Appendix 3



Transport Asset Management Plan (TAMP)

Section 2 – Annual Update Report 2015



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1. Introduction

- 1.1 The Transport Asset Management Plan (TAMP) is divided into two sections:
 - Section 1 Policy; and
 - Section 2 Annual Update Report.
- 1.2 This Annual Update Report provides an update to stakeholders on:
 - Inventory;
 - Condition;
 - Maintenance backlog;
 - Public satisfaction;
 - Performance;
 - Valuation;
 - Budgets; and
 - Investment levels.

2. Inventory

- 2.1 The inventory is a database containing details of the individual assets that make up the highway network.
- 2.2 It is vital to know what assets exist and where so they can be inspected, surveyed and maintained to appropriate service levels.
- 2.3 The inventory at 31 March 2015 is summarised in the table below:

Asset	Unit	Adopted	DCC	Private	Total	RAG
			Unadopted	Unadopted		Rating
Carriageway						
А	Km	415	0	0	415	G
В	Km	406	0	0	406	G
С	Km	697	0	0	697	G
Unclassified	Km	2,262	42	117	2,421	G
Sub-Total		3,780	42	117	3,939	
Kerbing	Km	4,588	54	153	4,795	R
Drainage						
Gullies	Number	110,054	1,371	3,864	115,289	R
Ditches	Km	262	16	44	322	R
Pipework	Km	376	4	12	392	R
Road marking	js					
Lines	Km	2,242	8	23	2,273	R
Other items	Number	22,271	179	503	22,953	R
Footway						
Bitumen	Km	3,337	145	93	3,575	G
Flagged	Km	373	30	21	424	G
Concrete	Km	100	14	20	134	G
Block paved	Km	15	3	2	20	G

Other	Km	3	10	5	18	G
Sub-Total		3,828	202	141	4,171	
Structures						
Road bridges	Number	486	0	0	486	G
Footbridges	Number	32	460	0	492	G
Retaining walls	Number	241	13	0	254	А
Culverts	Number	64	0	0	64	G
Subways	Number	34	0	0	34	G
Other	Number	112	6	0	118	G
Sub-total		969	479	0	1,448	
Street lighting	3	1				
Columns/ Lanterns	Number	83,144	0	0	83,144	G
Lit Signs	Number	5,531	0	0	5,531	G
Sub-total		88,675	0	0	88,675	
Traffic Manag	ement					
Traffic lights	Number	65	0	0	65	G
Pedestrian crossings	Number	73	0	0	73	G
Sub-Total		138	0	0	138	
Street Furnitu	ire					
Safety fencing	Km	53	0	0	53	А
Bollards	Number	12,443	0	0	12,443	R
Salt/grit bins	Number	2,348	0	0	2,348	А
Waste bins	Number	2,770	0	0	2,770	R
Unlit signs	Number	68,497	808	2,277	71,582	R
PROW/	Number					
bridleway signs		4,300	0	0	4,300	R
Trees	Number	5.000	0	0	5.000	R
Land		-,		<u> </u>	-,-••	
Urban	M ²	19,549,528	388,476	608,600	20,546,604	G
Rural	M ²	11,390,328	226,202	354,375	11,970,905	G

2.4 The RAG (Red, Amber, Green) Rating denotes the accuracy of the inventory where:

Inventory RAG Rating	Description
R (Red)	Low accuracy
A (Amber)	Moderate accuracy
G (Green)	High accuracy

- 2.5 There are gaps in the inventory and condition data relating to some minor assets. These gaps will continue to be addressed through further surveys as far as it is proportionate and economic to do so.
- 2.6 The inventory grows each year due to new developments. A summary showing the growth in the inventory is shown in Appendix 1.

2.7 The growth in the inventory puts pressure on maintenance budgets as they have to cover more assets each year.

3. Condition

		Performan					
Asset	Description	2013	2014	2015	Good Condition Target	Fair Condition Target	
Carriageway						-	
A – Roads	% where	5.5%	4.6%	4.9%	0.0%	4.0%	
B – Roads	maintenance	9.2%	8.0%	7.5%	0.0%	4.0%	
C – Roads	should be considered	9.3%	8.1%	5.0%	0.0%	4.0%	
Unclassified Roads	% where maintenance should be considered	21.0%	22.0%	19.0%	0.0%	8.0%	
All Roads	% where maintenance should be considered	15.8%	16.0%	13.6%	0.0%	6.4%	
Kerbing	% where replacement should be considered	10.0%	10.0%	10.0%	0.0%	5.0%	
Drainage	% where replacement should be considered	12.0%	10.0%	10.0%	0.0%	5.0%	
Road Markings	% where replacement should be considered	30.0%	50.0%	55.0%	0.0%	10.0%	
Footways	% structurally unsound	27.8%	27.1%	26.4%	0.0%	5.0%	
	Bridge Condition Index – Principal roads	93.9	94.0	88.3	100.0	95.0	
Structures	Bridge Condition Index – Non- Principal Roads	88.0	88.0	86.4	100.0	95.0	
	Other (using form of Bridge Condition Index)	66.0	66.0	66.0	100.0	85.0	
Street	% columns > 40	18.1%	17.5%	17.7%	0.0%	5.0%	

3.1 Condition is summarised as follows in accordance with the policy:

Lighting	years					
	% lanterns > 20 years	50.2%	45.9%	25.8%	0.0%	5.0%
	% lit signs where replacement should be considered	19.3%	20.0%	17.9%	0.0%	5.0%
Traffic Management	No. sites > 15 vears	23	22	19	0	10
Street Furniture						
Safety fencing	% where replacement should be considered	8.0%	6.0%	6.0%	0.0%	5.0%
Bollards	% where replacement should be considered	10.0%	10.0%	10.0%	0.0%	5.0%
Salt/grit bins	% where replacement should be considered	8.0%	8.0%	8.0%	0.0%	5.0%
Unlit signs						
Road signs	% where replacement should be considered	10.0%	10.0%	10.0%	0.0%	5.0%
Street Name Plates	% where replacement should be considered	15.0%	15.0%	15.0%	0.0%	5.0%
PROW signs	% where replacement should be considered	3.0%	3.0%	3.0%	0.0%	5.0%

- 3.2 The good condition target represents where the maintenance backlog will be zero with no defects. This is an ideal theoretical target which is not realistic in practice.
- 3.3 The fair condition target represents a realistic target of acceptable condition subject to available funding.

