

Roads & Lighting

2008/2009

Orkney Islands

		Source	Contextual	Performance information	05/06	PI values 06/07	07/08
CARRIAGEWAY CONDITION							
1	Percentage of the road network that should be considered for maintenance treatment			Red and Amber 19.0%	-	-	-
	i. A class roads			18.3%	-	-	-
	ii. B class roads			9.8%	-	-	-
	iii. C class roads			23.6%	-	-	-
	iv. Unclassified roads			19.5%	-	-	-
	v. Overall						
TRAFFIC LIGHT REPAIRS							
2	The number and proportion of traffic light failures completed within 48 hours	Number of repairs to be completed N/S	Number completed within 48 hours N/S	#VALUE!	No Service	No Service	No Service
STREET LIGHT REPAIRS							
3	The number and proportion of street light failures completed within 7 days	Number of repairs to be completed 844	Number completed within 7 days 651	77.1%	84.9%	80.4%	87.8%
STREET LIGHTING COLUMNS							
4	The number and proportion of street lighting columns that are over 30 years old	Total street columns 2,722	Number over 30 years old 491	18.0%	17.4%	16.6%	20.3%

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		Source	Contextual	Performance information	05/06	PI values 06/07	07/08
BRIDGES - ROAD NETWORK RESTRICTIONS							
5	Bridges failing to meet European standard of 40 tonnes or having weight or width restrictions placed on them						
a)	i. Total number of assessed council bridges		44				
	ii. Total number of assessed private bridges		0				
	iii. All bridges		44				
	iv. Number and percentage of bridges failing European standard:						
	(a) Council		8	18.2 %	0.0%	0.0%	Not Reported
	(b) Private		0	%	No Service	No Service	No Service
	(c) All bridges		8	18.2 %	0.0%	0.0%	Not Reported
b)	Number and percentage of bridges with a weight or width restriction:						
	(a) Council		0	%	0.0%	0.0%	Not Reported
	(b) Private		0	%	No Service	No Service	No Service
	(c) All bridges		0	%	0.0%	0.0%	Not Reported

Roads & Lighting

Carriageway condition

RL 1: The percentage of the road network that should be considered for maintenance treatment.

Definition

'Considered for maintenance treatment' means that there is likely to be some defect in the condition of the road, but councils will need to carry out further detailed investigation and plan their programme having considered other factors including the impact on spending provision, user delays and safety concerns.

Data may be collected by machine based and /or visual surveys.

The data and thresholds used below to derive the single PI value are based on current best practice, including the DMRB and the Code of Practice for Maintenance Management. A set of condition bands has been derived to suit Scottish conditions, with condition falling into three categories:

- Green 'Road is in acceptable condition'.
- Amber 'Road condition indicates that further investigation is needed to establish if treatment is required, and when'.
- Red 'Road has deteriorated to the point where, subject to investigation, it is likely that repairs to prolong future life would be required'.

The survey results are those carried out during the relevant financial year.

Machine based surveys

The percentage of the road network that should be considered for maintenance treatment is derived from a combination of the following road surface condition parameters, rutting, profile, texture and cracking (A roads only) which are collated into a single network level index and assessed against nationally agreed standards. As technology develops in future years additional parameters will be introduced, for example, cracking on lesser category roads and road-edge deterioration.

The nationally agreed thresholds are:

Variable	Amber Thresholds	Applicable road classes
Rut depth	11mm	All
3m Variance	4mm ²	A
	4mm ²	B
	7mm ²	C class / unclassified urban
	15mm ²	C class / unclassified rural
Texture	0.6mm	All

Survey method will be by vehicles accredited to TRL. Data for each condition parameter is assessed against the above thresholds for each 10m length and if the criterion is exceeded for any one or more condition parameter, that length is included in the indicator.

The survey information is collected as part of a national survey and processed centrally by the Society of Chief Officers for Transportation in Scotland's (SCOTS) Scottish Road Maintenance Condition Survey Project team. Surveys will be undertaken on a sample of the council's roads network. The individual results for each classification of road (subdivided by urban and rural), derived from the survey, shall contribute to the overall indicator in proportion to the relative length of road within the

Individual results for each classification of road (subdivided by urban and rural), derived from the survey, shall contribute to the overall indicator in proportion to the relative length of road within the whole network.

Each year the following classes of road will be surveyed in one direction and for one lane only. (While an authority may elect to carry out additional surveys for their own purposes, the results of those surveys are to be excluded from the calculation of the indicator).

- 'A' class roads - 100%
- 'B & C' class roads - 50%
- Unclassified roads – 25%. (Councils should endeavour to survey 25%, however it is recognised that adverse weather or other conditions may prevent completion within the specified timescale. Councils should agree with their external auditor any reduction in the 25% due to the above reasons).

Visual surveys

While it is proposed to standardise on machine based surveys to monitor road condition, this will be phased in over a number of years as some councils have existing commitments to undertake visual surveys.

