rating of all of the submitted schemes countywide. Schemes are submitted for assessment for inclusion in the annual R&R Programme. Principal (A

classification road) schemes should be submitted by 15th May for assessment prior to the submission of the new LTP Annual Monitoring Report to the Department of Transport by the end of July. These schemes will take into account the results of deflectograph, SCRIM, and forthcoming TTS surveys. These machine surveys measure road strength, skidding resistance, surface texture, longitudinal and transverse alignment, rut depth and cracking. All other schemes should be submitted by 15 September for inspection in October / November. All these other schemes shall take into account the results of Coarse Visual Inspections (CVI) or Detailed Visual Inspections (DVI) as appropriate.

Resurfacing and Reconstruction – Design, Prioritisation & Ranking

- 2.7 Preparation of R&R schemes should seek to improve conditions for all road users, particularly pedestrians, cyclists and public transport users. Where the design of R&R schemes reposition the centre line of the road, adjust the width of footways or alter the alignment of road junctions, the designer is required to arrange for a Safety Audit to be undertaken at an early stage. The results of the audit shall be incorporated in the new layout.
- 2.8 All R&R schemes are prioritised following a visual inspection, on a countywide basis. Condition data is then applied to the areas of carriageway / footway / cycleway covered by the bid and the schemes are ranked according to the worst condition, taking into account the results of deflectograph / SCRIM / CVI / DVI and shortly TTS surveys. An enhancement factor is applied to the R&R scheme bid based upon the *maintenance hierarchy* and not the *classification*. This factor is applied to these schemes to indicate the greater importance of the higher categories of highway, as shown in the following three tables.

Table 2.4 – Carriageway R&R Schemes

<i>Carriageway Category</i>	<i>Resurfacing and Reconstruction Factor</i>
Primary Roads	3.0
Main Distributor Roads	3.0
Secondary Distributor Roads	2.5
Link Roads	2.2
Local Access Roads	1.8

Table 2.5 – Footway R&R Schemes

<i>Footway Category</i>	<i>Resurfacing and Reconstruction Factor</i>
Prestige Walking Zone	3.0
Primary Walking Route	3.0
Secondary Walking Route	2.5
Link Footway	2.0
Local Access Footway	1.0

Table 2.6 – Cycleway R&R Schemes

Cycleway Category	Resurfacing and Reconstruction Factor
Part of Carriageway	Same as Carriageway
Remote from Carriageway	2.0
Cycle Trails	1.0

- 2.9 Quality of materials and standards of workmanship should conform to the accepted standards laid down in the appropriate British / European Standards, the Department of Transport's Specification for Road and Bridge Works and the County Council's tender documents. Full use should be made of Atkins Highways and Transportation, the Engineering Services Consultant, in checking that materials conform to the current Specifications.

Reconstruction and Resurfacing – Treatment Techniques

- 2.10 The following tables show the techniques used in the treatment of carriageways, footways and cycleways to prolong their life.

Table 2.7

Carriageways	Cost	Life
Reconstruction This the worst case, where the road and its whole construction has deteriorated to a point where the whole road has to be excavated to a depth of up to 1m and new layers of hardcore and asphalt are laid.	£125/sq m	20 years
Full Depth Recycling This is where a road has become so badly deformed but without serious cracking and there is the possibility to restore its shape by recycling the road materials, and applying a new surface.	£20/sq m	15 years
Resurfacing – Hot Rolled Asphalt (HRA) Overlay Usually 50mm thick and laid over the existing surface course.	£8.10/sq m	15 years
Resurfacing – Hot Rolled Asphalt Inlay As above but after the old surface course has been planed off. Its life expectancy may be reduced in urban areas because of public utility activities.	£9.25/sq m	10 years
Resurfacing – Stone Mastic Asphalt (SMA) New surface course product that can be laid between 25 and 50 mm thick. Its life expectancy has yet to be confirmed, but has less tyre noise than hot rolled asphalt.	£6.00- £7.25/sq m	15 years

CONT.	Cost	Life
Resurfacing – High Stone Content Asphalt (MTA) Asphalt that does not require chippings to be incorporated to give skidding resistance. Thickness 40 to 50mm.	£5.75/sq m	10 years
Resurfacing – Micro Asphalt New breed to generic surface courses, being a mixture of fine aggregates and bitumen emulsion that can be laid between 10mm and 15mm thick. Seals existing wearing course but does not add any strength to the road.	£3.00- £4.25/sq m	7 years
Resurfacing – Surface Dressing Bitumen layer and chipping layer applied to seal the road surface and give skidding resistance.	£2.00/sq m	7 years.

Table 2.8

Footways / Cycleways	Cost	Life
Resurfacing Traditional process soft excavation and 2 layers of resurfacing with dense bitumen macadam. Thickness generally 60 mm.	£11.00/sq m	15 years
Recycling Like the carriageway recycling but only the top layers of the footway.	£13.00/sq m	25 years
Overlay Use of single layer of dense bitumen macadam over the existing surface course.	£4.25/sq m	10 years
Surface Dressing As surface dressing for carriageways, but not suitable for urban footways or cycleways.	£1.75/sq m	10 years
Micro Asphalt / Slurry Seal Like carriageway micro asphalt, with a fine grading and vary suitable for urban areas.	£2.00/sq m	10 years

- 2.11 All materials to be used in permanent surface patching should be the same as the surrounding surface, although it is not always possible to match the colour. All materials are to be used to the depths specified in the relevant British / European Standard.

Dangerous Conditions

2.12 Dangerous conditions in carriageways, footways and cycleways should be dealt with immediately using the funds provided to achieve safe conditions with the minimum of maintenance. Potholes are considered dangerous when they meet the following criteria:

- **Primary and Main Distributor Roads** – vertically sided, 20mm or deeper, with an area of greater than 0.1 sq m and are sufficiently far from the edge to be surrounded by bituminous material
- **Secondary Distributor, Link and Local Access Roads** – vertically sided, 50mm or deeper, with an area of greater than 0.1 sq m and are sufficiently far from the edge to be surrounded by bituminous material
- **All Footways / Cycleways** – vertically sided, more than 20mm deep and have an area of 0.1 sq m and are sufficiently far from the edge to be surrounded by bituminous material.

Dangerous potholes complying with the dimensions specified above are to be repaired within 24 hours. On all footways, dangerously rocking slabs and trips over 20mm high should be repaired within 24 hours of report. Urgent repairs to defective kerbs should be undertaken for safety reasons only. Other conditions that occur should be judged in accordance with good practice and specification requirements.

2.13 Where a cluster of dangerous potholes appear in a carriageway, footway or cycleway and an emergency patch will cost the same or less than treating them as individual potholes then the option of an emergency patch shall be considered.

2.14 Where dangerous potholes require treatment and within the same carriageway, footway or cycleway there are potholes of depths greater than 15mm, then those identified as such should be treated at the same time to gain the benefit of reduced costs for increased quantities.

Slabbed Footways

2.15 Slabbed footways will only be maintained in urban central areas, shopping streets and where the construction suits the environment of conservation or other areas, following the specific agreement of a Network Manager. Other slabbed footways will be replaced with macadam unless it can be demonstrated that the costs of such action will exceed that of the minor relaying of slabs or the District Council funds the difference between macadam and slabs again with the authorisation of the Network Manager

New Kerbing and Channels

2.16 Small lengths of new kerbing may be authorised by the Network Managers and may be provided in exceptional circumstances to;

- Protect pedestrians

- Assist with drainage
 - Support the edge of the carriageway
- 2.17 New kerbs should be half battered or bullnosed, and have 115mm upstand in urban areas and 125mm upstand in rural areas, dropped kerbs should be provided for access and the use of prams and wheelchairs at all junctions.
- 2.18 Channel blocks should only be used to facilitate drainage on urban roads where necessary.

Surface Dressing

- 2.19 Surface dressing is applied when it is necessary to seal porous surfaces, bind surfaces against deterioration and to restore skidding resistance on all roads in rural and urban areas as appropriate.
- 2.20 All other roads will be maintained to the highest possible standard within cash limits. Where consideration is being given to the use of surface dressing on busy roads in urban areas, a high quality binder must be specified or consideration given to thin coat surfacing or carriageway slurry seals, particularly where parked vehicles prevent the embedment of the stone chips by passing traffic. Any decision must be confirmed with the Network Managers.

Procedure for Publicising Maintenance and Traffic Schemes

- 2.21 Advise the Local Member and Parish Council by letter when scheme funding allocation is confirmed. If the works involve road closure and a diversionary route through another Parish, advise the appropriate Parish Council and Local Member a minimum of 14 days before commencement.
- 2.22 It is important to get confirmation from the contractor of the agreed start date and for more complex schemes an agreed method statement of how the works will be undertaken.
- 2.23 Once the details have been agreed then notify the frontagers by letter of the proposed scheme a minimum of 14 days before the start date with a copy to the Local Member and Parish Council. Where the works will result in a significant and permanent change of appearance to the highway, frontagers, Members and the Local District / Parish Council must be given an opportunity to seek further details of the proposal if they wish. The minimum notice period under these circumstances is extended to 28 days. The following information is deemed a minimum in the letter.
- Brief description of works emphasising any changes to appearance of the streetscape, (e.g. removal of grass verges or significant change in materials used)
 - Planned start date / Contract period and/or planned Completion date
 - Name and address of contractor

- Who is supervising the works with address and telephone number to contact should a query arise

2.24 On a sample of schemes, on completion of the work, the Project Engineer will send out a brief questionnaire to the Member, Parish Council and those residents affected by the works. The feedback from the questionnaire will be reported to the Highways & Engineering Management Team on a quarterly basis and lessons learned implemented throughout the Highways Division.

SPECIFICATION AND CODE OF GOOD PRACTICE PRIMARY, MAIN DISTRIBUTOR, SECONDARY DISTRIBUTOR, LINK AND LOCAL ACCESS ROADS

Carriageway Inspections

3.1 The Safety Inspections on all roads shall be carried out as shown in Table 3.1.

Table 3.1

Category	Frequency
Primary Roads	1 month
Main Distributor Roads	1 month
Secondary Distributor Roads	1 month
Link Roads	3 months
Local Access Roads	Annual

3.2 The following roads are classified as Primary Roads

- **A1101** from Lincolnshire boundary to Norfolk boundary
- **A1303** from A428 to M11, junction 13
- **A605** from A1(M) to Northamptonshire boundary
- **A10, A141, A142, A505**

The following roads are classified as Main Distributor Roads

- **A1101** Shippea Hill to B1411 junction
- **A1303** from M11, junction 13 to A1304
- **A605** from Peterborough boundary to A141
- **A15** from A1(M) to Peterborough boundary
- **A603, A1096, A1123, A1198, A1301, A1304, A1307, A1421, A6118**
- **A1309, A1134** (these two routes and sections of A1303, A603, A1304, A1307, and A1301 are inspected by Cambridge City Council as part of the Agency Agreement)
- **B1040** from A141 to B1095
- **B1050** from A14 to A1123
- **B1042, B1049, B1095, B1381**

Details and locations of the above roads and of the Secondary Distributors, Link and Local Access roads are available from the Map Tree within the corporate GIS system, MapInfo.

3.3 Safety Inspections are carried out at a frequency as set out above to identify and deal with defects that require prompt attention because they represent and immediate or imminent hazard or because there is a risk of short-term structural deterioration on the carriageway. The inspection includes street furniture, trees, signs and other assets. These inspections are carried out by a two-man

crew from a moving vehicle travelling in one direction, with an examination by foot as necessary at the discretion of the inspector.