3.4 **Department for Transport Statistics**

3.4.1 The condition of local roads is reported to and monitored nationally by the Department for Transport. The latest results published on 5 March 2015 for 2013/14 can be found at the following link:

https://www.gov.uk/government/statistics/road-conditions-inengland-2014

- 3.4.2 The results allow comparisons to be made between local Authorities across England and are summarised in Appendix 3 Condition Benchmarking.
- 3.4.3 The results for 2014/15 are expected to be published in February 2016.
- 3.4.4 The key findings are that:
 - DCC A Roads are national average condition (Rank 76/149);
 - DCC B and C Roads are slightly worse than the national average (Rank 86/149); and
 - DCC Unclassified Roads are worse than the national average (Rank 96/130).

3.5 *Conclusions*

- 3.5.1 The condition of A and B roads is stable. The condition of C roads has improved but due to a transition from a 4 year survey cycle to a 2 year survey cycle this may not be a true reflection of the overall condition of the C road network. The condition will be confirmed in 2016 when the transition process is complete and survey data will be available for the whole of the C road network.
- 3.5.2 The condition of unclassified roads has improved slightly which is welcome although this remains a key issue.
- 3.5.3 The condition of footways is a key issue although additional investment in recent years has resulted in some improvement.

4. Maintenance Backlog

- 4.1 The maintenance backlog is the value of programmed capital maintenance required to bring the highway asset up to good condition.
- 4.2 The method of calculation is as follows:

Asset	Description
Carriageway	The nationally accredited UK Pavement Management System (UKPMS) software system identifies the appropriate treatment for each 100m section of carriageway/footway.
	UKPMS selects A, B and C classified carriageway surveyed by SCANNER in a Red condition for treatment but also some sections in an Amber and Green condition where it is justified on asset management principles.

	Unclassified roads are surveyed by Coarse Visual Inspection
	the UKPMS system.
Footway	A Footway Network Survey (FNS) has been adopted whereby
	the condition of the surface is assessed into four conditions, 1
	being 'as new', and 4 being 'structurally unsound'. This data can
	be put into UKPMS to identify the appropriate treatment and
	calculate required financial data.
Kerbing	I ne maintenance backlog is the % requiring replacement
Drainaga	The maintenance backles is the % requiring replacement
Dramage	multiplied by the inventory and the unit rate
Road Markings	The maintenance backlog is the % requiring replacement
rioad Markings	multiplied by the inventory and the unit rate
Structures	The backlog is calculated by completing a manual analysis of
	the Bridge Condition Indicator (BCI) and the routine inspection
	data, assessing each individual components needs and applying
	a unit rate to each. The cost of any overdue inspections, the
	renewal of individual components in excess of their useful life
	and upgrading of any underperforming structures is included.
Street Lighting	Number of columns > 40 years
	Number of luminaries > 20 years
	Lit signs - maintenance backlog is the percentage requiring
T (() N	replacement multiplied by the inventory and the unit rate.
I raffic Management	Number of sites > 15 years
Street Furniture	
Safety Fencing	
Bollards	The maintenance healder is the % requiring replacement
Salt/grit bins	The maintenance backlog is the % requiring replacement
	multiplied by the inventory and the unit rate.
Road signs	
Platos	
PROW signs	
I I I OW SIGHS	

4.3 The maintenance backlog as at 31 March 2015 is summarised as follows:

	Unito	Adopted Unadopted		opted	Total		
	Units	Amount	£M	Amount	£М	Amount	£M
Carriageways							
Strengthen	Km	177.4	16.0	59.8	28.9	237.2	44.9
Resurface	Km	348.9	31.6	18.1	1.6	367.0	33.2
Surface Improvement	Km	387.0	8.8	22.8	0.5	409.8	9.3
Edge Improvement	Km	27.4	2.8	0.0	0.0	27.4	2.8
Sub-Total		940.7	59.2	100.7	31.0	1,041.4	90.2
Kerbing	Km	458.8	18.4	20.7	0.7	479.5	19.1

Drainage	Number	11,005.0	5.6	524.0	0.2	11,529.0	5.8		
Road Markings	Km	1,233.0	0.9	50.0	0.1	1,283.0	1.0		
Footways									
Reconstruction	Km	582.3	25.9	13.5	3.0	595.8	28.9		
Overlay/Relay/ Flagging	Km	433.9	6.4	26.5	0.5	460.4	6.9		
Repair/Relay	Km	386.9	11.8	26.5	0.5	413.4	12.3		
Surface improvement	Km	355.1	3.6	110.5	0.5	465.6	4.1		
Sub-Total		1,758.2	47.7	177.0	4.5	1,935.2	52.2		
Structures	Number	969	22.4	479.0	9.7	1,448.0	32.1		
Street Lighting									
Column replacements	Number	11,942.0	14.7	0	0	11,942.0	14.7		
Luminaire replacements	Number	21,418.0	7.5	0	0	21,418.0	7.5		
Lit signs	Number	988.0	1.3	0	0	988.0	1.3		
Sub-Total		34,348.0	23.5	0	0	34,348.0	23.5		
Traffic Management									
Replacements	Number	19.0	1.0	0.0	0.0	19.0	1.0		
Street Furniture	Street Furniture								
Safety fencing	Km	4.2	2.4	0	0.1	4.2	25		
Seats, litter bins etc.	Number	9,127.0	2.4	430.0	0.1	9,557.0	2.5		
Total	-	-	181.1	-	46.3	-	227.4		

