

Slough Borough Council

Highway Asset Management Strategy

OUR AMBITION – USING RESOURCES WISELY
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By 2019 the Council's income and the value of its assets will be maximised

1 Key Priorities

1.1 We understand the importance of asset management and how it can help us meet our corporate objectives. Slough is making a transition in its approach to highways maintenance. We are moving away from traditional reactive maintenance and adopting a framework that promotes a longer term view of maintaining the highway asset.

2 Asset Management Policy summary

2.1 We have identified the importance of continuing growth of the healthy economy of the town. The following outcomes will shape the work of the Council to respond to subsequent opportunities and challenges facing the town:

- changing, retaining and growing (ensure a fit for business transport infrastructure).
- using resources wisely (streamline customer journeys to deliver savings).

3 What is Asset Management?

3.1 Asset management is a strategic approach that identifies:

- the optimal allocation of assigned resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers.
- the approach to meeting the strategic need for the management and maintenance of highway infrastructure assets. This is done through long term planning and the optimal allocation of assigned resources in order to manage risk and meet the performance requirements of the authority in the most efficient and sustainable manner

3.2 The following points are essential when practising effective asset management:

- A strategic approach over the long term;
- Optimal allocation of resources;
- Managing expenditure over the asset lifecycle;
- Meeting performance requirements in the most efficient way;
- Managing risk;

- Operational delivery.

4 The need for Asset Management

4.1 The following local government challenges have highlighted the need for asset management:

- Increasing scrutiny, transparency, accountability and media exposure in delivering legal requirements, meeting stakeholder expectations and maintaining the engineering integrity of the network;
- Managing the impact of traffic growth;
- Severe financial constraints.

4.2 We are aware of and involved in a number of best practice initiatives including the CIPFA HAMP series network and the SE 7 Alliance.

5 Slough's Asset Infrastructure

5.1 Slough Borough Council's highway network is made up of 307km of road which is split up as follows:

- A Roads – 29km
- B Roads – 6km
- C Roads – 2km
- Unclassified Roads (Residential) – 270km

5.2 We also look after 647km of footway and cycleway, 318,000 m² of green space including highway verge, planting, trees and the Town Centre public realm including high quality paving, lighting and street furniture. The Council is responsible for 56 structures which include footbridges, culverts, railway bridges and retaining walls. The highway asset also includes 11369 lighting columns, 1850 illuminated signs & bollards and 130 traffic signals.

5.3 The gross replacement cost of Sloughs network including land has been calculated to be £2.13 billion (as of July 2015). In 2012/2013 all local authorities were required to submit a gross replacement cost and a depreciated replacement cost which, in our case, was calculated to be £2.05 billion.

6 Maintaining the asset

6.1 With regards to maintaining our asset we aim to follow a 'whole lifecycle' approach. We aim to design infrastructure schemes that take into account their future maintenance. This may also involve choosing to use a particular process due to its long term benefits.

6.2 We adopt an asset management approach throughout the lifecycle of an asset. This promotes the maintainability of an asset being taken into account at the earliest

stages of design, which leads to financial efficiency and optimum allocation of resources.

- 6.3 At a strategic level, we have regular meetings with all internal officers involved with works on the highway, so that all works can be co-ordinated.

7 Financial Reporting Requirements

- 7.1 As part of Whole of Governments Accounts (WGA) financial requirements, Councils are required to report the value of all their assets, including highway assets, to HM Treasury. The value of highway assets is derived from calculating the Gross Replacement Cost (GRC) and the Depreciated Replacement Cost (DRC).
- 7.2 The GRC is the cost of replacing either the whole of an existing highway network or some part of it with a modern equivalent asset. Put simply this means how much it would cost to completely replace the asset in question, whether that be carriageways, footways, structures, streetlights or traffic signals with a brand new equivalent. The DRC is the current cost of replacing an asset with its modern equivalent asset less deductions for all physical deterioration and impairment. Put simply this means how much it would cost to completely replace the asset in question, whether that be carriageways, footways, structures, streetlights or traffic signals in its current condition.
- 7.3 This reporting approach is not audited currently, but there is a provisional timeline of 2016/17, whereby all Councils will have to report the value of their highway assets on their balance sheet using the above method. From then on the information will be audited. In order to fully meet these requirements accurate and robust inventory data will be required. These requirements will also support the implementation of asset management principles such as maintenance scheme selection.

8 Financial Planning

- 8.1 In November 2014 the Department for Transport consulted with Councils asking whether the funding formula should incentivise Councils to undertake efficiency measures and asset management techniques. It was decided that Councils would receive 70% of their funding allocation on a “needs” basis i.e. it would be based on length of network, number of streetlights, number of bridges etc. The other 30% would be received through an asset management ‘incentivised’ allocation. Each local authority would need to demonstrate that they are adopting asset management principals in order to receive the full 30%.
- 8.2 £6 billion will be made available over the next 6 years for maintenance of local highways. This long term certainty of the ‘needs’ based allocation will allow Slough to create long term forward works programmes and support financial planning.

9 Levels of Service and Performance Monitoring

- 9.1 Slough has been implementing effective asset management as per the asset management framework (*figure 1*) set out in the HMEP Highway Infrastructure Asset Management Guidance document. Components of the asset management framework

have been prioritised in order to further implement and mature good asset management practices.