3.4 During Safety Inspections for Carriageways, the following defects shall be identified and temporary repairs carried out within 24 hours:

- **Primary and Main Distributor Roads** - Potholes vertically sided, 20mm or deeper, with an area of greater than 0.1 sq m and are sufficiently far from the edge to be surrounded by bituminous material
- **Secondary Distributor, Link and Local Access Roads** - Potholes vertically sided, 50mm or deeper, with an area of greater than 0.1 sq m and are sufficiently far from the edge to be surrounded by bituminous material

All roads -

- Missing, damaged or defective ironwork
- Kerbing, edging and channel defects
- Excessive standing water and water discharging onto/or overflowing across the highway
- Missing or damaged safety fencing and other barriers
- Debris or spillage in traffic lanes or any part of the running surface
- Damaged, defective, displaced or missing traffic signs, signals or lighting columns
- Dirty or otherwise obscured traffic signals and signs
- Trees, shrubs and hedges, which by virtue of their position or condition constitute a hazard
- Displaced road studs lying in the road
- Blocked gully, piped grip or grating, obstructed channels, grips or slot drains

During Safety Inspections for Carriageways, the following defects shall be identified and reported within 24 hours:

- Overhead wires in a dangerous condition

During Safety Inspections for Carriageways, the following defects shall be identified and permanent repairs carried out within 7 days:

- Edge overrun 75mm or deeper that is in excess of 150, wide and over 3m in length

Carriageway Repairs/Resurfacing and Reconstruction Schemes

Major Deterioration

- 3.5 Where there is significant damage such as cracking, coarse crazing, loss of aggregate causing fretting and serious permeability problems, the areas and treatments detailed in Table 3.2 are given as a guide only, as to the approximate area of road surface in a poor condition, with an appropriate treatment that you might expect to be applied. Consideration should be given to the submission of an R&R scheme.

Table 3.2

Damage	Treatment
Up to 10% of surface damaged	Patch with consideration of surface dressing
10-25% of surface damage	Patch and overlay or resurface
>25% of surface damage	Major strengthening or reconstruction

Minor Deterioration and Rutting

- 3.6 This comprises of rutting, potholes, fine crazing, permeable surfaces, fretting and loss of chippings. The appropriate treatment in relation to the rut depth that you might expect to be applied is shown below in Table 3.3. Consideration should be given to the submission of an R&R scheme.

Table 3.3

Rut Depth	Rural	Urban
<10mm	Surface Dress	Plane and inlay HRA/Micro asphalt
10-15mm	Thin Surface overlay	Plane and inlay HRA/Micro asphalt
>20mm	Overlay or Plane and inlay HRA	Plane and inlay HRA/SMA

- 3.7 Carriageways with rutting greater than 20mm deep should be investigated to determine whether the rutting is caused by a deep-seated structural failure.
- 3.8 Failed patches, reinstatements and other areas of visible deterioration that will eventually form potholes should be patched within three month of notification.

Surface Dressing

- 3.9 Any proposed surface dressing scheme for a Principal route (A classification) should be considered as an R&R scheme bid.

- 3.10 Surface dressing on Primary and Main Distributor Roads should only employ premium binders with high quality chippings.
- 3.11 For Secondary Distributor, Local and Link Access Roads, appropriate grades of bitumen or tar/bitumen binders should be used with granite aggregate. Gravel aggregate may also be considered for use on minor roads where an approved source is available, however, gravel is more susceptible to failure. Premium quality binders should be used on busier roads in towns and villages or where the nominal aggregate size exceeds 10mm.
- 3.12 The surface dressing work is ordered through the term maintenance contract. Coverage of binders and size of aggregate should be selected by reference to Road Note 39 and agreed with the contractor before work commences.
- 3.13 Atkins Highways and Transportation should be informed of deliveries of aggregate and will carry out checks to ensure they are in compliance with the specification.
- 3.14 Atkins Highways and Transportation shall arrange for the testing of samples of binder regularly and retain them for twelve months. In the event of failure the appropriate sample should be tested to check that the specification was achieved.
- 3.15 The contract specification should be followed closely, in particular the section dealing with the performance of the binder spreading machine and the checking of this performance.
- 3.16 Special binders available from specialist companies may be used after approval by the Network Managers.
- 3.17 Micro asphalts should be considered where appropriate on urban roads where surface dressing is not deemed appropriate and when resources permit.

Edge Deterioration

- 3.18 Haunching is rarely needed on Primary and Main Distributor Roads in Cambridgeshire because they are of adequate width.
- 3.19 For Secondary Distributor, Link and Local Access Roads, severe edge deterioration and over running should be treated by either haunch construction or kerbing. This work will normally be funded following the submission of an R&R scheme.
- 3.20 Where a haunching scheme is approved, the Materials Engineer for Atkins Highways and Transportation shall be consulted on the specification to be used for the repair.
- 3.21 On all roads, where vehicles overrun the verge causing ruts deeper than 75mm and 150mm wide over a length of more than 3m adjacent to the road surface, these are to be filled with road planings or other granular material within 7 days of being reported. Where this becomes a persistent problem, consideration should be given to kerbing or localised widening.

Adverse Camber / Crossfall

- 3.22 Where road safety is prejudiced, it may be necessary to put forward an R&R bid to shape and resurface the section of the carriageway.
- 3.23 Where the crossfall is insufficient, causing water to remain on the carriageway, it may be necessary to put for an R&R bid to shape and resurface the section of carriageway.

Kerbs and Channel Blocks

- 3.24 Other than loss of upstand, deterioration takes the form of broken, badly aligned, badly tilted, generally disintegrated kerbs and sunken channel blocks.
- 3.25 Of these, it is only necessary to consider intervention where loss of upstand is adjacent to footways. Other faults are dealt with as isolated instances where a danger to the public is apparent or incorporated with other works to the carriageway or footway.
- 3.26 Investigations should be carried out when the lengths of kerbing is showing an upstand that meets the criteria in Table 3.4

Table 3.4

Upstand	0mm	0-30mm	30-70mm	>70mm
Length of defective kerb within scheme	30%	60%	100%	No action

- 3.27 Where a kerblines meets the above criteria it may be necessary to put forward an R&R bid.
- 3.28 'Conservation' kerbs or similar may be used with the consent of the Network Managers in environmentally sensitive areas.
- 3.29 Granite setts will not be ordered or reused without the approval of the Network Managers providing him with details of the proposed design and construction and will only be considered for limited use within environmentally sensitive areas.
- 3.30 Channel blocks should be used only where the gradient is less than 1 in 150.

Skidding Resistance

- 3.31 Warning levels of skidding resistance below which investigation is required are shown in the attached table reproduced from the LAA Code and Practice. The following table is based on average sites but refer also to HD 28/94, Skidding Resistance Amendment No.1, 7.3.1 but adapted to incorporate local roads.

- 3.32 The existing national skidding resistance policy is presently being reviewed, and as such Cambridgeshire has asked its Engineering Consultant to assist in the development of a new County Policy aligned to the new national standard.
- 3.33 The Accident Investigation Team should be consulted at high risk sites where HRA with high PSV stone or calcine bauxite anti-skid surfacing may be needed.

Investigatory Skidding Resistance Levels for Difference Categories of Site on Primary and Main Distributor Roads

Site Category	Site Definition (Road Hierarchy)	(i) Investigatory Level MSSC* 50 (at 50km/h) or equivalent (ii) Corresponding risk rating							
		0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
		1	2	3	4	5	6	7	8
A1	Straight (Category 3) and Low Risk (Category 4)	■							
A2	Motorway (Mainline) (Category 1)		■						
B	Dual Carriageway (All Purpose) (Category 2) – Non Event Sections **		■						
C	Single Carriageway – Non Event Sections (Category 2)		■	■					
D	Dual Carriageway (All Purpose) (Category 2) – Minor Junctions			■					
E	Single Carriageway – Minor Junctions				■				
F	Approaches to and across Major Junctions (All Limbs)				■				
G1	Gradient 5% to 10%, longer than 50m Dual (Downhill Only) Single (Uphill and Downhill)				■				
G2	Gradient Steeper 10%, longer than 50m Dual (Downhill Only) Single (Uphill and Downhill)					■			
H1	Bend (Not Subject to 40mph or lower speed limit) Radius <250m				■				
J	Approach to roundabout						■		
K	Approach to Traffic Signals, Pedestrian Crossings, Railway Level Crossings or similar						■		

Site Category	Site Definition (Road Hierarchy)	(i) Investigatory Level MSSC* 50 (at 50km/h) or equivalent (ii) Corresponding risk rating							
		0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.5
		1	2	3	4	5	6	7	8
H2	Bend (Not Subject to 40mph or lower speed limit) Radius <100m					■			
L	Roundabout				■				

■ Investigatory Levels HD 28/94

■ LAAs additional levels

* Mean Summer Scrim Coefficient

** Non-event sections do not have features that would otherwise lead to a different classification

Ironwork in Carriageway

3.34 When resurfacing is to be undertaken, all ironwork should be raised before the new surface is laid.

3.35 Manhole covers and boxes in the carriageway should be installed to a tolerance of + or – 5mm to surrounding surface.

3.36 Gully grates are to be installed level or not exceeding 10mm or lower than carriageway surface.

3.37 Reset ironwork when level difference exceeds 20mm.

Carriageway Markings / Road Studs

3.38 All carriageway markings will be maintained to be clearly visible day and night
On *Primary and Main Distributor Roads* all new white lines and replacement white lines should have a retro reflectivity value of 200mcd. On *Secondary Distributor, Link and Local Access Roads* new white lines and replacement white lines should have a retro reflectivity value of 150mcd. Edge lining will only be provided where routes run alongside deep ditches and drains or where there is a record of injury accidents.

3.39 On *Primary and Main Distributor Roads* road markings shall be renewed when 30% of their area becomes ineffective.

3.40 On *Secondary Distributor, Link and Local Access Roads* road markings shall be renewed when less than 70% of the original material remains.

3.41 On *Secondary Distributor, Link and Local Access Roads*, new studs will not be provided but existing road studs will be maintained to the above standards and replaced following R&R schemes.

- 3.42 Road studs in mandatory markings should be replaced when 25% or more are missing on straight roads and 10% or more on bends. Work should be carried out within three months of report and should be replaced within seven days of report.
- 3.43 During resurfacing, road markings erased boards are to be displayed until the full markings have been replaced. Stop and give way markings are to be replaced within 7 days, other mandatory lines to be marked or replaced within 14 days of completion of surfacing. Other markings and road studs are to be replaced within 28 days of completion of surfacing.
- 3.44 *Primary and Main Distributor Roads* are to be driven at night during the autumn period and defective or missing road studs are to be replaced as part of an annual programme. At least 90% of road studs are to be reflective prior to the winter period.

SPECIFICATION AND CODE OF GOOD PRACTICE FOOTWAYS AND CYCLEWAYS

Footway Inspections

4.1 The safety inspections on footways shall be carried out as shown in Table 5.1

Table 5.1

Category	Frequency
Prestige Area	1 month
Primary Walking Route	1 month
Secondary Walking Route	3 months
Link Footway	6 months
Local Access Footway	Annual

4.2 Safety Inspections are carried out at frequencies as set out above to identify and deal with defects that require prompt attention because they represent an immediate or imminent hazard or because there is a risk of short-term structural deterioration of the footway. The inspection includes street furniture, trees, signs and other assets. These inspections are carried out as follows

- **Prestige Area / Primary Walking Route** – by a single-man on foot, travelling in one direction
- **Secondary Walking Route / Link Footways / Local Access Footways** – by a two-man crew from a moving vehicle travelling in one direction, with an examination by foot as necessary at the discretion of the inspector, detached footways will be inspected on foot

4.3 During Safety Inspections for Footways, the following defects shall be identified and temporary repairs carried out within 24 hours.