4.4 The maintenance backlog for the adopted highway over the past 4 years is summarised as follows:

Maintenance Backlog			31 Ma	rch £Millions
	2012	2013	2014	2015
Carriageways				
Strengthen	19.8	19.9	19.6	16.0
Resurface	36.8	36.9	36.4	31.6
Surface Improvement	7.9	7.9	7.8	8.8
Edge Improvement	3.0	3.0	3.0	2.8
Sub-Total	67.5	67.7	66.8	59.2
Kerbing	18.1	18.2	20.2	18.4
Drainage	5.4	5.4	5.8	5.6
Road Markings	0.8	0.8	0.5	0.9
Footways				
Reconstruction	25.5	25.6	24.9	25.9
Overlay/Relay/Flagging	7.2	7.2	7.0	6.4
Repair/Relay	11.4	11.5	11.1	11.8
Surface improvement	4.0	4.1	4.0	3.6
Sub-Total	48.1	48.4	47.0	47.7
Structures	9.9	9.9	9.9	22.4
Street Lighting				
Column replacements	10.9	11.7	11.0	14.7

Luminaire replacements	12.1	12.1	10.9	7.5
Lit sign replacements	1.8	1.8	1.4	1.3
Sub-Total	24.8	25.6	23.3	23.5
Traffic Management				
Replacements	1.1	1.1	1.1	1.0
Street Furniture	2.3	2.5	2.4	2.4
Total	178.0	179.6	177.0	181.1

- 4.5 It can be seen that the maintenance backlog is stable at present.
- 4.6 Nearly every Local Highway Authority has a highway maintenance backlog apart from those that have received extra funding from the Government to undertake Highway Maintenance PFI Projects to clear their maintenance backlogs.
- 4.7 The maintenance backlog should be considered in the context of the overall value of the highway asset.
- 4.8 Durham County Council's backlog is broadly in line with other Councils based on the Annual Local Authority Road Maintenance (ALARM) Survey 2015 which estimates the backlog for England at £12.16 billion for carriageways and footways. The ALARM Survey can be found at the following link:

http://www.asphaltindustryalliance.com/alarm-survey.asp

5. Public Satisfaction

5.1 The Council participates in the National Highways & Transportation (NHT) Public Satisfaction Survey which is undertaken by IPSOS/MORI.The details of the survey can be found at the following link:

http://nhtsurvey.econtrack.co.uk/

5.2 The results are summarised as follows:

Key Benchmark Indicator			% Publi	c Satisfie	ed (Year)		
(KBI)	2008	2009	2010	2011	2012	2013	2014
Overall							
KBI 01 - Overall (local)							
Durham County Council	N/A	57.9	55.9	54.6	58.4	N/A	57.0
North East	56.0	58.7	57.8	55.5	57.9	54.7	57.5
National Average	55.3	56.2	56.2	55.4	55.9	55.0	55.3
KBI 02 - Overall (national)							
Durham County Council	N/A	57.8	55.8	54.4	58.3	N/A	57.0
North East	55.9	58.6	57.7	55.4	57.8	54.7	57.4
National Average	55.3	56.2	56.2	55.4	55.9	55.0	55.3
Highway Maintenance							

KBI 23 - Condition of highw	ays								
Durham County Council	N/A	45.1	37.5	33.8	37.7	N/A	38.2		
North East	43.0	46.6	40.3	32.6	38.4	26.4	37.5		
National Average	44.4	42.8	38.6	34.7	36.6	31.1	34.4		
KBI 24 - Highway maintenance									
Durham County Council	N/A	55.1	48.3	46.2	47.8	N/A	49.4		
North East	51.8	54.8	50.7	47.0	49.1	46.6	49.4		
National Average	53.1	52.1	50.2	49.3	49.0	49.6	49.4		
KBI 25 - Street lighting									
Durham County Council	N/A	72.8	70.6	70.6	72.9	N/A	69.7		
North East	69.1	72.9	72.6	70.8	71.1	68.8	70.3		
National Average	67.8	68.1	68.8	68.2	67.4	67.4	66.9		
KBI 26 - Highway enforcement/obstructions									
Durham County Council	N/A	51.9	47.9	49.3	49.8	N/A	47.7		
North East	48.6	52.2	51.0	50.3	51.0	48.3	48.5		
National Average	50.2	50.6	50.5	52.2	50.4	49.4	48.2		

- 5.3 The Council did not participate in 2008, 2013 or 2015. North East Councils have agreed to participate every two years from 2012 onwards as a cost saving measure. The next survey the Council will participate in will be in 2016.
- 5.4 The results above show that there is low satisfaction with the condition of the highway nationally and across the North East. However, the results for Durham are above the national average and the North East.

