Appendix 2

Transport Asset Management Plan (TAMP)

Section 1 - Policy

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Approved by	

Contents

Foreword

By Councillor Brian Stephens, Portfolio Holder for Neighbourhoods and Local Partnerships.

The highway network is the Council's largest and most valuable tangible asset. It is used every day by nearly all County Durham residents and businesses together with many visitors. Therefore, the highway network is fundamental to all economic and social activity in County Durham.

This Transport Asset Management Plan (TAMP) sets out the Council's long term plan for managing the highway asset. The TAMP applies best practice asset management principles to ensure that the right maintenance treatment is selected at the right time to ensure a safe, serviceable and sustainable highway network.

Our highways teams are committed to using this TAMP to manage our highway assets for the benefit of all users and I look forward to working closely with all stakeholders to take this plan forward.

1. Introduction

1.1 The TAMP is divided into two separate sections:

- Section 1 - Policy (which sets out the principles of the TAMP); and
- Section 2 - Annual Update Report.

1.2 The Annual Update Report provides an update on the inventory, condition, maintenance backlog, public satisfaction, performance, valuation and options to achieve the specified investment levels. The Annual Update Report is scheduled to be produced in the summer each year.

1.3 The TAMP measures the current and projected condition of the asset for a given level of investment in programmed capital maintenance. It applies the 'right maintenance treatment at the right time' to minimise whole life costs subject to the available budget.

1.4 The right treatment at the right time minimises whole life costs as it is less costly than letting the asset continue to deteriorate and undertaking a more extensive treatment at a later date.

1.5 The TAMP aims to minimise whole life costs but this is not always possible as budget constraints may result in not all the right treatments being undertaken at the right time particularly where there is an existing maintenance backlog. In this case the budget is prioritised based on the following criteria:

- Safety;
- Return on investment; and
- Network hierarchy.

1.6 The main types of highway maintenance are as follows:

Type of Maintenance	**Funding**	**Description**
Reactive	Revenue	Responding to inspections, complaints or emergencies
Routine	Revenue	Regular consistent schedule, generally for patching, cleaning, grass cutting and landscape maintenance
Programmed	Capital	Flexibly planned schemes primarily of resurfacing, reconditioning or reconstruction

1.7 The Highway Maintenance Plan (HMP) sets out the Council's inspection, condition survey, reactive maintenance and routine maintenance service levels and can be found at the following link:

http://www.durham.gov.uk/article/2378/Road-maintenance

1.8 This TAMP sets out the Council's long term plan for managing the highway asset by applying programmed capital maintenance subject to available budgets to maintain the condition of the asset. The TAMP applies asset management principles to ensure that the right maintenance treatment is selected at the right time to ensure a safe, serviceable and sustainable highway network.

2. British Standard BS ISO 55001: Asset Management (ISO 55001)

2.1 The Council has a comprehensive system of asset management in place and was awarded ISO 55001 accreditation in December 2015. The Council is one of the first Councils in the UK to achieve this accreditation.

3. Legal Responsibility and Duties

1.1 ***Adopted Highway***

3.1.1 The Highways Act 1980 sets out the main duties of the Local Highway Authority in respect of highways maintenance. In particular, Section 41 imposes a duty to maintain the adopted highway at public expense. The Highways Act does not specify the level of maintenance although national Codes of Practice offer guidance in line with best practice.

1.2 ***Private Streets***

3.2.1 Private streets are the responsibility of the land owner and they are responsible for very limited reactive maintenance.

3.2.2 Private streets can be adopted by the Council but only if the street is made up by the land owners at their own cost to adoptable standards.

3.2.3 If you would like to enquire about making up a private street please contact our Customer Services team whose contact details are provided at Section 9 of this document.

4. Objectives

4.1 The purpose of highway maintenance is to maintain the highway network for the safe and convenient movement of people and goods.

4.2 The primary and secondary objectives are summarised as follows:

Primary Objectives	Secondary Objectives	Performance Measure
Safety	Complying with statutory obligations	Public liability claims repudiation rate
	Meeting user's needs for safety	Completion of Highway Safety Inspections
		Response to Category 1 and 2 safety defects versus target
Serviceability	Ensuring availability	NHT Public Satisfaction Survey
	Achieving integrity	Condition surveys
	Maintaining reliability	NHT Public Satisfaction Survey
	Enhancing condition	Programmed maintenance
Sustainability	Minimising whole life costs	Lifecycle plans
	Maximising value to the community	Not quantifiable
	Minimising environmental impact	Maintaining accreditation and compliance with ISO 14001 Environmental Management