- Dangerously rocking slabs, projections or trips greater than 20mm associated with slabs, ironwork or any sort of kerb
- Isolated potholes away from the edge of the footway more than 25mm deep and have an area of 0.1 sq m or more
- Cracks in footways greater than 25mm wide
- Kerbing, edging or channel defects
- Missing, damaged or defective ironwork
- Traffic signs / signals in a dangerous condition
- Street lighting columns with the door removed

- Standing water over the full width of the footway or of a depth that constitutes a danger
- Pedestrian rails, barriers or fences damaged or that constitute a danger

During safety inspections for footways, the following defects shall be identified and reported within 24 hours

- Overhead wires in a dangerous condition

Footway Repairs / Resurfacing and Reconstruction Schemes

- 4.4 Where the surfaces of footways exceed the following conditions, and the total cost of repair is less than £5,000, repairs by resurfacing may be made in accordance with clause 2.5, Where the cost is more than £5,000 consideration should be made to the submission of an R&R scheme.

Types of deterioration

- Trips between 13mm and 20mm high
- Rocking slabs (non dangerous)
- Cracks greater than 20mm wide and 6mm deep
- Depressions over 25mm under 2m straight edge
- Extensively crazed surface

- 4.5 Resurfacing should be carried out using the following

- **Surface Course** – ‘hot laid’ asphalt/SMA or 6mm nominal size bitumen macadam
- **Binder course** – 13mm nominal size bitumen macadam
- **Micro Asphalt** – will be used where resources permit preventative maintenance when footways with bituminous surfaces begin to craze but do not require shaping
- **Surface Dressing** – only will be used on rural footways and will consist of 6mm gravel, slag or granite chippings spread on bituminous emulsion

- 4.6 Pedestrian crossings will be provided in conjunction with planned footway maintenance to help wheelchair users and people with pushchairs. The dropped kerbs shall be set flush with the carriageway channel level, with an allowable tolerance of + or – 3mm.

- 4.7 Where suggestions are made by an individual or Town/Parish Council for the installation of new pedestrian crossings, the Divisional Maintenance Engineer or Agency Engineer will meet members of any disabled group in the area. They

will look at the problem sites, identify precisely what is needed and the disabled group will be encouraged to prioritise their suggestions. Funds will be allocated from the footway maintenance budget over the following year or two starting at the locations that will bring most benefit. This will adapt the highway where the needs of the disabled can be demonstrated, subject to resource constraints.

- 4.8 Where footway repairs are carried out adjacent to a zebra or pelican crossing, textured slabs are to be provided to help the blind, after consultation with the Road Safety and Signals Manager.

Cycleway Inspections

- 5.1 The safety inspections on footways shall be carried out as shown in Table 6.1

Table 6.1

Category	Frequency
Part of Carriageway	As carriageway hierarchy
Remote from Carriageway	6 months
Cycle Trails	Annual

- 5.2 Safety Inspections are carried out at frequencies as set out above to identify and deal with defects that require prompt attention because they represent an immediate or imminent hazard or because there is a risk of short-term structural deterioration of the cycleway. The inspection includes street furniture, trees, signs and other assets. These inspections are carried out as follows

- **Part of Carriageway** – by a two-man crew from a moving vehicle travelling in one direction, with an examination by foot as necessary at the discretion of the inspector (as carriageway)
- **Remote from Carriageway** – by a single-man on foot or cycle, travelling in one direction
- **Cycle Trail** – by a single-man on foot or cycle, travelling in one direction

- 5.3 During Safety Inspections for Cycleways, the following defects shall be identified and temporary repairs carried out within 24 hours.

- Dangerously rocking slabs, projections or trips greater than 20mm associated with slabs, ironwork or any sort of kerb
- Isolated potholes away from the edge of the cycleway more than 25mm deep and have an area of 0.1 sq m or more
- Cracks in cycleways greater than 25mm wide
- Kerbing, edging or channel defects
- Missing, damaged or defective ironwork

- Traffic signs / signals in a dangerous condition
- Street lighting columns with the door removed
- Standing water over the full width of the cycleway or of a depth that constitutes a danger
- Pedestrian rails, barriers or fences damaged or that constitute a danger

During safety inspections for cycleways, the following defects shall be identified and reported within 24 hours

- Overhead wires in a dangerous condition

Cycleway Repairs / Resurfacing and Reconstruction Schemes

- 5.4 Where the surfaces of cycleways exceed the following conditions, and the total cost of repair is less than £5,000, repairs by resurfacing may be made in accordance with clause 2.5, Where the cost is more than £5,000 consideration should be made to the submission of an R&R scheme.

Types of deterioration

- Trips between 13mm and 20mm high
- Rocking slabs (non dangerous)
- Cracks greater than 20mm wide and 6mm deep
- Depressions over 25mm under 2m straight edge
- Extensively crazed surface

- 5.5 Resurfacing should be carried out using the following

- **Surface Course** – ‘hot laid’ asphalt/SMA or 6mm nominal size bitumen macadam
- **Binder course** – 13mm nominal size bitumen macadam
- **Micro Asphalt** – will be used where resources permit preventative maintenance when footways with bituminous surfaces begin to craze but do not require shaping

- 5.6 Cycleway crossings will be provided at all junctions. Where a cycleway is interrupted by pedestrian or vehicular crossings, the change in level shall be achieved over two kerbs, using standard precast concrete kerbs and laid to suit in place of the standard one taper kerb. The dropped kerb shall be set flush with the carriageway channel level, with an allowable tolerance of + or – 3mm.

- 5.7 where a cycle lane is marked along an existing carriageway and pothole of 20mm depth or greater shall be reinstated within 24hours.
- 5.8 Road gully gratings shall be the flat type and be laid within 10mm of the road surface. Where gratings levels greater than 10mm exist, a programme of replacement will be effected.
- 5.9 When designing new cycle lanes, due regard to the road surface condition shall be taken and if the existing carriageway where the cycleway is to be positioned is poor, while the rest of the road is good, inlaying the cycleway with asphalt should be considered as part of the scheme. A check should also be made on the type position, level and condition of any ironwork within the cycle lane.
- 5.10 The surface of a cycleway 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 cycleway (e.g. alongside the carriageway), hot-laid asphalt should be used between edging strips. Where vehicular access is not possible, textured and smooth bituminous material should be used. It is particularly important that any weeds are killed before resurfacing a cycleway. This justifies the exceptional use of a residual weedkiller applied by an appropriately qualified contractor.
- 5.11 Drainage should prevent any significant standing water or the accumulation of grit or silt on the cycleway. 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.
- 5.12 It is the responsibility of the adjacent landowner to trim hedges from the edge of the cycleway once each year. Where the natural hedge line is within half a metre of the edge of the cycleway a second trim will be required and this cut can be allocated from the highways maintenance budget. Arrangements should be made for the District Council's contractor to sweep the cycleway after these operations (this is particularly important for thorn hedges) to a maximum of two sweeps. These two sweeps will be funded by the highway authority and may be in addition to sweeping carried out by the District Council to keep the highway clean.
- 5.13 Headroom along cycleways beneath signs and branches should be at least 2.7m.
- 5.14 Before bidding for a resurfacing and reconstruction scheme on a cycleway, the Network Managers and the Traffic Management Engineers will consider the possibility of combining the maintenance work with an improvement. The County Bridge Engineer should be consulted where the cycleway crosses a bridge, as there will be a need to check the height of the parapet.

SPECIFICATION AND CODE OF GOOD PRACTICE GENERAL

Fences and Guardrails

- 6.1 Pedestrian fences and guard rails are used primarily in urban areas at busy junctions and sections of roads to both protect the public and get them to use pedestrian crossings as opposed to crossing busy roads at potentially unsuitable points.
- 6.2 Pedestrian fences and guard rails are inspected during the safety inspections carried out in relation to the hierarchy category they are placed on. Dangerous conditions should be made safe within 24 hours and a permanent repair carried out within 28 days.

Safety Fencing

- 7.1 Safety fencing is used on dual carriageway central reserves and around bridge parapets on high speed roads. Where roads rise above the surrounding ground level by more than 6 metres, safety fencing is used to protect occupants if vehicles were to leave the road.
- 7.2 At a number of locations in the County, safety fencing with wooden posts still exists. These were put in many years ago when there was no defined policy for its use.
- 7.3 Where the surrounding ground is greater than 6m lower or whether there is a fen drain in close proximity, the safety fence will be replaced with steel posts. Where neither of these occurs, after notifying the local Member and Parish Council, the existing safety fence will be removed.
- 7.4 An assessment of existing conditions has been completed and resources allocated from the R&R programme to enable those fences to be replaced over the next 5 years.
- 7.5 Where safety fencing has been damaged, it is to be made safe within 24 hours and a permanent repair carried out within 28 days.
- 7.6 Steel and wire rope safety fences and pedestrian guard rails should be inspected to check the mounting height, surface protective treatment and structural condition at intervals of not greater than 5 years.
- 7.7 Tensioning bolts of tensioned safety fences should be checked and reset to the correct torque every 2 years.

Drainage

- 8.1 All gullies should be emptied once per year unless local conditions necessitate additional attention. No more than 50mm of detritus should remain in the pot before it is recharged with clean water.

- 8.2 Kerb offlets and connections should be jetted at least once per year or as often as is necessary to ensure efficient working.
- 8.3 Highway drainage systems should be maintained to the standards in the following Table 9.1

Table 9.1

Asset	Description	Frequency
Gullies	Emptied	Annual
Catchpits, interceptors, soakaways and manholes	Emptied	Not greater than 5 years
Kerb Offlets	Jetted through to ensure working	Annual
Culverts	Inspected for structural damage and blockages	Not greater than 5 years
Piped Drainage	Checked and flushed	Not greater than 10 years
Grips	Inspected for obstruction by vegetation or damage by traffic/animals	Annual
Ditches	Inspected for obstruction by vegetation	Not greater than 10 years

- 8.4 On new housing estate roads, the installation of soakaways will only be considered as a last resort to drain the roads and footways. Where soakaways are approved, a commuted sum of £5,000 per soakaway is required from the developer in order to fund annual clearance of silt from the chamber and work to the surrounding filter material as it becomes necessary.

Flood Procedures

- 9.1 The Environment Agency Flood Warning notification system has four codes to indicate the level of severity, they are:
- (1) Flood Watch
 - (2) Flood Warning
 - (3) Severe Flood Warning
 - (4) All Clear (used when cancelling (1), (2) and (3) above)

9.2 When a call is received from the Environment Agency it is up to the Officer receiving the call to ask the informer questions with regard to the call (especially for Flood Watch), examples will include:

- What action do you want me to take?
- Is the road flooded/impassable?
- Is the ford impassable?

9.3 It should be noted that the information received from the Environment Agency is based on telemetry and they will not know the precise conditions of roads or fords.

9.4 These policies, priorities and procedures summarise the detailed Winter Service & Adverse Weather Operational Plan that has been prepared for Cambridgeshire.

Construction of Vehicular Crossings

10.1 Section 184 of the Highways Act 1980 gives Highway Authorities the power to serve notice on a person driving across a footway or verge to gain access to private land requiring them to construct a vehicular crossing to the Authority's standards. If they fail to do so the Authority may carry out the work and recover the cost from the frontager.

10.2 The County Council, City Council or the District Council in Agency Areas will take action under S184:

- Where damage is being caused to a footway
- Where a footway is to be resurfaced as part of a maintenance or improvement scheme
- Where a footway is crossed to a new development (normally enforced through a planning condition)

10.3 If an individual requests a vehicular access, subject to planning permission being granted, outside Cambridge City the applicant shall select a contractor from the approved select tender list to undertake to work on their behalf. If they choose to select their own contractor, then a bond of £50/sq m of proposed work will be required and held for one year to cover the costs of any defects that may occur.