Visual surveys must be carried out in accordance with the version of the UKPMS Visual Survey Manual, current as at 1 April of the year in which surveys are to be undertaken. If DVI surveys are to be used as the basis for the survey, they should be converted to a 'CVI-equivalent' survey, using Version 2.00 or later of the UKPMS HMDIF Conversion Software, and processed as a CVI survey. Such conversion will only be possible for DVI surveys carried out in accordance with the current UKPMS Rules and Parameters.

UKPMS RP 3.0 Condition Index	Threshold
Structural CI	85
Edge CI	50
Wearing Course CI	60

Source

While the indicator is based on the return provided by the SCOTS Scottish Road Maintenance Condition Survey Project, each council will be responsible for reporting the performance information for their roads.

Interpretation

This indicator shows the percentage of the road network that should be considered for maintenance treatment. The condition of roads will be affected by:

- Budgetary constraints
- Traffic flows/usage
- Weather patterns

The results of the survey and the Performance Indicator for road condition will allow comparison with roads in England, Wales and Northern Ireland. Comparison will also be possible with the Scottish Executive's single carriageway Trunk road network. The following table is an example of how the indicator is calculated.

SRMCS - Road Condition Indicator - Sample PI Calculation

Road Category	Environment	Carriageway Length (km)	Survey %		PI
			Red	Amber	
A	Urban	55.2	7.19	31.68	38.87

A	Urban	55.2	7.19	31.68	38.87
	Rural	378.9	6.57	27.34	33.91
	Combined	434.1	6.65	27.89	34.54
B	Urban	33.4	9.59	28.27	37.86
	Rural	333.4	7.24	33.43	40.67
	Combined	366.8	7.45	32.96	40.41
C	Urban	23.7	4.74	37.51	42.25
	Rural	614.1	3.71	25.69	29.40
	Combined	637.8	3.75	26.13	29.88
Unclassified	Urban	379.8	12.59	30.86	43.45
	Rural	608.4	18.08	42.06	60.14
	Combined	988.2	15.97	37.76	53.73
Network	Urban	492.1	11.40	31.10	42.50
	Rural	1934.8	9.40	32.49	41.89
	Combined	2426.9	9.80	32.21	42.01

- Stage 1 - For each category the percentage red and amber is obtained directly from the roads survey.
- Stage 2 - As the lengths surveyed in each road category may not reflect the relative length in the network, weighted average is calculated for each road class (i.e. red and amber columns in the table above)
- Stage 3 - Similarly as the proportion of each road class within the network is different, a simple average would be inappropriate, and once again a weighted average (by length of each class of road) is calculated to give the overall average figures for the network as a whole (shaded figures in above example)
- Stage 4 - The performance indicator figure in each case is simply the sum of the red and amber percentages

Traffic Light Repairs

RL 2: Traffic light failure: the percentage of repairs completed within 48 hours.

Definition

'Elapsed time' is the total period between the time and date on which report of the failure was received by the council and completion of the repair. It is not just the period between notification by the council to any contractor and completion.

Failure may be notified by the public, the council's own staff or other persons.

'Failure' is where there is one or more aspects not working, regardless of cause. Therefore it includes lamp failure, controller failure, accident damage, vandalism, bare wires, shade damage, exposed boxes, dark lamps and supply failure. Faults/ failures to trunk roads are excluded.

'Repairs' means work carried out, directly or indirectly through contractors, to restore the signal to use and reinstate the service. Restoration of service can be by either temporary or permanent repairs.

Source

Council's own specification records; complaints and reports registers; work orders.

Interpretation

The indicator captures the full range of activity, from notification of the fault to the completion of the repair. The actual repair work is often carried out by a contractor or Regional Electricity Company, and council's responsibility, as the client, to ensure that the contractor's or REC performance is satisfactory.

Some councils operate a 24 hour fault notification centre and reported performance for such councils

Some councils operate a 24 hour fault notification centre and reported performance for such councils may show a lower performance level compared with other councils as repair time commences when the fault is notified to the council.

The Commission's national benchmark of 48 elapsed hours (rather than working or contract hours) is not intended to supersede councils' local targets, which continue to apply.

Street Lighting

RL 3: Street lights failure: the percentage of repairs completed within 7 days.
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Definition

'Elapsed time' is the total period between the date on which report of the failure was made to the council and completion of the repair expressed in calendar days. It is not just the period between notification by the council to any contractor or Regional Electricity Company (REC) and completion.

Where a council operates night inspections the reported date should be the date when the survey information is returned to the office for actioning.

Failure may be notified by the public, the council's own staff or other persons.

'Repairs' means work carried out, whether carried out directly by in-house teams, or indirectly through external contractors, to restore normal service. Restoration can be by either temporary or permanent repairs.

'Failure' is where there is a unit not working, regardless of cause. Therefore it includes lamp failure, group faults, control failure, accident damage, vandalism, shade damage, and supply failure on both the council's own networks or REC networks. Where road lights are on during the day, and this is not intended, this should also be included. If however the lights were on for operational reasons, eg testing, do not include. Do not include faults/ failures/ repairs to trunk roads or motorways.