4.3 The Annual Update report measures performance against the objectives above.

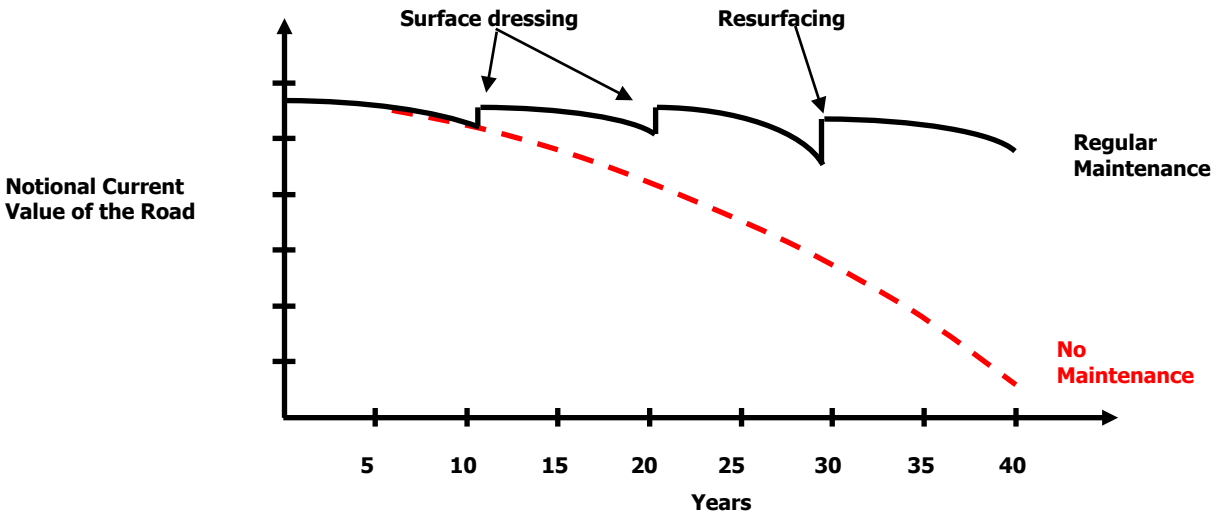
5. Condition Performance

5.1 The TAMP measures the current and projected condition of the asset for a given level of budgetary investment in programmed maintenance. The TAMP applies the right maintenance treatment at the right time to minimise whole life costs subject to the available budget.

5.2 The right treatment at the right time minimises whole life costs as it is less costly than letting the asset continue to deteriorate and undertaking a more extensive treatment at a later date. Further if the asset is in poor condition then additional costs will be incurred in terms of reactive maintenance, routine maintenance and public liability claims.

5.3 The diagram below shows the typical deterioration curve of a carriageway surface if no programmed maintenance is carried out compared to the right programmed maintenance treatment at the right time. This intervention arrests the decline of the surface and extends the life and reduces the subsequent whole life cost.

STRUCTURAL MAINTENANCE
DEPRECIATION CURVES



5.4 The concept is illustrated further below for a 100m section of carriageway over 40 years:

Right Treatment at Right Time	Description	1 April 2015 Prices	
		Total £	Net Present Value @ 3.5% Real £
Reactive Maintenance – Potholing	1% of area in year 7 and 0.5 % in subsequent years @ £33.65 metre^2 prior to resurfacing. Total potholed area is 8% over the 40 year period.	2,477	1,268
Routine maintenance-Patching	4% patching prior to surface dressing @ £25.57 metre^2	2,823	1,378
Routine maintenance-surface dressing	Surface dressing after 10, 20 and 40 years @ £3 metre^2	8,280	4,041
Programmed maintenance-resurfacing	Plane out and inlay at year 30 @ £15.68 metre^2	14,425	5,139
Programmed maintenance-reconstruction	Not applicable	N/A	N/A
Total	-	**28,005**	**11,826**

Reconstruction	Description	1 April 2015 Prices	
		Total £	Net Present Value @ 3.5% Real £
Reactive Maintenance – Potholing	Pot holing @ £33.65 metre^2 with increasing incremental area % over the 40 years. Total potholed area is 20% over that 40 year period.	6,192	2,440
Routine maintenance-Patching	Not applicable	N/A	N/A
Routine maintenance-surface dressing	Not applicable	N/A	N/A
Programmed maintenance-resurfacing	Not applicable	N/A	N/A
Programmed maintenance-reconstruction	Road is of new A road construction, 100 metres long and 9.2 metres width. Rate @ £139.40 per metre^2	128,248	32,391
Total	**-**	**134,440**	**34,831**