10.4 In Cambridge, the City Council's term contractor shall be used. For those selecting to use another contractor a bond of £1,000 shall be deposited with the City Council before work starts.

Encroachment onto Highway Verges

11.1 There are approximately 2,300km of rural roads in the County with therefore nearly 4,600km of verges, liable for encroachment. Much of this has no

hedgerows, and the task of policing encroachment is an impossible one. It would need a small army of staff to achieve it.

- 11.2 When it is alleged that an encroachment has taken place, no action will be taken except to record on a plan the best estimate of the boundary of the highway, send a copy to the land owner and only seek litigation in cases where there is a danger to the travelling public.
- 11.3 Encroachments sometimes occur in urban areas, and where the evidence supporting the line of the highway boundary is more reliable, a firmer line can be adopted.
- 11.4 The policy in urban areas is to seek litigation only:
- Where there is a danger to the travelling public or
 - Where a complaint is received from a Town or Parish Council supported by the County and District Councillor for the area and where there is clear evidence of the line of the highway boundary, likely to result in successful court action.
- 11.5 Any litigation by either the County Council or its Agents should be authorised by the Assistant Director (Highways and Engineering).

Large Stones placed on Highway Verges

- 12.1 Large stones should not be placed on the highway because they constitute an obstruction to the highway. Divisional and Agency staff will take action as follows when stones are placed on the highway and become a problem, or in response to a complaint from a Parish / Town Council or from other elected representatives.
- 1) Large stones may be considered to be anything equal to or larger in size than a standard house brick
 - 2) Large stones deposited on the carriageway or footway (S.148 and S.149 Highway Act 1980) should be regarded as a danger and removed within 24 hours
 - 3) When large stones are deposited on the highway verge, they should be inspected and suitable records and photographic evidence should be taken. The owner should be contacted as soon as possible, informed of the problem and be requested to remove the stones from the highway verge
 - 4) Where the problem is deemed by the supervisor to be a danger the stones should be removed without further notice and stored for not less than four weeks. A charge of £20 per stone should be levied upon collection.

- 5) Where the problem is deemed by the supervisor to be a nuisance rather than a danger, the site shall be re-inspected 28 days after the initial notice date to ensure compliance with the request for removal.
- 6) In extreme cases where stones are repeatedly replaced and the owners continue to be unwilling to move the obstacles, then an application to the local magistrates court will be considered.

Temporary Short Term Road Closures for Street Parties, Processions, Fayres and Similar Events

- 13.1 All enquiries about short term road closures, processions, street parties and street fayres should be directed to the Street Works Co-ordination Manager who will at his discretion and with the agreement of the Network Manager make an Order under Section 21 of the Town Police Clauses Act 1847. This order will be made free of charge when applicants have completed a form and have informed the appropriate people and agencies to the satisfaction of the Network Manager. Written proof that Cambridgeshire Police, Fire and Rescue Service, Ambulance Service, Local County Councillor and the Local Parish Clerk have been informed of the closure at least 14 days prior to the event should accompany any application.
- 13.2 The closure should be advertised where possible in parish magazines and other local circulars, or by letter drop and local notice boards in the community affected by it. Notice of the closure should be placed on site at least 7 days prior to the event. People who live along the alternative route should be informed of the event by the applicant with a letter drop. On making the Order the Street Works Co-ordination Manager will also inform the Police, Fire and Rescue and Ambulance Service, Parish Clerk and County Councillor for that area and will advertise the Order on the internet. Where the closure is on a service bus route then the Public Transport Team of Cambridgeshire County Council should be informed by the applicant at least 14 days prior to the closure and by the Street Works Co-ordination Manager when the Order is made.

Unauthorised Encampments

- 14.1 Where the unauthorised encampment is situated on highway land, the County's Travellers Team will liaise on our behalf. The Assistant Director (Highways and Engineering), Network Managers or Hunts Engineer will be defined as the decision maker.
- 14.2 The decision maker will arrange for a representative to visit the site with the Travellers Team and to request education, health and welfare reports. They will also consult with the Legal Department.
- 14.3 If the decision maker considers that further needs assessments are required he will request reports from Social Services, Health and Education as appropriate. Upon receipt of any Needs Reports the decision maker must decide whether to start possession proceedings and instruct the Legal Department as necessary.

Verge and Village Maintenance

- 15.1 In urban areas grass should be cut five times annually during the period April to September.
- 15.2 In rural areas outside towns and villages, visibility areas and a single swathe will be cut twice each year in April/May and June/July. Rural verges will also receive one full cut starting in August and finishing in October. An additional visibility cut may be authorised during the summer if exceptional growth makes this essential for safety. Protected verges need to be clearly signed to prevent inadvertent cutting with the visibility areas and will receive one full cut as late in the year as possible.

Protected Road Verges

- 16.1 There are over 90 roadside verges in Cambridgeshire that are designated as Protected Road Verges or County Wildlife Sites due to their botanical interest.
- 16.2 Protected Road Verges are only cut once per year during late September, after the flowers have set seed. However, where these verge areas occur at bends and junctions, safety shall always take priority over any delayed cutting.
- 16.3 When roadworks are carried out either within or adjacent to these verges, every effort should be made to comply with the following
- Any bituminous or granular material should not be stored on the verges
 - Salt should not be stored on the verges unless in a container
 - New soil should not be deposited on the verge
 - Any excavation should be planned to be carried out in winter
 - Do not drive or park any vehicles on or over the verge
 - Do not use or store any chemicals on the verge
- 16.4 Additionally, when laying pipes or services in or near protected road verges, every effort should be made to comply with the following
- Make plastic sheeting available onto which to place all excavated material to prevent degradation
 - Keep the width of the trench to an absolute minimum, and minimise the working width
 - Dig the trench as near to the road as possible
 - Keep all top soil and sub soils in separate heaps and replace in the same order that they came out

Ragwort

- 17.1 Where ragwort becomes a problem, there will be two full cuts of the verge by the end of June every year for 5 years. This will inhibit the ragwort from seeding and thus from spreading.

Weed Control and Sweeping

- 18.1 Where the District Council's sweeping contractor is able to provide a competitive price for applying weedkiller when sweeping the road, the work will be commissioned from the District Council. This re-establishes the link between spraying and sweeping and where the County are responsible for weed control and the District Councils who are responsible for keeping the road clean.
- 18.2 In Huntingdonshire, the District Council will be responsible for weed control for the whole of the District by using the sweeping contract to procure the weedkilling work. This approach has shown a saving in the cost of the weedkilling work.
- 18.3 Where no competitive price is available, weed killing will consist of 3 applications, the first will consist of a Diuron/Glyphosate cocktail for front edge and back edge of footway, and Glyphosate only in channels. The second and third applications will consist of glyphosate to all surfaces.

Trees on the Highway

- 19.1 When a request is received by Divisions to fell a tree located on the highway, arboricultural advice shall be taken. If the advice given is that the tree should be felled, (due to disease, unsuitability of location, etc) the adjacent property owner, Parish Council and 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 with a TPO can only be felled or trimmed with the permission of the Arboricultural Officer from the District Council or City Council. If the tree is within a conservation area, then planning permission will be required to fell the tree.
- 19.2 If, following storms, trees become unstable and appear likely to put road users at risk then the procedure 20.1 below will be followed for trees adjacent to the highway and 19.1 above for trees on the highway.
- 19.3 Where trees have been removed it may not be possible to replace the tree at the same position, as the old tree may have been diseased. No replacement tree will be provided from the highway maintenance budget, however the Town or Parish Council may wish to discuss with the Environment Division of the County Council the possibility of providing a replacement as part of the autumn tree planting programme.

Trees off the Highway

- 20.1 Section 154 of the Highways Act 1980 gives competent authorities the power to serve notice on the owners of overhanging trees, hedges or shrubs or the

occupier of the land. Where an overhanging tree, hedge or shrub is identified to obstruct the passage of vehicles or pedestrians or obstructs or interferes with the view of drivers of vehicles, the County Council or Agent Authority will carry out the following procedure:

- 1) In the first instance write to the owner or occupier of the land drawing their attention to the problem of the tree, hedge or shrub and requesting it be cut back. If a tree has a Preservation Order then the Local Planning Authority must be advised at this stage.
- 2) If the letter fails to bring the desired response, make contact with the owner or occupier and arrange a site meeting to explain the problem and required outcome.
- 3) If, after a month, no work is evident write a Recorded Delivery letter notifying the owner or occupier that if they fail to trim back the offending vegetation within 1 month (Highways Act requires 14 days) of the date of the letter, the work will be undertaken by the County Council or Agent authority and the costs will be recovered from the owner or occupier.
- 4) Where pruning action affects the nesting habit of wildlife, a comparison must be made of the likely safety risks against the environmental damage that would ensue. Trimming in these circumstances can only take place following approval by the Network Manager.
- 5) Trees with Tree Preservation Orders (TPO) may require the permission of the Arboricultural Officer of the District or City Council to trim the tree. Any such permission must be gained before work commences.

Winter Maintenance

- 21.1 At present, the County Council arranges for 1900km, or approximately 42% of the County roads (the precautionary network) to be gritted when icy roads are forecast. 10,800 tonnes of salt are held in stockpiles at the start of each winter. The majority of salt is now held in undercover storage facilities.
- 21.2 The operations are controlled at each of the four Divisional Offices. Winter maintenance is also carried out by Cambridge City Council in their Agency Area.
- 21.3 The County Council currently has 35 operational gritting vehicles dedicated solely to winter maintenance, based at 7 depots throughout the County with drivers provided by Ringway Highway Services.
- 21.4 Daily weather forecasts are received from the Meteorological Office via a computerised Ice Prediction System. If conditions are uncertain, staff take portable computers home to obtain an up to the minute forecast during the night.
- 21.5 Conditions can vary across the County. The roads are not automatically salted every time there is a forecast of frost. Account is taken of the road conditions being wet or dry, the likelihood of any precipitation, and if there is any salt

already on the road.

- 21.6 The Network Managers or Divisional Maintenance Engineers issues instructions for a precautionary salting run to commence at a specified start time. This is usually after the evening rush hour but may be in the early morning, to be completed before the morning rush hour, dependent upon weather conditions. Salting must begin within 90 minutes of call out. Salting the County Road Precautionary Network takes three hours to complete.
- 21.7 Salting of Trunk Roads and Motorway is now managed by consultants on behalf of the Highways Agency, using their own contractors, vehicles and depot arrangements.
- 21.8 Where requested, we will provide villages with a supply of salt for use on local problem spots, i.e. a hill on a dangerous bend that suffers badly from ice. This request should be from the District, Town or Parish Council, who must first provide a salt bin at the location.

County Road Precautionary Network

- 22.1 The County Road Precautionary Network aims to include:
- Primary roads and main distributor roads
 - Roads which carry the heaviest early morning traffic
 - Roads that link centres of population
 - Busy roads adjacent to fen drains
 - Roads that link salted routes with those of adjoining counties
- 22.2 Every effort is made to ensure that all road users live within a reasonable distance of a salted road and that main bus routes are included in the precautionary network, but this is not always possible.
- 22.3 The District Auditor has drawn attention to the high proportion of Cambridgeshire's roads that are included in the precautionary network (42% compared with a 31% average of the other counties studied).