6. **Performance**

6.1 The performance against the objectives set out in TAMP Section 1 - Policy is as follows:

Primary	Secondary	Performance			Year Ending	g 31 March
Objectives	Objectives	Measure	2012	2013	2014	2015
Safety Complying with statutory obligations		Public liability claims repudiation rate	92%	96%	95%	94%
	Meeting user's needs for	Completion of Highway Safety Inspections	100%	100%	100%	100%
	safety	Response to	Not	Not	Cat1 75%	Cat1 95%
		Category 1 and 2 safety defects (Target 95%)	available	available	Cat2 78%	Cat2 83%
Serviceability	Ensuring availability	Effective Streetworks Licensing system to minimise number of	< 1%	<1%	< 1%	<1%

		unplanned utility overruns					
	Achieving integrity	Condition surveys	See Table 3.1				
	Maintaining	NHT Public		See Ta	able 5.2		
	reliability	Satisfaction Survey	isfaction vev				
	Enhancing condition	Programmed maintenance		See Ta	able 8.4		
Sustainability	Minimising whole life costs	Lifecycle plans	See Appendix 2				
	Maximising value to the community	Not quantifiable	N/A	N/A	N/A	N/A	
	Minimising environmental impact	Maintaining accreditation and compliance with ISO 14001 Environmental Management	Achieved	Achieved	Achieved	Achieved	

7. Valuation

- 7.1 The Code of Practice on Local Authority Accounting in the United Kingdom requires that the adopted highway is included in the Council's Financial Statements as a fixed asset in the balance sheet. This is part of the Government's Whole of Government Accounts (WGA) initiative to align with International Financial Reporting Standards (IFRS).
- 7.2 The benefit of including the adopted highway as an asset in the financial statements is that it informs stakeholders of the true cost of holding and maintaining the asset which in turn supports good asset management.
- 7.3 The asset is included within the financial statements at depreciated Replacement Cost (DRC). Depreciated replacement cost is a method of valuation that provides the current cost of replacing an asset with its modern equivalent asset (gross replacement cost), less deductions for all physical deterioration and impairment (accumulated depreciation).
- 7.4 The difference between the gross and depreciated cost is the cost of restoring the asset from its present condition to 'as new'.
- 7.5 The condition of assets with a finite economic life will deteriorate each year due to the wearing out and using up of the asset. The

deterioration of assets such as carriageways and footways may be accelerated where episodes of severe weather are greater than average.

- 7.6 Annual depreciation is calculated by identifying all the capital treatments needed to maintain assets or key components over their life cycles and then spreading the total cost evenly over the number of years in the life cycle. Calculated in this way, annual depreciation not only represents the annual consumption of economic benefits embodied in the asset but also provides a measure of what on average needs to be spent year on year on programmed maintenance to maintain the assets in a steady state.
- 7.7 The valuation as at 31 March 2015 is as follows:

Asset – Adopted								£ Millions
Highway	Carriageway	Footway	Street Lighting	Structures	Traffic Management	Street Furniture	Land	Total
Gross Replacement	Cost							
B/F 1 April 2014	3,195.4	357.4	137.0	333.6	7.7	25.8	2,839.4	6,896.3
Additions		1	1	1	1			
- Adoptions	8.8	6.1	0.1	0.0	0.0	0.0	0.2	15.2
- Programmed Maintenance	11.3	2.9	0.9	2.0	0.0	0.3	0.0	17.4
- Improvements	0.0	0.0	4.2	0.0	0.3	0.1	0.0	4.6
Revaluation Adjustment	-398.0	-13.0	-3.3	26.9	-5.6	-1.8	-813.9	-1,208.7
Disposals	-2.1	-0.1	0.0	0.0	0.0	0.0	0.0	-2.2
C/F 31 March 2015	2,815.4	353.3	138.9	362.5	2.4	24.4	2,025.7	5,722.6
Accumulated Depre	ciation							
B/F 1 April 2014	203.0	56.0	90.6	5.4	2.8	7.9	0.0	365.7
Revaluation Adjustment	-59.3	-0.3	-23.3	-0.4	-1.6	2.2	0.0	-82.7
Annual Depreciation Charge	14.7	7.1	6.6	0.4	0.2	0.6	0.0	29.6
Disposals	-2.1	-0.1	0.0	0.0	0.0	0.0	0.0	-2.2
C/F 31 March 2015	156.3	62.7	73.9	5.4	1.4	10.7	0.0	310.4
Depreciated Replac	ement Co	st						
B/F 1 April 2014	2,992.4	301.4	46.4	328.2	4.9	17.9	2,839.4	6,530.6
Additions	20.1	9.0	5.2	2.0	0.3	0.4	0.2	37.2
Revaluation Adjustment	-338.7	-12.7	20.0	27.3	-4.0	-4.0	-813.9	-1,126.0
Annual Depreciation Charge	-14.7	-7.1	-6.6	-0.4	-0.2	-0.6	0.0	-29.6
Disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C/F 31 March 2015	2,659.1	290.6	65.0	357.1	1.0	13.7	2,025.7	5,412.2

8. Budgets

8.1 The budget for programmed capital maintenance is summarised as follows:

Funding					Ye	ar Ending	g 31 Marc	h £'000s		
Stream	2011	2012	2013	2014	2015	2016	2017*	2018*		
Department for Transport Funding										
Local										
Transport	10,762	11,212	10,679	10,132	9,780	11,886	10,896	10,567		
Plan										
Detrunked	820	0	0	0	0	0	0	0		
Highway	020	0	0	0	0	0	0	0		
Section 31	0	847	0	1,836	1,007	0	0	0		
Severe	0	0	0	0	1 040	0	0	0		
Weather	0	0	0	0	1,242	0	0	0		
Potholes	0	0	0	0	2 107	0	0	0		
Fund	0	0	0	0	2,137	0	0	0		
Sub-Total	11,582	12,059	10,679	11,968	14,226	11,886	10,896	10,567		
Durham Coun	ty Counci	il Funding	9							
Highway	710	1 212	3 012	2 0 1 2	5 404	1 812	6 0 1 2	7 554		
Maintenance	/12	1,212	3,012	2,912	5,404	4,012	0,912	7,554		
Total	12,294	13,271	13,691	14,880	19,630	16,698	17,808	18,121		
*Projected										