5.5 The TAMP aims to minimise whole life costs but this is not always possible as budget constraints may result in not all the right treatments being undertaken at the right time particularly where there is an existing maintenance backlog. In this case the budget is prioritised based on the following criteria:

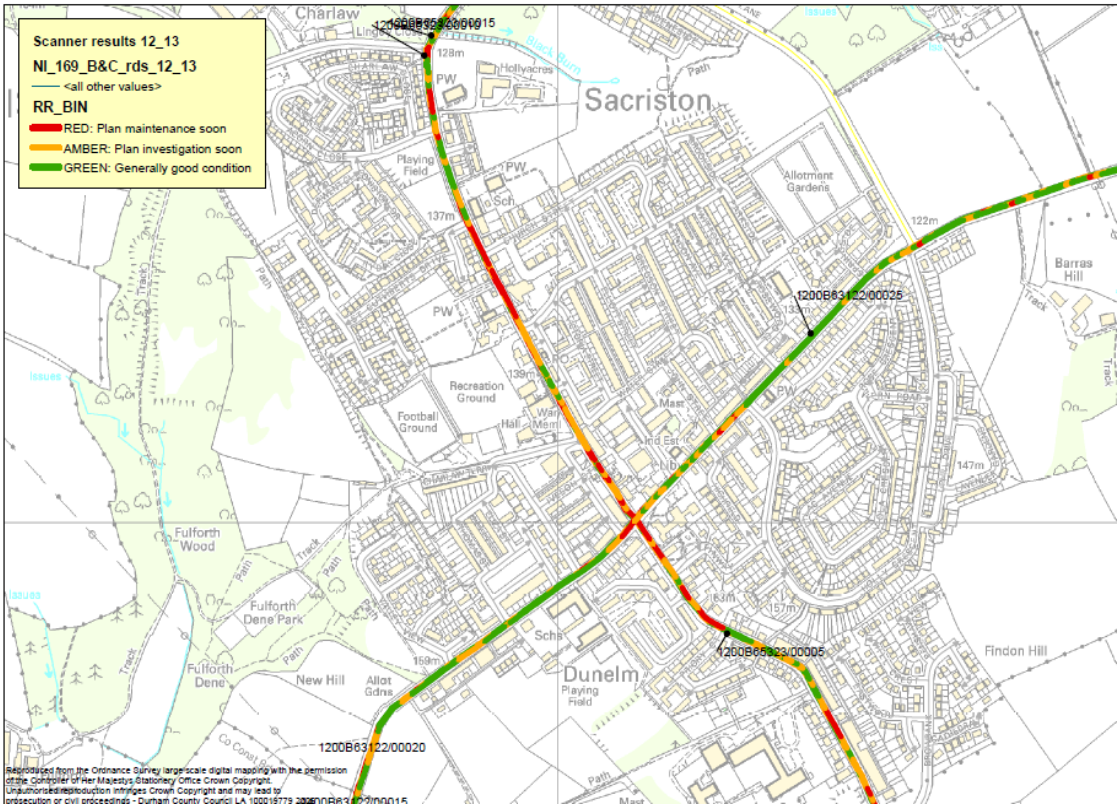
- Safety;
- Return on investment; and
- Network hierarchy.

5.6 The condition performance measures for each category of asset are summarised as follows:

Asset	Survey	Frequency	Performance Measure
A – Roads	Surface Condition Assessment for the National Network of	100% surveyed in one direction only annually	% where maintenance should be considered

B – Roads	Roads (SCANNER)	100% surveyed in one direction only annually	
C – Roads		100% surveyed in one direction only annually (from March 2014)	
Unclassified Roads	Coarse Visual Inspection (CVI)	Minimum 25% annually	% where maintenance should be considered
Kerbing	Not routinely surveyed	N/A	% where useful life has expired
Drainage	Not routinely surveyed	N/A	% where useful life has expired
Road Markings	Not routinely surveyed	N/A	% where useful life has expired
Footways	Footway Network Survey (FNS)	Minimum 25% annually	% functionally/ structurally impaired
Structures	Structures – General Inspections	Every 2 years	Bridge Condition Index – Principal roads Bridge Condition Index – Non-Principal Roads
	Structures – Principal Inspections	Every 6 years	
	Structures – Special Inspections	As required	
	Underwater Inspections	Every 2 years or following severe flood conditions	
Street Lighting	Age analysis of inventory	Annually	% columns > 40 years
	Age analysis of inventory	Annually	% lanterns > 20 years
	Visual Inspection	Annually	% lit signs where useful life has expired
Traffic Management	Age analysis of inventory	Annually	% sites > 15 years
Street Furniture	Not routinely surveyed	N/A	% where useful life has expired

