

REPORT TO:	Policy and Performance Review Committee
MEETING DATE:	12 June 2012
BY:	Executive Director (Services for Communities)
SUBJECT:	Road Asset Management Plan 2012 - Carriageway Annual Status and options Report

1 PURPOSE

1.1 To update the Panel on the current condition of the Councils adopted public road network carriageway asset group as at April 2012. The report describes the current condition of the carriageway asset; detail of the level of service that the asset currently receives; the range of activities being employed; and present spend options available for the future.

2 **RECOMMENDATIONS**

2.1 To note the condition of the carriageway asset; the predicted impact of current spending levels; the long term cost in maintaining the asset; and the options available going forward.

3 BACKGROUND

- 3.1 This report discusses the carriageway group only. Asset groups are presented in accordance with the CIPFA (Chartered Institute of Public Finance and Accounting) Transport Asset Code for finance reporting. The detail of other asset groups will be reported separately in due course. The carriageway group has a significant value, such that the overall GRC (Gross Replacement Cost) is £750 million. (Table 1 Depreciated Replacement Cost [DRC])
- 3.2 Road assets deteriorate slowly and it is not possible to determine the impact of the level of investment by looking over the short term. The report therefore examines 20 year forecasts to ensure that decisions are taken with an understanding for the long term implications.

Measures to improve the accuracy of the information use to predict condition are ongoing with yearly SCANNER data collection and refinements in pavement performance data. Treatment life expectancy varies widely and is hugely influenced by drainage, substandard historic construction, use, traffic volumes and loading. Interventions are planned throughout the lifecycle of the asset using treatment Design Life (DL) of between 5 - 60 years. However, the ESL (Expected Service Life) for 80% of the network can be considered to be 30 years.

		GRC less Depreciation	on (DRC)
Asset Group	Gross Replacement		
	Cost (GRC) estimate	Depreciation	DRC estimate
	£'000	£'000	£'000
carriageway	749,029	88,847	660,182
Footways +	52,994	18,024	34,970
cycleways			
structures	111,000		
Lighting	65,050	1607	63,443
Traffic Management	605	252	353
Street Furniture	5,093	3085	2,008
Land	298,821	na	298,821
Total	1,282,592	111,815	1,059,777

Table 1 – Depreciated Replacement Cost

3.3 The East Lothian Public Road network length in 931 km, made up as follows:

Classification	Urban (km)	Rural (Km)	
A	32.8	62.4	The asset has grown by 19.9km
В	35.4	134	since 2003.
С	15.5	207.4	
U	244.9	198.5	

- 3.4 In August 2011 the value of the adopted public road network carriageway asset, Depreciated Replacement Cost was calculated at £660m. An annualised depreciation (AD) of £2.8m was calculated. This AD represents the predicted average carriageway depreciation in one year with no investment in asset renewal.
- 3.5 In 2011/12 £3.062m was invested in planned maintenance / renewals of the carriageway asset. This represents 110% of the estimated annual depreciation of £2.8m. The AD figure is an initial estimate and will be refined in coming years. Current investment levels are predicted to lead to increasing asset value, based upon the current levels of renewal. This is borne out by the continually improving Road Condition Indicator (RCI) for the East Lothian road network.

3.6 The condition of the carriageway network is recorded nationally through the Scottish Road Maintenance Condition Survey (SRMCS). The data collected is done so by a machine based survey (SCANNER), and the data is validated to a nationally agreed set of rules and parameters. Based on the results of 2010-12 RCI the Council is 5th out of the 32 Councils in Scotland when measured by network level RCI values:

2008-09	2009-10	2009-11	2010-12
32.6	32.5	31.0	29.0

Trend in the Road Condition Indicator (RCI) for East Lothian:

3.7 Existing investment levels on average reflect a renewal of carriageway every 38.7 years. This is significantly beyond the 30 years ESL, which is considered to be a reasonable return. However, this varies dramatically, between Urban / Rural and road classifications for 2011-12.

Classification	Urban (Yrs)	Rural (Yrs)
A	93	95
В	12.9	25.6
С	25.8	45.7
U	65.5	30.7

This however, does not take into account other preventative treatments or repairs which all influence the performance of the asset. Making realistic forecasts requires the application of various treatments to maximise the carriageway lifecycle taking into account whole life costs. Significant benefits can be realised by applying the correct treatment at the correct time, which is demonstrated through the annual surface dressing programme. A full breakdown of carriageway outputs for 2011-12 is shown in **Appendix A**.