County Road Secondary Network

- 23.1 Secondary salting action will take place on a network of secondary carriageway routes and approximately 90km of cycleways and footways in Cambridge and the market towns, when the following conditions occur:
- The 5 day forecast indicates that surface temperatures are unlikely to rise above freezing point over the forecast period
 - Ice is forecast to form on footways and the conditions continue until after midday on any individual day

- 23.2 However, it must be recognised that the 5-day forecast is significantly less accurate than the 24-hour forecast and the possibility of wasting resources is therefore higher.
- 23.3 Footways in town and village centres and other roads are not salted unless the icy conditions persist for several days and the contractor has adequate resources to treat them in addition to keeping the County Road Precautionary Network clear.
- 23.4 When snow is lying, all roads will eventually be cleared but only after the County Road Precautionary Network is passable. At this stage, footways in town and village centres will also be cleared.
- 23.5 These policies, priorities and procedures summarise the detailed Winter Service & Adverse Weather Operational Plan that has been prepared for Cambridgeshire.

ROAD SAFETY

Overall Objectives

- 24.1 The overall objective of the Council's road safety strategy is to achieve targets of no more than 360 deaths and serious injuries and 3000 casualties in total by the year 2010. These targets were developed following the issuing of targets by central government in March 2000.
- 24.2 Following an investigation of child deaths and serious injury, a further target of no more than 24 child deaths or serious injuries by 2010 was adopted in 2001. This represents a reduction of 50% from the 1994-98 average baseline and is in line with the Government's target.
- 24.3 Under a Public Service Agreement, the Council has set more challenging stretch targets to achieve no more than 481 deaths and serious injuries and 3230 casualties in total by 2003/04. This represents an additional saving of 19 deaths or serious injuries (two of whom will be children) and 46 slight injuries. The aim is to change public attitudes to encourage responsible use of the County's roads by all road users especially vehicle drivers.

Partnership Commitment

- 25.1 Work with partners to reduce casualties through the use of safety cameras. Since October 2001 a Cambridgeshire Safety Camera Partnership comprising the County Council, the Police, Peterborough City Council, the Highways Agency, the Magistrates Courts, the Health Authority, the Fire & Rescue Service and the Crown Prosecution Service has been accepted by the government as part of a nation-wide scheme. The most notable factor of this scheme is the ability of the partnership to claim back from the Treasury the joint costs of operating the safety camera network from the fixed penalty notices paid by offenders.
- 25.2 Develop a shared strategic approach to road safety with partners from the NHS, Police, Peterborough City Council, the District Councils and the wider community through Health for Cambridgeshire, part of the Health Improvement Programme (HImP).
- 25.3 Pilot this initiative with the development of safer cycling campaigns (based on a shared understanding of the needs, shared understanding of the most effective interventions and shared approaches to action).
- 25.4 Develop closer links with Education Service to enhance the provision and impact of road safety messages in schools.
- 25.5 Involve and encourage businesses and major employers to promote road safety to their employees through the Cambridgeshire Road Safety Forum, an alliance of businesses and statutory agencies.

- 25.6 Work with the Police and other interested bodies on the Crime and Disorder task group, to address anti-social behaviour, specifically where drivers and other road users are identified as being the target group.

Information

- 26.1 Maintain an accident database and analytical system so that road safety programmes in the county are targeted on areas of most need, and where they are most likely to have an effect in reducing accidents and/or improving road safety for vulnerable road users.
- 26.2 Commission research as appropriate that develops a more complete understanding of problems, allows the targeting of resources or evaluates the effectiveness of existing or proposed road safety programmes. If appropriate we will commission research through HImP partners.

Engineering

- 27.1 Ensure transport infrastructure, including public transport infrastructure, and associated traffic management measures have road safety as well as environmental and economic benefits.
- 27.2 Ensure that safety audits of all proposed road and other development proposals are undertaken and that safety features, and where appropriate features which encourage alternative travel modes (public transport, cycling and walking), are built into schemes.
- 27.3 Undertake appropriate accident remedial works to reduce road accidents on county roads
- Target accident remedial works on those accident sites where the greatest savings can be achieved, taking into account environmental and other road user benefits
 - Instigate programmes of remedial action at all sites which share common characteristics likely to cause accidents
 - Develop and evaluate experimental and innovative accident remedial measures, in consultation with other transportation authorities and the Department of Transport, Local Government and the Regions where appropriate.

Education and Training

- 28.1 Continue to develop effective road safety programmes in schools and colleges relevant to all ages (5-18 years) linked to the National Curriculum where appropriate.
- 28.2 Promote road safety campaigns, and encourage others to do so, aimed at encouraging responsible road using behaviour, in partnership with HImP partners.

- 28.3 Promote road safety awareness amongst County Council staff and the staff of other HImP partners.
- 28.4 Offer cycle training programmes to all primary school children in the county, and encourage all those attending to wear cycle helmets.
- 28.5 Encourage all major organisations employing staff, which drives as part of their job, including the County Council, to pro-actively manage the 'Occupational Road Risk' of its staff. This will involve:-
- 28.6 Reviewing the whole road safety 'culture' of the entire organisation
Implementing a 'package' of road safety measures to reduce occupational road risk
- 28.7 Offering appropriate driver training courses to relevant staff

Encouragement

- 29.1 Develop, in partnership with others, awareness raising campaigns which encourage responsible road use.
- 29.2 Develop initiatives, in partnership with the media, business, local communities and others, which encourage a greater awareness of, and local action for, road safety.
- 29.3 Publicise the effectiveness of remedial works in achieving significant reductions in road accidents.

Enforcement

- 30.1 Continue to support co-ordinated high profile enforcement, with a particular focus on the enforceable aspects of accident causing driver behaviour.
- 30.2 Support the use of automatic enforcement methods where they have been shown to have a positive effect on road user behaviour.

SAFER ROUTES TO SCHOOLS

Overall Objectives

- 31.1 The overall objectives of the Safe Routes to Schools project is to create a safe, healthy environment so that children and young people can travel to and from school using sustainable forms of transport such as cycling and walking, thereby increasing their independence, health and fitness.
- 31.2 The benefits of Safer Routes to Schools include
- Reduced congestion around the school entrance
 - Safer routes for the whole community
 - Healthier staff and pupils
 - Closer links with other schools - i.e. sharing problems and solutions
 - Creates a positive caring environmentally friendly image for the school
- 31.3 The types of measures that schools can bid for include speed restrictions, cycle paths, parking restrictions, school based car sharing schemes, pedestrian crossing facilities, cycle parking, low cost cycle helmet purchasing schemes and many more.

Assessment of Schools

- 32.1 In order that potential schools can be prioritised a method of assessing them has been developed. This enables comparisons to be made between schools. Applications from schools wishing to participate in the project will be considered initially by the SRTS project officer(s) in conjunction with the SRTS steering group. Their recommendations for which schools should be included in any cohort, will receive final approval from the director and E and T spokespersons.
- 32.2 Potential school are assessed on the following
- **Support** - For schools to successfully take part in the project, positive support is required from the head teacher, governors, County Councillor, Parish Council and district/ City Councillors
 - **Accidents** - This criterion considers the existing accident record and future accident potential. The accident record includes all fatal, serious and slight personal injury accidents reported within the area under study within the last complete three-year period. Vehicle flow, traffic speed and road character might all affect future accident potential and an allowance for these factors is included
 - **Level of commitment** - Schools will be scored on their level of commitment i.e. completion of the pre-project travel survey, analysis of

the questionnaires, proposed duration of the project and support from other agencies.

- **Potential Mode Change** - Schools that wish to participate in the project will be asked to undertake a pre-project travel survey in which they will be scored according to the potential for change of existing travel mode choices
- **Links with other schools** - The criteria will look at the schools willingness to work in partnership with other schools e.g. secondary schools working with their local feeder primary schools, or with the schools already taking part in the project, which will help to deliver best value
- **Links with the "Health Promoting Schools" initiative** - The "Health Promoting Schools"(HPS) is a joint initiative between the County Council and the two local health authorities. It provides a framework to help primary schools develop a 'planned' approach to the promotion of 'health' in the whole school and local community. Having examined all aspects of the school environment, service provision and practice, participating schools are supported through the project, to ensure the healthy development of pupils and staff. Schools will achieve this by identifying realistic targets, one of which might be to participate in the SRTS project
- **Scope of the project** - Schools will be required to commit to all three strands of the project i.e. Safety, Health and Fitness and the environment
- **Links with other safety schemes** - Points are awarded to schools which might form part of schemes considered by other departments i.e. accident reduction measures, Traffic Management Schemes, Cycle Networks etc. This total score gives an indication of the schools ranking in order to select 10-12 participating schools. A high score indicates a school is a good candidate for improvement whilst a low score gives the opposite indication

TRAFFIC MANAGEMENT

Overall Objectives

- 33.1 To investigate, design and implement traffic management schemes in the County to improve safety and ensure the best use of the existing highway network and to respond to the concerns of communities. (Traffic Management matters in Cambridge City are dealt with by the Cambridge City Council under the Agency agreement.)

Traffic Regulation Orders

- 33.1 This will include
- Speed Limits
 - Waiting Restrictions
 - Parking Control – general
 - Parking Control – disabled
 - Parking Control – residential
 - Heavy Commercial Vehicle (HCV) Control
- 33.2 Requests for traffic regulation orders are considered on their merits, taking account of site conditions and comments from local elected representatives and from the Police, who are responsible for enforcement.
- 33.3 Traffic regulation orders interfere with the freedom of some road users for the benefit of others. Signs and lines are visually intrusive. TRO's will only be advertised when there is an actual problem that is serious enough to justify such intervention. Particular care will be exercised in conservation areas.
- 33.4 Orders which prohibit the use of all motor vehicles (except for access) on the public highway, will only be considered in exceptional circumstances, where the following conditions exist
- There is evidence to show that considerable numbers of motor vehicles are using a route on a regular basis that is unsuitable for such use
 - All other methods of resolving the problem have been tried, without success
 - Written confirmation has been obtained from the Cambridgeshire Constabulary that they support such an order and will be able to enforce it adequately

Resources are limited and unless significant local changes have taken place, repeat requests for traffic regulation orders will not be reconsidered if a similar request has been investigated within the previous two years.

Speed Limits

- 34.1 Applications for new speed limits or alterations to existing limits will be considered in accordance with the County's speed management policy adopted by the Environment and Transport Committee on the 19th October 2000.

Speed Limits in Villages

- 35.1 The County Council will work towards the introduction of a 30mph speed limit in the developed parts of all villages in the County together with, where appropriate, complementary features to persuade drivers to travel at an appropriate speed.
- 35.2 Where 85%tile speeds are in excess of 37mph it will be necessary to introduce complementary speed reduction features. Depending on the site, "soft" features such as gateways, red surfacing and roundels may be appropriate where 85%tile speeds are 42mph or below.
- 35.3 One of the three key objectives of the Cambridgeshire Local Transport Plan (LTP) is to make travel safer. Targets have been established to reduce the annual numbers of casualties and deaths over the life of the LTP (2001-2006). Significant levels of funding have been identified in the LTP to achieve these targets and this will be the primary source of funding for speed reduction schemes.
- 35.4 It is recognised that community support for speed limits is essential and therefore in most circumstances changes to speed limits will only be considered following a request from a Parish Council, although nothing in this policy would prevent the County Council introducing speed limits for safety reasons.
- 35.5 Proposed speed limit reductions to 30mph in villages that fall within the policy criteria will be considered for implementation as follows:

Existing 85%tile speed	Funding Mechanism
42 mph or less	By County Council subject to budget availability. A prioritisation system may have to be introduced. Soft traffic calming measures may be necessary
Over 42 mph and cost of speed reduction features estimated at less than £25,000	Jointly Funded Minor Improvement bid. The maximum amount may be varied by each individual Area Joint Committee as part of their Jointly Funded Programme
Over 42 mph and cost of speed reduction features estimated at £25,000 or more	To be considered as part of the annual safety scheme (October list) programme

New speed limits may also be introduced in conjunction with

- Safer routes to school projects
- Cycle route schemes
- Accident reduction schemes
- Jointly funded schemes
- Environmental enhancement schemes

35.6 Some villages may not be able to be implemented in priority order because of the difficulty in finding locally acceptable complementary measures that will enable speeds to be reduced.