8.2 The above budget rebased for construction inflation at 1 April 2015 prices is summarised as follows:

					Y	'ear Endin	ig 31 Marc	h £'000s	
	2011	2012	2013	2014	2015	2016	2017	2018	
Nominal									
Budget	12,294	13,271	13,691	14,880	19,630	16,698	17,808	18,121	
Inflation %	2.01%	3.49%	5.08%	1.33%	1.25%	-0.76%	*5.00%	*5.00%	
Index	228.18	236.14	248.13	251.44	254.59	252.66	265.29	278.55	
Real 1 April 2015 Prices									
Budget	13,612	14,199	13,940	14,952	19,481	16,698	16,959	16,436	

*Forecast from the Building Cost Information Service (BCIS)

- 8.3 It can be seen that the above outturn spend is significantly less than the annual depreciation charge.
- 8.4 The above budgets have purchased the following quantities of programmed capital maintenance:

Programmed	Unit	Steady State Year Ending 31 March								1 March
Capital		Condition	2011	2012	2013	2014	2015	2016	2017	2018
Maintenance		Benchmark								
 Quantities 										
Carriageways	Km treated	7.0%	132	146	122	156	168	165	178	182

			3.6%	3.9%	3.2%	4.1%	4.4%	4.4%	4.7%	4.8%
Korbing	Km troated	2.5%	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Reibling	Rin treateu	2.3 /0	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Drainage	Numbor	2 5%	125	140	130	130	130	130	130	130
(Gullies)	Number	2.3 /0	0.11%	0.13%	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%
Road	Km troated	1/ 20/	287	284	286	287	285	285	285	285
Markings	Rin treated	14.576	12.8%	12.7%	12.8%	12.8%	12.7%	12.7%	12.7%	12.7%
Footwave	Km treated	5.0%	68	88	84	88	108	95	103	106
TOOlways	Rin treateu	5.0 %	1.8%	2.3%	2.2%	2.3%	2.8%	2.5%	2.7%	2.8%
	No. of		45	39	66	50	26	26	46	47
Structures	bridges	5%	4 7%	4 1%	6.9%	5 2%	27%	27%	4.8%	4 9%
	treated		4.7 /0	4.170	0.378	J.2 /0	2.1 /0	2.1 /0	4.0 /0	4.370
	No.		788	814	836	841	802	830	1646	1500*
	columns	2.5%	1 2%	1.3%	1.3%	1.3%	1.2%	1.3%	2.6%	1.3%
Street lighting	replaced		1.270	1.070	1.070	1.070	1.270	1.070	2.070	1.070
Orect lighting	No.		7 590	8 146	7 423	8 1 3 7	12 004	12 000	12 000	12 000
	luminaires	5.0%	9.1%	9.8%	8 9%	9.8%	14 4%	14 4%	14 4%	14 4%
	replaced		0.170	0.070	0.070	0.070	14.470	14.470	14.470	14.470
	No. lit signs	2.5%	100	100	100	100	100	105	105	105
	replaced	2.078	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Traffic		6 7%	2	3 2 20%	2	107%	21/0/	2	2	2
Management		0.7 /8	1.4%	5 2.2 /0	1.4%	1 0.7 /0	2 1.4 /0	1.4%	1.4%	1.4%
Street	Items	3 00/	2,099	2,300	1,750	1,550	2,010	1,680	1700*	1700*
Furniture	replaced	5.2 /0	2.2%	2.4%	1.8%	1.6%	2.1%	1.7%	1.7%	1.7%

*Projected

8.5 It can be seen that the quantity of programmed capital maintenance purchased is less than the steady state condition benchmark and this explains why the condition of the highway asset has deteriorated over the period.

9. Investment Levels

- 9.1 The TAMP measures the current and projected condition of the asset for a given level of investment in programmed capital maintenance.
- 9.2 A range of investment levels (condition or budget led) are provided to allow stakeholders to select the most appropriate investment level to meet their objectives within available budgets.
- 9.3 We have modelled the following investment levels as stated in the policy:

Investment Level –	1 April 2015 Prices (£ millions)						
Programmed Capital	One Off	Annual	Annual Average				
Maintenance	Capital Cost	Average	Capital Cost (Once				
	-	Capital Cost	Backlog Cleared)				
Projected Budget	N/A	£16.8	N/A				
Steady State Condition	N/A	£23.3	N/A				
Eliminate highway maintenance backlog over 1 year then maintain at steady state condition	£181.1	N/A	£22.3				

Eliminate highway maintenance backlog over 30 years then maintain at steady state condition	N/A	£34.1	£22.3
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- 9.4 It is assumed that budgets will be uplifted for inflation to maintain purchasing power at 1 April 2015 prices.
- 9.5 The Projected Budget is an indicative annualised figure and the actual budgets may be greater or less depending upon Department for Transport and Council funding.
- 9.6 The above does not take account of any growth in the inventory from new developments which will increase the above values.
- 9.7 The projected condition and maintenance backlog for the Projected Budget service level is provided in Appendix 2.
- 9.8 The investment levels are calculated using nationally accredited lifecycle planning models which are based on current condition projected forward for average annual deterioration over a period of 30 years. In the short term the annual movements in the maintenance backlog are affected by:
 - Inflation;
 - Annual variations in deterioration due to the severity of the weather;
 - Cycle for collecting condition data which is up to 6 years; and
 - The accuracy of the nationally accredited deterioration model when applied to County Durham.
- 9.9 If investment is less than the steady state condition investment level then in the medium term:
 - The condition of the highway asset will deteriorate;
 - The maintenance backlog will increase;
 - The number of defects will increase and put pressure on the reactive and routine revenue maintenance budgets;
 - The number of public liability claims will increase and put pressure on the insurance budget; and
 - Public satisfaction will decrease.
- 9.10 If investment is more than the steady state condition investment level then in the medium term:
 - The condition of the highway asset will improve;
 - The maintenance backlog will reduce;
 - The number of defects will reduce;
 - The number of public liability claims will reduce; and
 - Public satisfaction will improve.