- 3.8 Long term projections are based on estimated rates of deterioration. Estimates of expected service lives of the carriageway surface course on each classification of road have been used to predict how each class of road will deteriorate on average, over time. The predictions are based on average weather conditions and do not take into account a typically harsh winter, which have recently been experienced.
- 3.9 Costs of maintaining the asset in its current condition for 2011/12 is shown to be £4.1m (planned maintenance, corrective and preventative). An additional £2.3m is required to deliver the current standards for reactive, cyclic and winter maintenance as described in **Appendix B**.
- 3.10 A continuance of current funding at approximately £3.2m (current years carriageway budget allocation excluding drainage) is predicted to lead to an overall improvement in condition as illustrated.



The predicted RCI at the end of 20 years would be 12.64% (current RCI 29%). However, this does not take into account material and labour cost increases, which between 2007-2012 have increased on average 6% per annum. This effectively means that over a 20 year cycle the amount of spend will be reduced to £990,000/ annum in real terms. To achieve the same level of service – accommodating a 6% annual increase – the carriageway budget would have to increase to £9.9m. Unchecked the RCI value would increase to 41%

3.11 A reduction of the funding by 40% (on current £3.2m) would have the effect of increasing the Councils RCI to 39.56% and 58.7% including 6% inflation



3.12 An increase in budgetary spend on carriageway by 30% over a 5 year period and then reverting back to £3.2m spend would have the following effect.



Over a 5 year period the RCI would be reduced to 12% but rise to 23% due to the effect of compound inflation.

4 POLICY IMPLICATIONS

4.1 None

5 EQUALITIES IMPACT ASSESSMENT

5.1 This report is not applicable to the well being of equalities groups and an Equality Impact Assessment is not required.

6 **RESOURCE IMPLICATIONS**

- 6.1 Financial None
- 6.2 Personnel None
- 6.3 Other None

7 BACKGROUND PAPERS

7.1 None

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Appendix A – Carriageway Outputs 2011-12

Category	Charge	Output
Planned Maintenance - Preventative	£645k	- 43.8km of surface treatment (surface dressing)
Planned maintenance - corrective	£3,509k	 24.0km of surfacing (£2401k) 1.3km of reconstruction (£661k) Drainage repairs (£447k)
Routine cyclic maintenance	£253k	 17225 no. gullies emptied every 12 months, plus 32 with an additional monthly clean pa (£207k) 2no swathe and visibility splay cuts pa (£39k) Weedkilling (£7k)
Routine – Reactive repairs (emergency)	£345k	 Emergency call outs (£97.2k) 3000 cat 1 + 2 repairs (£317.8k) 5 no. drainage & flooding incidents (£30k)
Routine – Reactive Repairs (non – emergency)	£750k	 14080m2 of patching (£468,523) Road marking and stud replacing (£88k) 22,651 sq.m Footway slurry (46.4K) 155no. Find and Fix repairs (£111k) 15no. Misc minor repairs (£36.5k)
Routine – Inspection & Survey		 Condition surveys – SCANNER 100% A roads, 50% B Roads, 25% C roads and 10% U roads Safety inspections 100% compliance with A + B, C + U inspections