5.7 An example of an output from the SCANNER data is shown below detailing the carriageway condition:



6. Investment Levels

6.1 The TAMP measures the current and projected condition of the asset for a given level of investment in programmed maintenance. Investment levels can either be budget or condition led. We have determined the following investment levels:

Investment Level	Lead Factor
Existing budget	Budget led
Projected budget	Budget led
Steady state condition	Condition led
Eliminate highway maintenance backlog over 1 year then maintain at steady state condition	Condition led
Eliminate highway maintenance backlog over 30 years then maintain at steady state condition	Condition led

6.2 Other service levels can be modelled as required such as increases or decreases to the existing budget.

7. Programmed Capital Maintenance

7.1 Programmed capital maintenance involves planned schemes of resurfacing, reconditioning or reconstruction.

7.2 A 3 year rolling programme of schemes is retained for planning purposes and to co-ordinate schemes with statutory undertakers.

7.3 The annual programme is determined in December for the next financial year starting 1st April based on the 3 year rolling programme and the available budget. The annual programme includes a list of reserve schemes should any extra budget become available or to replace proposed schemes should they be cancelled or deferred for any reason.

7.4 Examples of programmed capital maintenance schemes include:

Highway Asset	Treatment Type	Description
Carriageways and Footways	Reconstruction	Fully restores the condition of the highway that is showing serious signs of structural failure
	Partial Reconstruction	To halt the deterioration of a carriageway that is showing signs of structural failure
	Resurfacing	Halts the deterioration of highways that are starting to show the signs of structural failure before they get to the stage requiring reconstruction
	Surface Treatment	Halts the deterioration of highways showing the signs of surface failure only
	Flag Replacement	Replacement of flagged footway surfaces, usually with a bituminous surface, where the flags are showing signs of displacement
Kerbing	Replacement	Where the asset is life expired
Drainage	Replacement	Where the asset is life expired
Road Markings	Replacement	Where the asset is life expired
Structures	Repainting, Re-waterproofing and Resurfacing	Restore the condition
	Replacement	Where the asset is life expired
	Stabilisation	Works to stabilise areas of embankments or cuttings that have been identified as potentially failing in order to prevent a full failure resulting in the need for large scale reactive works
Street Lighting	Replacement	Where the asset is life expired
Traffic Management	Replacement	Where the asset is life expired
Street Furniture	Replacement	Where the asset is life expired

8. Lifecycle Assumptions

8.1 Lifecycle assumptions are required to plan when programmed maintenance will take place subject to available budgets.

Asset	Useful Economic Life - Years	Potential to Extend Useful Economic Life
Carriageway		
Sub strata (below 100mm)	Infinite	Maintain top 100mm
Hot rolled asphalt	20	Potential to surface dress (maximum two treatments)
Close graded Macadam	15	Potential to surface dress (maximum two treatments)
Surface dressing	10	Potential to surface dress (one treatment only)
Micro-asphalt	10	None, replacement only
High friction coatings	6	None, replacement only
Kerbing	40	None, replacement only
Drainage		
Gullies	40	None, replacement only
Ditches	40	Routine cleaning of ditch
Pipework	40	None, replacement only
Road markings		
Lines	7	None, replacement only
Other items	7	None, replacement only
Footway		
Bitumen	20	Footway Surface Treatment:- typically 15 years
Flagged	30	Prevention of vehicle over run/change to bitumen based surface
Concrete	40	Potential Footway Surface Treatment
Block paved	20	Prevention of vehicle over run/change to bitumen based surface
Structures		
Bridges - civils	120	None, replacement only
Bridges - pointing	50	
Bridges - bearings	30	
Bridges - waterproofing	20	
Bridges - paint	20	
Bridges - joints	20	
Retaining walls	40	

Culverts	40	
Subways	40	
Other	40	
Street lighting	40	
Columns	40	Structural testing of columns to extend life where safe to do so
Luminaires	20	None, replacement only
Lit signs	40	None, replacement only
Traffic Management		
Traffic lights	15	If physical asset is damaged replacement only. If electronic, probable up-grade of controllers.
Pedestrian crossings	15	
Street Furniture		
Safety fencing	25	None, replacement only
Bollards	40	None, replacement only
Salt/grit bins	20	None, replacement only
Waste bins	20	None, replacement only
Unlit signs	40	None, replacement only
PROW/ bridleway signs	40	None, replacement only
Trees	N/A	N/A
Land		
Urban	Infinite	N/A
Rural	Infinite	N/A

9. Feedback

9.1 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: help@durham.gov.uk
- Telephone number: 03000 261000