35.7 For speed limit purposes the extent of a village will be defined by the 'village envelope' - this is part of each District Wide Local Plan and defines the limit of development.

35.8 It is recognised that there are a number of villages that currently have 30mph limits but where speeding is still a problem. Speed reduction features may be necessary and requests will be considered within the criteria set out above.

Speed Limits between Villages

36.1 Where the distance between villages is 1.0km or less the following speed limits are appropriate

Description	Speed Limit
Development along at least 75% of one side of the road	30mph
Sporadic development	40mph
No/minimal development	National Limit

36.2 Complementary features may be necessary as in for speed limits in villages above.

36.3 The same principles as set out for speed limits in villages will be used to allocate funding.

Speed Limits in Rural Areas outside Settlements

37.1 Speed limits in rural areas outside settlements would normally be at the national limit for the type of road. 40mph and 50mph limits may be introduced as part of road safety schemes.

- 37.2 "Buffer" 40mph limits may be appropriate in some locations where there is sporadic development outside the village envelope.

Speed Limits in Towns and Cities

- 38.1 The vast majority of roads within Cambridge, Ely and towns within the County have 30mph speed limits. However, there are some roads into the built up areas that have a 40mph limit. Where requested by the Town or City Councils these limits will be reviewed with the intention of introducing 30mph limits unless that is not supported by the character of the road.
- 38.2 When assessing these streets account should be taken of likely cycle and pedestrian movement into the town/city. It may be necessary to introduce speed reduction features.
- 38.3 The same principles as set out in for speed limits in villages will be used to allocate funding.

20mph Limits

- 39.1 The County Council may introduce 20mph speed limits where appropriate, and in combination with the necessary self-enforcing speed reduction features, in association with the following
- Accident Remedial Schemes
 - Safer Routes to school projects
 - Cycle routes
 - Jointly Funded Minor Improvement Schemes
- 39.2 "Self-enforcing" means 85%tile speeds after the introduction of the scheme being around 25mph or less.
- 39.3 Districts or the City Councils may wish to introduce 20mph streets as part of urban regeneration schemes. Such schemes shall be subject to the approval of the relevant Area Joint Committee and shall be
- self-enforcing by design
 - introduced in clearly defined zones (e.g. between radial routes or a spine road with culs-de-sac off) and not in isolated roads or culs-de-sac
- 39.4 20mph speed limits supported by interactive signs will be introduced at selective locations on a trial basis and the results monitored before a more general County Council policy is adopted. Suitable sites for the trial will be where existing 85%tile speeds are in excess of 25mph and where it is felt that interactive signs, in combination with "soft" traffic calming, are likely to bring them down to the appropriate level.

Protocol for Speed Limit Review

- 40.1 The proposed protocol for dealing with speed limit requests is set out in summary below
- Requests will be dealt with in the order received
 - The budget will be managed on a County wide basis
 - The maximum amount for any one scheme to be financed from the speed limit budget will be £15,000
 - Schemes between £15,000 and £25,000 (£30,000 in Hunts) will be considered as Jointly Funded Minor Improvement bids
 - Schemes over £25,000 (£30,000 in Hunts) will be considered as part of the 'October list' programme

Waiting Restrictions

- 41.1 The introduction of waiting restrictions will be considered when one of the following conditions is satisfied
- there is an existing safety problem or proposed change in circumstances which will create a hazardous situation
 - the use of the highway is significantly restricted by parked vehicles
 - parking close to traffic signals needs to be prevented to ensure that vehicle detection equipment can function correctly
 - there are access problems for emergency vehicles
- 41.2 Waiting restrictions (including entrance protection markings) will not be provided in residential culs-de-sac where problems appear to be caused by the residents themselves.
- 41.3 Entrance protection markings will normally only be provided where the entrance has all necessary planning permissions and a properly constructed footway crossing but is not immediately obvious to a driver.

Parking Control : General

- 42.1 Under the Local Government Act 1972, the District Councils and Cambridge City Council provide and manage public off-street parking within their areas. The County Council, as highway authority, is responsible for and manages on-street parking except for that within the Cambridge City area, which is managed by the City Council under an agency agreement. The uses of any surplus funds are limited by law to investment for parking purposes.

42.2 The policy and practice for parking controls have evolved in accordance with the County Council's transportation policies to reflect changing needs.

The policy deals with:

- Guidance on when on-street parking controls should be introduced
- The relationship between off-street and on-street parking charges
- The framework within which Residents' Parking Schemes shall operate

42.3 Detailed operational matters are determined by the relevant Area Joint Committee in accordance with the policies set by the County Council's Cabinet.

42.4 On-street parking controls will be introduced where necessary to assist the flow of traffic, improve road safety, cater for particular local parking needs or to meet strategic transport objectives. Controls may include charging for the use of on-street space.

42.5 There is a general presumption that where charges are levied they will be sufficient to cover administration and enforcement costs and, with the exception of charges for residents' parking, may generate a surplus for investment in the parking system. On-street charges will take account of the level of any off-street parking charges in the area. The relationship should normally be geared to encourage the use of off-street facilities in the wider interests of highway users. There is a general presumption that, where on-street public parking is charged, the charges will favour short-stay use with typically a maximum stay of a few hours being defined

Parking Control - Disabled Parking

43.1 Disabled parking bays will only be considered where the following conditions exist

- the applicant has no access to suitable off-road parking facilities
- the applicant holds an Orange/Blue disabled drivers badge
- the applicant is either the driver of the vehicle or the driver is resident at the same address as the applicant
- the applicant's Doctor has certified that the applicant is unable to walk further than 50metres
- that a suitable location for the disabled bay can be found that is acceptable to the police
- that the application is supported by the local Member and the Parish Council

- the name and address of the applicant will not be included in any reports on the matter, to avoid the possibility of revealing the location of a potentially vulnerable member of the community

Residents Parking

- 44.1 Residents' parking schemes will only be considered where the following conditions exist
- most properties in the affected street or streets do not have off-street parking facilities
 - the street or streets would otherwise be dominated by vehicles belonging to non-residents
 - the scheme is supported by the majority of residents
 - there are adequate alternative facilities to accommodate the displaced parking
- 44.2 Residents' parking shall be introduced on a zonal basis taking in clearly defined blocks of streets to deter, as far as reasonably possible, the migration of parking into surrounding streets.
- 44.3 Residents' parking schemes shall contain sufficient short-stay spaces (on or off-street) to obtain a reasonable balance between the needs of local businesses and residents.
- 44.4 Allocation of space for long-stay on-street public parking will only be considered when the reasonable needs of residents and short-stay parking have been met.

Bona-fide residents shall be able to purchase permits allowing them to park in any reserved residents' space within their zone. There may be less spaces than the number of permits issued.

Bona-fide residents shall be able to purchase "visitors permits" which would provide access to any reserved residents' space within the zone.

- 44.5 When it is considered appropriate, businesses that have no access to off-street parking shall be able to purchase permits providing access to any reserved residents' spaces within their zone.

Heavy Commercial Vehicle (HCV) Control - General

- 45.1 HCV traffic can be controlled by width, length and height restrictions but is most commonly controlled by weight restriction.

The most commonly used grounds for imposing weight restrictions are

- for environmental reasons where it is considered necessary to preserve or improve the amenities of an area through which a road or roads run

- for structural reasons to avoid danger, or the likelihood of danger to persons or traffic
- 45.2 Weight restrictions may be applied to points on the highway such as bridges or other structures, short lengths of road or complete zones. The former are easier to enforce and much cheaper to sign than zonal restrictions but may not be able to achieve the objectives of an environmental scheme where it may be desired to remove unnecessary HCV traffic from a number of villages or parishes.
- 45.3 Zonal restrictions can also be confusing to drivers who may not be aware of the extent of the zone and will therefore be unsure whether or not their destination is within the restricted area.

Heavy Commercial Vehicle (HCV) Control - Environmental Restrictions

- 46.1 Prior to considering requests for environmental HCV restrictions, surveys will be carried out to determine the nature and extent of any problem.
- 46.2 Where a problem is considered to exist, regulation of HCV's by TRO will only be considered after the possibility of resolving the problem by agreeing appropriate routes with operators, or by positive HCV direction signing has been thoroughly considered.
- 46.3 Routes for Movement should be available for use by HCV's except where the alternative route for restricted traffic is along another Route for Movement and the conditions set out in the policy are met.
- 46.4 There is a presumption that a weight limit will bring an environmental benefit, and a full environmental assessment would not normally be necessary, where the proposed restriction is along a Route for Access and the alternative route is along a Route for Movement.
- 46.5 In some instances a night time only ban might be the most appropriate way of maximising environmental benefit whilst minimising disruption and cost to operators.
- 46.6 The following conditions must all exist before HCV control by order will be considered
- a minimum number of 30 through HCV movements, which could reasonably be expected to transfer to an alternative route, must be made each day through the area
 - the number of HCV movements that could reasonably be expected to be removed must represent at least 50% of the total number of HCV movements in the area
 - there is an alternative route available which is at least equally suited to the passage of HCV's., taking into account road construction and maintenance, road hierarchy, accident rates and facilities for cyclists and pedestrians

- the environmental and road suitability benefits of the proposed restrictions must outweigh any additional costs for operators using the alternative route
- where restrictions are proposed on Routes for Movement there is a significant net environmental benefit when comparing the route of the restriction with the alternative route and taking into account noise (night and day)
- a scheme can be defined that can be clearly signed, easily understood by drivers, and is largely self-enforcing

46.7 All environmental weight restrictions will include exemptions for access for the purpose of loading and unloading goods and for garaging of vehicles within a zone. Special exemption will be allowed for public service vehicles, emergency service vehicles, agricultural vehicles and vehicles required for highway maintenance.

46.8 Weight restrictions can be based on max gross vehicle weight or axle weight with the latter being used principally for restrictions on bridges. The usual restrictions are for gross vehicle weights of 7.5tonnes or 17tonnes which approximate to the previously used 3 tons and 5tons unladen weight restrictions. Lorries over 17 tonnes have three or more axles.

Heavy Commercial Vehicle (HCV) Control - Structural Weight Restrictions

47.1 Such restrictions will be made only at the request of the County Bridge Engineer.

Traffic Signs

48.1 This includes:

- Tourist Signing
- School Flashing Amber Lamps
- Temporary Special Event Signing
- Interactive Signs
- Maintenance of non illuminated signs and bollards
- Unauthorised Signs

48.2 All requests for directional, warning and informatory traffic signs will be considered in accordance with national guidelines issued by the Department of Transport, Local Government and the Regions (DTLR).

Tourist Signing

- 49.1 Applications for direction signing to tourist attractions and facilities will be considered in accordance with the County's

School Flashing Amber Lamps

- 50.1 Previously school flashing amber lamps were only provided at schools where crossing patrols operate and either 85th %tile approach speeds to the crossing point were in excess of 36mph or the advance visibility of the crossing point was less than 100metres.
- 50.2 Flashing amber lamp units are now available which are microprocessor controlled and can be switched on and off by time clock. The use of such units removes the need to have a school crossing patrol officer to switch the lamps on and off at the start and finish of each crossing period.
- 50.3 In view of this the County Council is now prepared, subject to budget availability, to provide flashing amber lamp units at schools which meet the speed or visibility requirements specified above but which do not have a school crossing patrol.
- 50.4 At sites which do not meet the speed or visibility criteria specified above the provision of flashing amber lamps will be considered if their cost is met by the school or as part of a Safer Routes to School project.