10. Feedback

- 10.1 The Council welcomes feedback on any aspect of this TAMP. If you would like to provide feedback please provide via Customer Services using the following contact details:
 - Website: www.durham.gov.uk
 - Email: <u>help@durham.gov.uk</u>
 - Telephone number: 03000 261000

Appendix 1 - Inventory Summary

Adopted	Unit										31 March
Highway	Unit	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Carriageways											
A Roads	Km	412	412	412	412	416	416	416	416	416	415
B Roads	Km	408	408	406	406	407	407	407	407	406	406
C Roads	Km	697	696	695	699	698	698	697	697	697	697
Unclassified	Km	2,175	2,181	2,191	2,195	2,200	2,212	2,224	2,236	2,255	2,262
Sub-Total	Km	3,692	3,697	3,704	3,712	3,721	3,733	3,744	3,756	3,774	3,780
Kerbing	Km	4,424	4,431	4,441	4,449	4,462	4,478	4,493	4,539	4,573	4,588
Drainage											
Gullies	Number	104,099	104,280	104,547	104,741	105,034	105,428	105,805	107,488	108,340	110,054
Ditches	Km	262	262	262	262	262	262	262	262	262	262
Pipework	Km	355	355	355	356	358	359	360	365	368	376
Road Markings											
Lines	Km	2,229	2,229	2,227	2,232	2,237	2,241	2,240	2,243	2,242	2,242
Other items	Number	19,895	19,915	19,935	19,973	20,035	20,085	20,129	22,167	22,271	22,271
Footways	Km	3,375	3,393	3,405	3,487	3,543	3,600	3,656	3,783	3,837	3,828
Structures	Number	1,352	1,355	1,360	1,380	1,398	1,399	1,402	1,402	1,402	1,448
Street Lighting	Number	84,645	85,277	85,909	86,541	87,173	87,803	88,491	89,008	89,085	88,675
Traffic Management	Number	105	110	118	121	123	127	129	133	136	138
Street Furniture											
Safety fencing	Km	53	53	53	53	53	53	53	53	53	53
Other	Number	22,570	22,858	23,146	23,434	23,722	24,010	24,298	24,586	24,996	24,996
Land	M ²	29,841,791	29,904,170	29,963,830	30,159,100	30,326,800	30,499,600	30,891,150	31,326,522	31,353,145	30,939,856

Asset	Description															3	1 March
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
A - Roads	0/	5.0	4.2	4.1	4.2	4.4	4.5	4.7	4.8	4.9	4.9	5.0	5.0	5.0	5.0	4.9	4.9
B – Roads	% where maintenance	7.5	6.4	6.0	5.8	5.9	6.0	6.1	6.2	6.2	6.3	6.3	6.3	6.2	6.2	6.1	6.1
C – Roads		5.0	4.3	4.1	4.1	4.3	4.4	4.6	4.7	4.8	4.9	4.9	5.0	5.0	5.0	5.0	5.0
Unclassified Roads	% where maintenance should be considered	19.0	18	18	18.7	19.8	21.2	22.8	24.6	26.4	28.3	30.1	31.9	33.6	35.2	36.8	38.3
Footways	% functionally/ structurally impaired	26.4	25.7	25.5	25.5	25.9	26.4	27.1	27.8	28.6	29.3	30.1	30.8	31.5	32.1	32.7	33.3
Kerbing	% where replacement should be considered	10.0	10.3	10.7	11.0	11.4	11.7	12.0	12.4	12.7	13.0	13.3	13.7	14.0	14.3	14.6	15.0
Drainage	% where replacement should be considered	10.0	10.8	11.5	12.2	13.0	13.7	14.4	15.1	15.8	16.5	17.2	17.9	18.5	19.2	19.9	20.5
Road Markings	% where replacement should be considered	55.0	59.8	63.9	67.4	70.4	73.0	75.2	77.1	78.7	80.1	81.3	82.3	83.2	83.9	84.6	85.1
0	Bridge Condition Index – Principal roads	88.3	88.7	87.3	88.4	89.4	89.2	88.5	88.6	88.1	87.4	86.9	86.0	86.0	85.8	85.3	84.9
Siluciules	Bridge Condition Index – Non-Principal Roads	86.4	86.7	86.2	86.5	86.7	86.4	85.8	86.4	86.1	85.5	85.0	85.2	84.8	83.4	82.9	82.4
	% columns > 40 years	17.7	18.3	19.0	19.8	20.8	21.9	23.1	24.4	25.9	27.3	28.9	30.4	32.0	33.6	35.1	36.7
Street Lighting	% lanterns > 20 years	25.8	22.5	19.0	15.3	11.3	7.0	11.1	14.9	18.6	22.1	25.4	28.5	31.5	34.3	37.0	39.6
	Lit signs	20.0	21.7	23.3	25.0	26.5	28.1	29.5	31.0	32.4	33.8	35.1	36.5	37.7	39.0	40.2	41.4
Traffic Management	% traffic signals > 15 years	16.0	20.1	24.1	28.4	32.8	37.1	41.3	45.4	49.2	52.8	56.1	59.1	61.9	64.3	66.5	68.5
Street Furniture	% where replacement should be considered	8.0	9.60	11.2	12.6	14.0	15.4	16.7	17.9	19.1	20.3	21.4	22.4	23.4	24.4	25.3	26.2
Maintenance Backlog (1 April 2015 prices)	(£ millions)	181.1	177.3	177.6	181.0	186.3	192.4	201.8	211.7	221.7	231.4	241.1	250.5	259.6	268.2	276.5	284.5
Projected Budget (1 April 2015 prices)	(£ millions)	N/A	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8