Exclude illuminated road signs; illuminated bollards; accidental damage to columns if still working; and school patrol warnings.

Sources

As (2) above.

Interpretation

As for indicator (2). The Commission's national benchmark of 7 calendar days (rather than working or contract days) is not intended to supersede each council's local targets.

RL 4: The proportion of street lighting columns that are over 30 years old.
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Definitions:

This indicator shows the proportion of a council's street lighting columns that are over 30 years old – the accepted industry-wide period over which columns, at present, need replaced.

Lighting columns mean all columns e.g. mild steel, aluminium, concrete and heritage or decorative. The indicator excludes wall mounted units and road sign poles. It is recognised that some columns have a life expectancy well beyond 30 years, but these should not materially distort the overall percentage.

Some councils may not have a completely accurate inventory of the age profile of all their columns. Until an inventory has been completed the basis of age profile assessment should be agreed with the external auditor. SCOTS street lighting group will be consulting on setting a target date of April 2005 for all councils to have completed the age profile of their lighting stock.

The measurement should take place at the end of the reporting year i.e. 31 March.

Source:

The measurement should take place at the end of the reporting year i.e. 31 March.

Source:

Council's own records

Interpretation

The indicator shows comparison across councils and also the extent to which councils are adequately funding the replacement of their lighting columns.

Bridges - Road Network Restrictions

RL 5: As a percentage of the total number of assessed bridges, the number of council and private bridges that:
a) fail to meet the European standard of 40 tonnes
b) have a weight or width restriction placed on them.

Definitions:

A bridge is defined as a structure carrying a public road with a span exceeding 1.8 metres. Both councils and private bridges (e.g railway or canal bridges) should be included. The indicator relates to bridges on 'A', 'B', 'C' and unclassified routes within a council's area.

Boundary bridges i.e. that that straddle two council areas should be counted once only – by the council that has primary responsibility for the bridge.

EC Directive 96/53EC implemented in the UK on 1 January 1999 permits the use of 40 tonne vehicles (44 tonnes for certain configurations) on public roads. The indicator shows the percentage of bridges that have failed to achieve this standard and the percentage of bridges that have a weight or width restriction placed on them.

Bridges that do not meet the European standard will not necessarily have restrictions placed on them. They may be managed in the short term by monitoring, propping etc which would not cause restrictions on the road network. However, a high percentage of bridges failing the standard can reflect the potential for under strength bridges to cause restrictions on the network in the future.

Bridges with a weight or width restriction placed on them exclude those bridges where the authority has secured a permanent satisfactory solution. A permanent satisfactory solution, usually a weight or width restriction which is acceptable to the community and to the local road network, represents traffic management rather than a forced constraint on the network. It will have been applied following a legal process involving local consultation resulting in a permanent restriction, enforced by a permanent traffic regulation order.

'Assessed bridges' are those bridges which fall within the scope of the European standard criteria plus those constructed post 1975 which are deemed to have passed the assessment criteria.

Weight restrictions mean that the maximum gross weight of vehicles using the bridge is restricted to less than 40 tonnes (or the maximum axle load restricted to less than 11.5 tonnes) by a traffic regulation order (temporary or permanent) made under the Roads (Scotland) Act 1984.

Width restrictions mean that the width of the bridge has been restricted by temporary or permanent measures in order to allow bridges which would otherwise fail the European standard to carry 40/44 tonne vehicles.

The two parts of the indicator will be calculated as follows. (Bridges failing the European standard split by council and private)

$$\frac{\text{Number of bridges failing the European standard minus those bridges where the authority has secured a permanent satisfactory solution}}{\text{Total number of assessed bridges}} \times 100$$

(Bridges with a weight or width restriction placed on them split by council and private)

Number of bridges with a weight or width restriction minus those bridges where the authority has secured a permanent

Number of bridges with a weight or width restriction minus those bridges where the authority has secured a permanent satisfactory solution

Total number of assessed bridges

x 100

The measurement should take place at the end of the reporting year i.e. 31 March.

Source:

The information will be sourced from whichever section of the Council is responsible for the statutory functions of Roads Authority

Interpretation:

The indicator shows the proportion of an authority's bridges that have failed to meet the European standard. Councils with a high percentage of bridges that fail the standard are likely to experience restrictions on their network in the future unless sufficient investment is made to bring them up to an acceptable standard. This part of the indicator is a measure of the Councils weak bridges. Reduction in the value of the indicator with time will be a measure of how well the Council has obtained funding for and progressed with bridge strengthening.

This indicator is also intended to show the proportion of bridges that have resulted in road network restrictions and therefore impinge on free traffic flow across the roads network. This part of the indicator is a measure of the Councils restricted bridges.

Reduction of the value of the first part of the indicator accompanied by an increase in the value of the second part will be a measure of the extent to which the Council has protected its weak bridges by weight or width restriction rather than bridge strengthening or securing permanent satisfactory solutions

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