Temporary Direction Signs to Commercial Events

- 51.1 Such signs need to comply with the Traffic Signs Regulations and General Directions 1981. Proposals should be put to the Team Leader Traffic Management at least four weeks before the event, describing the event, the expected number of visitors and the provision of off-street parking. Guidelines are available for the erection of temporary signs.

Temporary Signs to Community Events

- 52.1 Staff will exercise discretion when a reasonable number of temporary signs are erected within villages or within a neighbourhood of towns or cities, for a community event, provided that they do not cause a hazard, are not erected more than 7 days before the event or remain in place for more than 48 hours afterwards. Where more extensive signing is required, communities should seek the assistance of the AA or RAC, following guidelines for commercial events

Interactive Signs

- 53.1 Some types of interactive speed control signs require specific site authorisation from DTLR. Provided that the circular red border is retained, those that show a speed limit sign face (Diagram 670 of the Traffic Signs Directions and General Regulations 1994), do not require such authorisation, if the normal black legend on a white background is displayed as a white, off-white or yellow legend on a dark background.

The provision of interactive signs will only be considered at sites where

- there is a record of personal injury accidents, for which excessive speed is considered to be a contributory factor
- the 85th%tile speeds are more than 20% above the stated speed limit

53.2 The County Council will only fund the introduction of interactive signs if they form part of an accident reduction scheme, a Safer Routes to School project, facilities for cycling, a Jointly Funded Minor Highway Improvement Scheme or a speed reduction scheme.

Non-Illuminated Signs and Bollards Maintenance

54.1 The general condition should be inspected every two years by night, after cleaning which should be when required (at least annually). Replacement and repair - make safe within 24 hours, permanent repair between 7 days and 8 weeks depending on the degree of hazard to drivers. (chevrons, stop and give-way signs within 7 days).

54.2 The bollards will generally be cleaned once per year, however at certain locations and in particular at traffic calming sites and roundabouts the bollards will be cleaned at least twice more in the winter months.

Unauthorised Signs

55.1 Advertising signs should not be permitted on the highway. Divisional and Agency staff will take action when unauthorised signs along a road become a problem or in response to a complaint from a Parish or Town Council or from other elected representative.

The procedure for each type is

(1) Signs fixed to a tree or structure (S.132 Highways Act 1980) or 'A-boards' in urban areas which interfere with the safe movement of road users taking account of the width of the footway and the number of pedestrians using it

- Remove the signs without notice
- Store for not less than four weeks
- Where the owner is known, advise them where the signs are
- Charge of £20 per sign on collection by the owner
- Dispose of signs not collected after four weeks

(2) Signs on their own posts (structures under S.143 Highways Act 1980)

- Within one month of the receipt of the initial complaint, the Division or Agent will seek to secure the removal of the sign or signs. If this is not achieved the notice will be served

- Where first time signs appear one month's written notice is to be given stating clearly that if the same or similar signs appear again, they will be removed without further notice and be disposed
- If not removed by owner, remove to store for two weeks
- Charge of £20 per sign, or the actual cost of removing the sign, whichever is the greater on collection by the owner
- Dispose of signs not collected after two weeks

(3) Signs fixed to vans or other vehicles - seek the assistance of the police to move them.

55.2 Where there is a continuous serious breach of the above policy the Assistant Director (Highways & Engineering) may authorise Court action.

Pedestrian Crossing Facilities

56.1 Since the 1st April 2000 there has been no revenue budget specifically allocated for pedestrian crossing facilities. Sites with 3 or more pedestrian injury accidents during the most recent three year period may justify the provision of a pedestrian crossing facility being funded from the Accident Remedial Budget.

56.2 All requests for pedestrian crossings will be considered in accordance with the adopted assessment method for pedestrian crossing facilities. To justify the provision of either a Puffin, Pelican or Zebra crossing the weighted pv*2 value of the site should be 0.3x10⁸ or above. (Details of the assessment method are available on request from Box No ET1019 Shire Hall, Cambridge, CB3 0AP.)

56.3 Where a crossing is considered appropriate but crossing flows are relatively low and the 85th%tile speeds of approaching vehicles are below 35mph, a Zebra crossing may be appropriate. More detailed information regarding the choice of an appropriate type of crossing facility is found in the DTLR publication Local Transport Note 1/95 "The Assessment of Pedestrian Crossings".

56.4 Funding for pedestrian crossings may be considered from the following budgets and programmes

- Accident reduction revenue budget
- Jointly Funded Minor Highway Improvements
- Safer Routes to School
- Capital Programme (when traffic signals are introduced or upgraded as part of schemes in the capital programme.)
- Market town transport strategies

The provision of developer funded pedestrian crossing facilities will be sought at locations justified in accordance with the adopted assessment method.

Traffic Calming

- 57.1 Traffic calming schemes in the vicinity of schools taking part in the Safer Routes to School initiative, will be considered for funding from the Safer Routes to School budget.
- 57.2 Other traffic calming schemes may be considered under the Jointly Funded Minor Highways Improvement arrangements with the District Councils. Schemes will need to be within the cost ceilings for such schemes, as decided by the Environment and Transport Area Joint Committees. Schemes costing in excess of these ceilings can only be considered for funding from the Capital Programme.

Minor Highway Improvements

- 58.1 Since 1997/98 no specific budget has been available for minor highway improvements, such as footways, which cost more than £5,000 each. At present minor improvements costing the County Council less than £5,000 may be funded from the 'discretionary' budget, if they have the support of the County, District and Parish Councillors for the area. Partnership schemes can go ahead on this basis provided that the County contribution does not exceed £5,000.
- 58.2 Cost sharing arrangements have been arranged with District Councils that enable the Area Joint Committees to allocate funds to minor highway improvements and traffic schemes, which will improve the environment and encourage more walking, cycling or use of public transport.
- 58.3 Approved minor highway improvements may also be privately funded by Parish Councils, businesses or private individuals.
- 58.4 Where a Parish Council wishes to part or fully fund the provision of an approved minor highway improvement scheme, the County Council may be able to make an interest free loan to enable the Parish Council to repay the cost of the scheme (by precepting within their existing Section 137 limits), over a period of up to five years.
- 58.5 As traffic calming is specifically included in the optional powers provided for local councils (under Part III - Powers (Clause 26-31) of The Local Government and Rating Act 1997) the full cost of a traffic calming scheme can be precepted for in one year. County Council loans are therefore not currently available for such schemes, which must be paid for in full during the financial year of their construction.

Abandoned Vehicles

- 59.1 Vehicles that are abandoned on the public highway are dealt with by the Environmental Health Department of the local District or City Council

Cars Advertised For Sale On The Public Highway

- 60.1 Highway Authorities have no powers to remove vehicles if they display a valid tax disc.
- 60.2 Waiting restrictions can be considered, if the conditions for implementing such restrictions are fully complied with.
- 60.3 If it can be shown that the vehicle is creating an obstruction or a hazard then the police can take action on that basis.
- 60.4 If the vehicle has no tax disc it should not be on the public highway and the police can take action against the owner. The problem in these situations, is often that the vehicle has been purchased by a dealer, but its transfer of ownership has not been registered and the vehicle is still officially registered to its previous owner.

TRAFFIC SIGNALS

Overall Objective

- 61.1 To ensure that suitable traffic signals are provided to reduce accidents and improve conditions for cyclists, pedestrians (in particular the disabled) and public transport and to maintain them and their related systems such that they are operational at all times.

New Installations

- 62.1 Designed in accordance with current British Standards, Advice Notes and regulations. New installations shall incorporate pedestrian and cycle facilities as far as is practical.
- 62.2 They are provided through Accident remedial and major schemes funded by the County Council through the capital programme or TSG, or as part of new developments funded by developers

Preventative Maintenance

- 63.1 In the County, including Cambridge City, traffic signal lamps are bulk changed at 4 monthly intervals. Push button lamps are changed at 8 monthly intervals. 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 equipment are checked annually on all installations.

Emergency Work

- 64.1 Attendance on site within 1 hour for emergency faults and the next working day for urgent faults

Routine Maintenance

- 65.1 The County Council currently maintain a total of 277 traffic signals including 110 junctions. Of these installations, 34 Pelicans and one Junction (13% of the total) are more than 15 years old, which is considered to be the expected design life as specified by the Highways Agency.
- 65.2 The County Council operate and maintain an Urban Traffic Control System connected to 10 installations in Huntingdon and 55 in Cambridge.
- 65.3 Two Remote Monitoring Systems enable on line monitoring and automatic fault reporting on 41 of the more isolated junctions in the County.
- 65.4 In the County the response time for replacing faulty red lamps is within an 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.

65.5 EDF undertake to attend to identify a power supply fault at traffic signals within three hours of notification. The time to restore the supply will depend on the amount of work involved.

STREET LIGHTING

Overall Objective

- 66.1 To ensure that suitable lighting systems are provided in relation to road and footpath use, traffic and pedestrian density and taking account of environmental considerations and to maintain the systems in operation at all times as far as is reasonably practical

New Installations

Lighting and Electrical Design

- 67.1 To current British Standards and regulations. Designs shall utilise efficient light sources and luminaires and use the minimum number of units to achieve the required illumination levels to minimise long term maintenance and energy costs.

Equipment: General

- 68.2 Galvanised steel columns with low pressure sodium (SOX) lamps in pole top lanterns but high pressure sodium (SON) lamps and lanterns of other styles are permitted when required by British Standards in limited locations such as
- Town centres and areas of civic importance
 - Delineation of desirable pedestrian or cycle routes to assist in their separation from traffic and guide them to approved carriageway crossing points
 - Pedestrian footpaths through important amenity areas
 - To highlight specific traffic hazards such as pedestrian crossings and roundabouts
 - Within conservation areas to give emphasis to the most important parts
 - Where it is the most economic solution taking account of installation, maintenance and energy costs.

Equipment: Standardisation

- 69.1 The variety of luminaires and columns within a District shall be restricted and only mass-produced equipment used or where aesthetic considerations are paramount only equipment incorporating mass-produced parts shall be used.

Equipment: Light Pollution

- 70.1 Luminaires should not emit more than 3% of light above the horizontal or where this is not possible only low pressure sodium (SOX) lamps should be used.

Criteria for Adoption of Lighting

- 71.1 The roads/footpaths to be lit must be maintainable as public highway, maintainable at the public's expense.

The roads/footpaths must be a primary means of access

The installation is in accordance with this Policy and forms a 'roadway' lighting system as defined in the Highways Act 1980: on A or B class roads or other roads in large villages and towns to the British Standard on other roads in small rural villages to 45m maximum spacing.

Special schemes which may not fully meet the British Standard may be agreed for adoption in the key parts of conservation areas.

Provision Of Lighting At The Expense Of The County Council

- 72.1 At the following locations

- For roundabouts
- Accident remedial measure
- Major schemes funded through the Local Transport Plan
- Minor schemes funded through match funding and the Area Joint Committees
- Minor schemes (<£4,000 each, supported by Members and/or other Councils) for unlit or inadequately lit sections of existing roads and footpaths within areas otherwise provided with lighting maintainable at the County Council's expense.

Operating Hours

- 73.1 Dusk to dawn with photo-electric cell control

Column Positions

- 74.1 To minimise the risk of vehicular impact whilst maximising available footway width, all new and replacement columns will normally be sited at the rear of footways or verges close to the highway boundary. If areas are very wide columns may be sited at the rear of a kerb-side verge or where a verge is behind a footway at the rear of the footway. If the verge contains a row of trees, the columns may be sited on the line of trees, between them. If underground obstructions or other site conditions make the foregoing impractical, the front of columns will be sited in the footway between 450mm and 800mm back from the kerb face. These distances are suggested in the urban design manual and the British Standard for road lighting. Columns forming a scheme will not necessarily all be positioned equal distances from kerb lines.