Appendix 2 - Projected Condition and Maintenance Backlog

Asset	Description											Condition – Projected Budge				
		2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
A - Roads		4.9	4.9	4.8	4.8	4.8	4.7	4.7	4.7	4.6	4.6	4.5	4.5	4.5	4.4	4.4
B – Roads	% where maintenance should be	6.0	5.9	5.8	5.7	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5.0	4.9	4.8	4.7
C – Roads	Considered	4.9	4.9	4.9	4.8	4.8	4.8	4.7	4.7	4.6	4.6	4.5	4.5	4.5	4.4	4.4
Unclassified Roads	% where maintenance should be considered	39.7	41.0	42.3	43.4	44.5	45.6	46.6	47.5	48.3	49.2	49.9	50.6	51.3	51.9	52.5
Footways	% functionally/ structurally impaired	33.8	34.2	34.6	35.0	35.3	35.6	35.8	36.0	36.1	36.2	36.3	36.4	36.4	36.4	36.4
Kerbing	% where replacement should be considered	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.5	17.8	18.1	18.4	18.7	19.0	19.3	19.6
Drainage	% where replacement should be considered	21.2	21.8	22.4	23.1	23.7	24.3	24.9	25.5	26.1	26.7	27.3	27.8	28.4	29.0	29.5
Road Markings	% where replacement should be considered	85.6	86.0	86.4	86.7	86.9	87.1	87.3	87.5	87.6	87.7	87.8	87.9	88.0	88.1	88.1
Bridge C roads	Bridge Condition Index – Principal roads	84.1	83.3	83.2	84.0	82.4	82.1	80.2	80.9	82.5	81.4	80.4	79.7	80.0	78.6	77.0
Siluciules	Bridge Condition Index – Non- Principal Roads	81.3	80.9	81.1	80.8	79.1	78.7	76.9	75.5	76.9	75.5	74.9	74.4	74.8	73.6	72.0
	% columns > 40 years	38.2	39.7	41.2	42.7	44.0	45.4	46.7	48.0	49.2	50.3	51.4	52.5	53.5	54.4	55.3
Street Lighting	% lanterns > 20 years	42.0	44.3	46.5	48.6	50.6	52.5	54.2	55.9	57.6	59.1	60.5	61.9	63.2	64.5	65.7
	Lit signs	42.6	43.7	44.8	45.9	46.9	47.9	48.9	49.9	50.8	51.8	52.7	53.5	54.4	55.2	56.0
Traffic Management	% traffic signals > 15 years	70.2	71.8	73.1	74.3	75.3	76.2	76.9	77.6	78.1	78.6	79.0	79.4	79.7	80.0	80.2
Street Furniture	% where replacement should be considered	27.0	27.8	28.6	29.4	30.1	30.8	31.4	32.1	32.7	33.3	33.8	34.4	34.9	35.4	35.8
Maintenance Backlog (1 April 2015 prices)	(£ millions)	291.9	299.0	305.8	312.5	318.2	324.1	329.1	334.2	339.4	343.7	347.9	351.9	355.9	359.2	354.0
Projected Budget (1 April 2015 prices)	(£ millions)	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8

Appendix 2 - Projected Condition and Maintenance Backlog (Continued)

Appendix 3 - Condition Benchmarking

Measured Road Condition Weighted by Road Length

		2012			2013			2014		2015			
		Length	Percentage										
		where	where										
Road Class		maintenance	maintenance										
nuau ciass	Network	should be	should be										
	Length	considered	considered										
	(Km)	(Km)	%										
A Roads	416.1	25.4	6.1	416.0	22.9	5.5	415.8	19.1	4.6	415.3	20.4	4.9	
B Roads	405.6	40.2	9.9	406.6	37.8	9.3	406.3	32.1	7.9	406.4	30.5	7.5	
C Roads	697.7	74.7	10.7	697.7	64.9	9.3	696.8	56.4	8.1	696.7	34.8	5.0	
U Roads	2,216.3	443.3	20.0	2,224.8	467.2	21.0	2,240.4	492.9	22.0	2,252.1	427.9	19.0	
All Roads	3,735.7	583.6	15.6	3,745.1	592.8	15.8	3,759.3	600.5	16.0	3,770.5	513.6	13.6	

Department for Transport Statistics

Principal and non-principal classified roads where maintenance should be considered (RDC0120)