Treatment	Mat	Primary	District Distributor			Local Distributor			General Access Road			Minor Access Link			Cul-de-sac				
		Life	U	R	Life	U	R	Life	U	R	Life	U	R	Life	U	R	Life	U	R
		(yr)	(£/n	n 2)	(yr)	(£/r	n 2)	(yr)	(£/r	n 2)	(yr)	(£/I	m 2)	(yr)	(£/	m 2)	(yr)	(£/I	m 2)
Full Reconstruction		40	92	87	40	92	87	40	83	78	50	83	78	60	73	68	60	73	68
Resurfacing	HRA	20	36	31	20	36	31	20	35	30	20	35	30	30	34	29	30	34	29
(surface and binder	SMA	15	35	30	15	35	30	15	34	29	20	34	29	25	33	28	25	33	28
	AC	10	34	29	10	34	29	10	33	28	15	33	28	20	32	27	20	32	27
Resurfacing	HRA	20	30	25	20	30	25	20	29	24	25	29	24	30	28	23	30	28	23
(surface course – including	SMA	15	29	24	15	29	24	15	28	23	20	28	23	25	27	22	25	27	22
asphalt reinforcement grid	AC	10	28	23	10	28	23	10	27	22	15	27	22	20	26	21	20	26	21
Retread	HRA										25	29	25	30	26	22	30	26	22
	SMA										20	28	24	25	25	21	25	25	21
	AC										15	27	23	20	24	20	20	24	20
	SD										10	13	12	15	13	12	15	13	12
REPAVE	HRA	15	25	22	15	25	22	15	24	21	20	24	21	25	22	19	25	22	19
	SMA	10	24	21	10	24	21	10	23	20	15	23	20	20	21	18	20	21	18
	AC	10	23	20	10	23	20	10	22	19	15	22	19	20	20	17	20	20	17
Overlay	HRA	20	23	18	20	23	18	20	22	17	25	22	17	30	21	16	30	21	16
	SMA	15	22	17	15	22	17	15	21	16	20	21	16	25	20	15	25	20	15
	AC	10	21	16	10	21	16	10	20	15	15	20	15	20	19	14	20	19	14
Resurfacing	HRA	20	25	20	20	25	20	20	24	19	25	24	19	30	22	17	30	22	17
(surface course)	SMA	15	24	19	15	24	19	15	23	18	20	23	18	25	21	16	25	21	16
	AC	10	23	18	10	23	18	10	22	17	15	22	17	20	20	15	20	20	15
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Appendix B: Carriageway Renewals – Lifecycles and Unit Costs

Treatment	Mat	Primary	[,] Distribu	tor	District Distributor			Local Distributor			General Access Road			Minor Access Llnk			Cul-de-sac		
		Life	U	R	Life	U	R	Life	U	R	Life	U	R	Life	U	R	Life	U	R
		(yr)	(£/r	n 2)	(yr)	(£/r	(£/m 2)		(£/r	n 2)	(yr)	(£/I	m 2)	(yr)	(£/	m 2)	(yr)	(£/m 2)	
resurfacing (surfa course)	се																		
Micro asphalt (including pre- patching)		5	6.05		5	6.05		5	5.75		5	5.75		5	5.45		5	5.45	
Micro asphalt		5	5.0		5	5.0		5	4.70		8	4.70		10	4.40		10	4.40	
Slurry Surfacing (including pre- patching)														5	3.75		5	3.75	
Slurry Surfacing														5	3.00		5	3.00	
Surface Dressing (Including pre- patching)		7		2.50	7		2.50	7		2.00	10		2.0	10		2.0	10		2.0
Surface Dressing		7		2.00	7		2.00	7		1.5	10		1.5	10		1.5	10		1.5
Carriageway	HRA	10	29	28	10	29	28	10	28	27	12	28	27	15	27	26	15	27	26
Patching (40mm)	SMA	10	28	27	10	28	27	10	27	26	12	27	26	15	26	25	15	26	25
()	AC	10	27	26	10	27	26	10	26	25	12	26	25	15	25	24	15	25	24
Carriageway	HRA	10	45	44	10	45	44	10	44	43	12	44	43	15	43	42	15	43	42
Patching (100mm)	SMA	10	44	43	10	44	43	10	43	42	12	43	42	15	42	41	15	42	41
	AC	10	43	42	10	43	42	10	42	41	12	42	41	15	41	40	15	41	40
Carriageway Retexturing		5	2.50		5	2.50		5	2.30		5	2.30		5	2.20		5	2.20	
High Friction Surfacing (Anti-skid)		5	19	18	5	19	18	5	18	17	7	18	17	10	17	16	10	17	16
High Friction (Anti-skid)		5	43	42	5	43	42	5	42	41	7	42	41	10	41	40	10	41	40
Edge Reconstruct	tion	40	110	105	40	110	105	40	101	96	50	101	96	60	91	86	60	91	86
Edge Recycling					40		70	40		70	50		70	60		70	60		70
Block Paving (Renewal)															55			55	
Block Paving (Reconstruction)															95			95	