Maintenance

Scouting

- 75.1 Scouting is not required as the maintenance contract is of the End Performance Type.

Repairs

- 76.1 To be completed within two weeks of notification by client staff. Electricity supply faults to be repaired by the Electricity Company within 14 days unless notified as urgent.

Preventative Maintenance And Inspections

- 77.1 1) Lamp change on failure together with cleaning of optical components, photo-electric cells and base compartments, oil moving parts.
- 2) Visual electrical inspection with above. Repair any electrical defects and bring up to requirements of current regulations.
- 3) Electrical safety inspections carried out on the basis of risk assessment, but no longer than every 6 years.

Internal wiring - insulation resistance, polarity and earthing

Cable networks - insulation resistance, earth loop impedance, polarity and earthing

- 4) Painting - re-paint at 10 year intervals. Paint galvanised column when thickness of galvanising has reduced to 30 microns.
- 5) Visual structural inspection carried out during every maintenance visit. Report any actual or incipient structural defects.
- 6) Annual structural test of sample columns to establish the rate of deterioration of stock.

Emergency Work

- 78.1 Attendance on site to make safe within 2 hours of notification of defect. Replace damaged equipment within 14 days of the original damage.

Records

- 79.1 Maintain records of units, faults and remedial works on a computerised data base (currently Hilight Plus) ensure adequate backing-up of data and maintenance of data for at least 6 years

ILLUMINATED SIGNS MAINTENANCE

Overall Objective

- 80.1 To keep all traffic signs legible and visible and maintain illumination where required at all times as far as is reasonably practical. Priority to be given to the maintenance of illumination of traffic bollards and mandatory signs.

Scouting

- 81.1 Scouting is not required as the maintenance contract is of the End-Performance Type.

Repairs

- 82.1 To be completed within two weeks of notification by the client staff.

Electricity supply faults to be repaired by the Electricity Company within 14 days unless notified as urgent

- 82.2 Where illuminated signs are at the end of their life or have been damaged in a road traffic accident. If the sign is a direction sign the replacement shall be a non-illuminated sign with an enhanced reflectivity to its face.

Preventative Maintenance And Inspections

- 83.1 1) Lamp change on failure together with cleaning of interior faces of traffic bollards, optical components, photo-electric cells and base compartments, oil moving parts and adjust as necessary.

2) Visual, electrical inspection with above. Repair any electrical defects and bring up to requirements of current regulations.

3) Electrical safety inspections carried out on the basis of risk assessment, but no longer than every 6 years:

Internal wiring - insulation resistance, polarity and earthing

Cable networks - insulation resistance, earth loop impedance, polarity and earthing.

4) Painting - repaint at 10 year intervals. Paint galvanised when thickness of galvanising has reduced to 30 microns.

5) Visual structural inspection during every maintenance visit. Report any actual or incipient structural defects.

Emergency Work

- 84.1 Attendance on site to make safe within 2 hours of notification of defect. Replace damaged equipment within 14 days of the original damage. The sign face of

Chevrons, stop and give way signs to be replaced or repaired within seven days.

Records

- 85.1 Maintain records of units, faults and remedial works on a computerised data base (currently Hilight Plus), ensure adequate backing-up of data and maintenance of data for at least 6 years.

Internally Illuminated Bollards

- 86.1 Internally illuminated bollards shall be externally cleaned with the work being ordered by the Divisions' or Agents as part of their sign cleaning responsibilities. This will be once per year, however at certain locations and in particular at traffic calming sites and roundabouts the bollards will be cleaned at least twice more in the winter months.

BRIDGE ASSESSMENT, STRENGTHENING AND MAINTENANCE

Overall Objective

- 87.1 To maintain the County bridge stock to provide safe passage for the public, whilst safeguarding the integrity of the bridges and eliminating the possibility of collapse. Following a risk assessment, restrictions on the use of weak or substandard bridges may be necessary.
- 87.2 To provide a network of roads suitable for buses and capable of carrying 40 tonne lorries to all areas of commercial and industrial development without significant diversion

Introduction

- 88.1 In the past 30 years there have been few incidences of bridge collapse in this country. In the past we have had an adequate inspection and maintenance programme. Recently the number of heavy lorries has increased but maintenance funding has not kept pace and there is now a widely held view that the safety factors built into bridge designs are being eroded. The assessment programme has highlighted the vulnerability of our bridge stock and has already shown that approaching 100 of our bridges are "at risk" when carrying normal vehicles. In addition there is a backlog of maintenance work.
- 88.2 The short term effect of the reduction in bridge maintenance is one of neglect but, in the longer term, deterioration will quicken and lead to more costly work, particularly on ancient monuments and other listed structures. Part of the bridge maintenance budget needs to be concentrated on maintenance work to minimise this deterioration and to prevent failure of many of the County's 1700 bridges.
- 88.3 All categories of bridge maintenance, assessment and strengthening are eligible for SCA with the exception of routine maintenance and rural footbridges.

Assessments

- 89.1 Our policy has concentrated on completing the assessment of bridges in the Primary, main and secondary distributor network, including known private bridges and Railtrack/BR owned bridges. Work can now start on the remaining local and local access road (including private) bridges in Cambridgeshire in a bid to complete the assessment programme in 2003.
- 89.2 The EU derogate which prevented 40 tonne vehicles from travelling on UK roads was lifted on 1st January 1999. To safeguard the members of the public and the integrity of the bridge stock, all bridges in the assessment programme that were not assessed by that date have been specially appraised.

Monitoring

- 90.1 New national guidelines have been issued on 'The Management of Sub-standard Bridges'. This will require us to impose a more rigorous inspection and

monitoring regime of our bridges that have not passed their assessment if we are to avoid wholesale bridge restrictions in the future.

Strengthening

- 91.1 All bridges requiring strengthening will be subjected to a risk assessment before money is allocated. Although priority is normally given to improving and maintaining structures on the Principal Road Network the limited funds will be allocated where most needed. The strengthening programme will be prioritised with the maintenance programme using Risk Assessment

Risk Assessment

- 92.1 Modern structures are designed not to fail suddenly, but to distort extensively showing great distress before they collapse. It is unlikely therefore that a bridge will totally collapse under a single over loading. Repeated over-loading causes cracking and gradual disintegration and reduces the life of the bridge. By inspecting bridges at regular intervals early warning signs can be picked up and a detailed investigation carried out. Some bridges show no signs of disintegration but calculations show them to be inadequate. Weaknesses do not always manifest themselves in the early stages of failure particularly if the critical material is brittle. This does not mean that a serious situation does not exist as these bridges are often at the greatest risk.
- 92.2 It is unlikely that funds will ever be available to repair and strengthen all inadequate bridges therefore some form of prioritisation is required which takes into account the risk presented to the stability of the structure, the likelihood of overloading and the effect that this would have on the public. Risk assessment does this. Risk is equal to the product of the likelihood of an unwanted event multiplied by the consequences of such an event. We can see that if no vehicles use the bridge no risk exists and that risk increases as the number of vehicles increases. It can also be seen that if the consequence of an event is insignificant then the risk is negligible. By using Risk Assessment the funds are targeted where they are most needed.

Bridge Inspections

- 93.1 The inspection rate is in line with our new County standards that all bridges will have a general inspection every two years and those bridges on the primary and principal routes and other identified major bridges will have a principal inspection every 6 years. This is now in line with the national recommended standard of 2 and 6 years intervals respectively and has been revised as identified in the bridges Best Value review.

Maintenance

- 94.1 All bridges requiring maintenance will be subjected to a risk assessment before money is allocated for maintenance. Although priority is normally given to improving and maintaining structures on the Principal Road Network the limited funds will be allocated where most needed. For example, St. Ives River Bridge is an important ancient monument which justified the continuation of the investigation programme started in 1997. A revised strategy for prioritising

bridge maintenance along with strengthening will be implemented as identified in the Best Value review.

Routine Maintenance

- 95.1 Regular routine maintenance is the most cost effective way of keeping our bridge stock in serviceable condition. It involves basic cleaning and servicing, tightening of bolts and unblocking drains. In spite of its importance lack of resources means that there is now a backlog of work to be done.

Emergency and Accident Damage

- 96.1 The most common form of accident damage is because vehicles collide with parapets and the number of incidents is increasing. Where possible the cost of damage is recovered but where new standard parapets are used they absorb the impact and it is often possible for the vehicle to drive away. Old style post and rail parapets offer little protection and a programme of identification, prioritisation and renewal will be implemented in line with the Best Value review action plan as resources become available.

Minor Maintenance Schemes (Under £25,000)

- 97.1 This covers minor maintenance such as concrete repairs, parapet maintenance, and brickwork repairs. Early repair to a small defect normally leads to avoid more costly repairs later. The Best Value review identified the need for resources to be allocated for the work.

Major Maintenance Schemes (Over £25,000)

- 98.1 These schemes cover all aspects of upgrading including total reconstruction. Careful consideration has to be given to expensive repairs or extensions on old bridges as the repair can often outlive the original structure resulting in the sound new work having to be demolished. The alternative is to design the new work for a reduced life expectancy by reducing serviceability factors.

Special Projects

- 99.1 There are some projects which are difficult to classify from an engineering point of view usually they contain a high amenity value and often have artistic environmental elements. In this category are the murals and artwork in subways normally done in partnership with local City/District Councils, Parish/Town Councils, local residents associations, and local schools/youth groups. Although difficult to quantify it would appear that there are considerable financial and social advantages in this type of scheme because graffiti and vandalism is substantially reduced and use of subways is encouraged. Recent projects include the murals at Sallowbush Way subway in Huntingdon and Barnwell Road subway in Cambridge. Refurbishment, e.g. improved lighting, should be carried out at the same time.

Listed Structures

- 100.1 There are 44 listed structures in Cambridgeshire nine of these, including Huntingdon River Bridge and St. Ives River Bridge are listed Grade 1, scheduled ancient monuments. Unlike most bridges that are designed to last 120 years, ancient monuments must be maintained to last indefinitely. Also unlike most bridges which if they were left to become unrepairable they could be replaced these heritage bridges cannot be allowed to fall into this state or they would be lost forever. We must also maintain them in a sympathetic manner both in the aesthetic and functional aspects.

Footbridges

- 101.1 The maintenance of footbridges produces a wide range of problems as the bridges vary from a simple short span to complex multi-span cable-stayed structures over railways. All are vulnerable to vandalism as their light construction makes them easy targets. Softwood laminated timber was used extensively in the past but this form of construction has proved to be particularly vulnerable to rot requiring extensive repairs and reduction in the life expectancy.

Partnering

Contract Partnering

- 102.1 In order to minimise the inconvenience and disruption to the general public maintenance and strengthening schemes often involve night-time or restricted hours working. In addition bridgework is not always specific as the extent of the problems cannot be fully identified until works actually commence. Contractors tend to view such maintenance work as high risk. As an alternative to the normal tendering procedure partnering agreements/Contracts may be used for more complex work. Advantages of partnering include risk being taken away from the contractor, reduced consultancy fees for preparation of documents, appraisals and site supervision. Recent partnership arrangements were used on the major maintenance work on the historic Huntingdon Town Bridge (Ancient Monument).

Parish Partnering

- 103.1 Many minor non-structural repairs attract a high overhead cost. The Parish Partnering scheme avoids this by encouraging parish and town councils to undertake this work. Several parishes have been interested in taking part in a pilot schemes. Work done in this way will be restricted to minor works usually on footbridges and a full advice service will be available