	P								Perce	nt				
			Principal (I	A maintain	ed 'A' road	s)			Non	principal (LA	maintained	'B' and 'C' roa	ids)	
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
National														
DCC	5	4		5	6	6	5	14	10		9	10	9	8
Average	5.34	5.46	5.81	6.08	5.95	6.16	6.10	7.69	7.78	8.17	8.44	8.34	8.34	7.81
Mode	4.00	4.00	4.00	4.00	4.00	3.00	2.00	4.00	6.00	7.00	7.00	10.00	5.00	3.00
Minimum	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
Maximum	17.00	16.00	17.00	18.00	21.00	32.00	24.00	22.00	21.00	25.00	26.00	22.00	26.00	27.00
Number of Returns	148	149	150	132	146	143	149	147	148	149	131	144	143	149
DCC Rank (Low to High)	69	40	N/A	52	78	78	76	136	112	N/A	73	95	83	86
Percentile (Low to High)														
0.00%	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00
25.00%	3.00	3.00	4.00	4.00	4.00	3.00	3.00	5.00	5.75	5.00	6.00	6.00	5.00	4.00
50.00%	5.00	5.00	5.00	5.00	5.00	5.00	4.00	7.00	7.00	7.00	8.00	8.00	8.00	7.00
75.00%	7.00	7.00	7.00	8.00	7.75	8.00	7.00	10.00	9.25	10.00	10.00	10.00	11.00	10.00
100.00%	17.00	16.00	17.00	18.00	21.00	32.00	24.00	22.00	21.00	25.00	26.00	22.00	26.00	27.00
DCC	46.20%	26.30%	N/A	38.90%	53.10%	54.20%	50.67	92.40%	75.50%	N/A	55.30%	65.70%	57.70%	57.43
Average	62.10%	61.10%	56.90%	67.20%	53.00%	64.90%	68.98	55.90%	51.50%	63.60%	54.90%	51.20%	57.20%	57.30
North East														
DCC	5	4		5	6	6	5	14	10		9	10	9	8
Average	3.67	2.67	2.55	3.73	4.00	3.33	3.33	6.83	5.67	5.27	6.55	7.17	6.25	6.25
Mode	5.00	2.00	3.00	4.00	3.00	2.00	2.00	4.00	2.00	2.00	11.00	3.00	9.00	8.00
Minimum	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00
Maximum	6.00	5.00	5.00	6.00	6.00	6.00	5.00	16.00	15.00	13.00	11.00	13.00	12.00	14.00
Number of Returns	12	12	11	11	12	12	12	12	12	11	11	12	12	12
DCC Rank (Low to High)	8	9	N/A	9	11	12	9	11	10	N/A	8	9	8	8
Percentile (Low to High)														
0.00%	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00
25.00%	2.00	1.75	1.50	2.50	3.00	2.00	2.00	4.00	2.75	2.50	3.50	3.75	3.00	3.00
50.00%	4.00	2.00	3.00	4.00	4.00	2.50	3.00	5.50	4.00	4.00	7.00	7.00	5.00	5.50
75.00%	5.00	4.00	3.00	4.50	5.00	5.00	5.00	8.00	7.75	6.50	10.00	10.25	9.00	8.50
100.00%	6.00	5.00	5.00	6.00	6.00	6.00	5.00	16.00	15.00	13.00	11.00	13.00	12.00	14.00
DCC	63.60%	72.70%	N/A	80.00%	90.90%	100.00%	72.22	90.90%	81.80%	N/A	70.00%	72.70%	63.60%	63.63
Average	42.40%	60.60%	45.40%	37.20%	45.40%	57.50%	57.58	71.20%	66.60%	62.70%	48.40%	50.70%	57.30%	55.68









Department for Transport Statistics

Percentage of unclassified roads where maintenance should be considered (RDC0130)

-				-	-			Percent
	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
England								
DCC	19	18	16	17	17	20	21	22
Average	15.33	13.89	13.99	14.05	14.74	15.49	15.81	17.71
Mode	15.00	9.00	9.00	6.00	11.00	12.00	7.00	8.00
Minimum	3.00	2.00	1.00	1.00	3.00	2.00	3.00	3.00
Maximum	58.00	57.00	56.00	42.00	43.00	41.00	45.00	74.00
Number of Returns	146	148	122	123	115	113	112	130
DCC Rank (Low to High)	108	111	81	85	74	86	86	96
Percentile (Low to High)								
0.00%	3.00	2.00	1.00	1.00	3.00	2.00	3.00	3.00
25.00%	10.00	8.75	8.00	8.00	9.00	10.00	9.75	9.00
50.00%	14.00	12.00	12.50	13.00	13.00	15.00	15.00	15.60
75.00%	19.00	18.00	17.75	18.00	18.00	19.00	20.13	22.75
100.00%	58.00	57.00	56.00	42.00	43.00	41.00	45.00	74.00
DCC	73.70%	74.80%	66.10%	68.80%	64.00%	75.80%	76.50%	73.64%
Average	62.20%	57.70%	57.80%	57.40%	55.00%	56.80%		59.82%
North East								
DCC	19	18	16	17	17	20	21	22
Average	11.42	8.58	9.67	8.64	8.33	9.91	9.91	11.18
Mode	10.00	9.00	9.00	8.00	6.00	7.00	7.00	10.00
Minimum	6.00	4.00	5.00	3.00	4.00	6.00	7.00	4.00
Maximum	24.00	18.00	16.00	17.00	17.00	20.00	21.00	22.00
Number of Returns	12	12	12	11	12	11	11	11
DCC Rank (Low to High)	11	12	12	11	12	11	11	11
Percentile (Low to High)								
0.00%	6.00	4.00	5.00	3.00	4.00	6.00	7.00	4.00
25.00%	8.75	5.75	7.75	6.50	6.00	7.00	7.00	9.50
50.00%	9.50	7.50	9.00	8.00	8.00	8.00	9.00	10.00
75.00%	11.25	9.75	10.50	9.00	9.25	11.00	10.00	12.50
100.00%	24.00	18.00	16.00	17.00	17.00	20.00	21.00	22.00
DCC	90.90%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Average	75.30%	59.80%	60.60%	73.10%	66.60%	69.00%	69.00%	61.81%