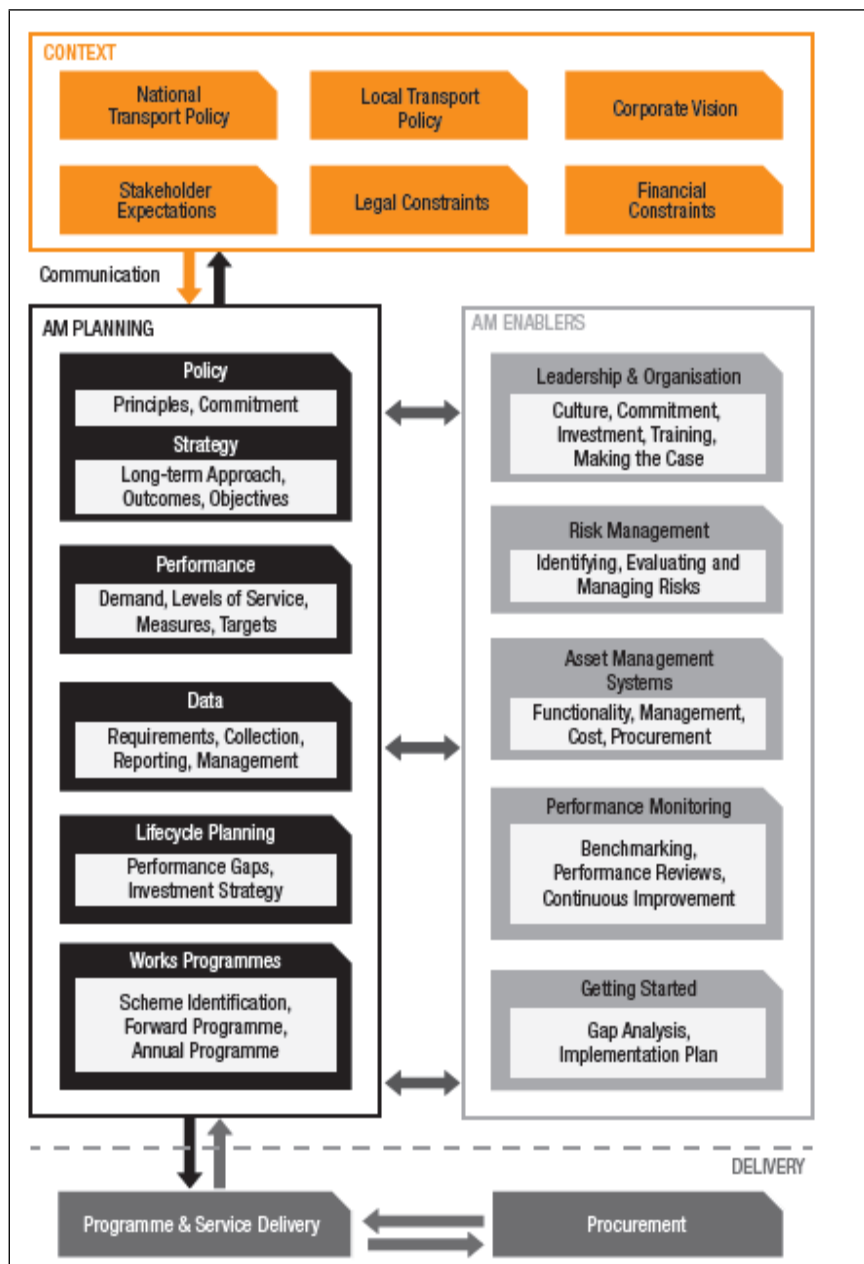


Figure 1 – The Asset Management Framework from “Highway Infrastructure Asset Management” by UKRLG/ HMEP

9.2 Regular asset management meetings and workshops have prioritised the asset management components.

9.3 Levels of Service have been developed through a workshop and are aligned with the Five Year Corporate Plan 2015-2019 and the Local Transport Plan 3 2011-2026. They are broad statements based on themes, which link high level corporate objectives to stakeholder requirements for delivery of service. The statements were based upon the following themes: Safety, Serviceability, Accessibility, Sustainability and Financial Performance. Through a recent Highways Asset Management Workshop Slough has developed the below levels of service statements:-

1. *Ensure that our customers including motorists, cyclist and pedestrians are able to use the network with confidence regarding their personal safety*
2. *Make sure that highway assets are maintained to a standard that is inclusive to all users including partially sighted, wheel chair users, push chair users and the hearing impaired*
3. *Endeavour to reduce congestion and disruption and maximise availability of the network to all users at all times*
4. *Consider the environment when choosing highway techniques, endeavouring to reduce carbon use and wastage*
5. *Promote economic prosperity and regeneration by making sure the highway network is well managed and fit for purpose*

9.4 The level of service statements are a qualitative expression. They are easy to understand for members of the public and stakeholders, but they do not include the performance measures themselves.

9.5 Performance measures will be used to monitor whether Slough is meeting the levels of service statements. In the majority they are quantitative expressions that are meaningful. The measures will also be used to record and report on delivery of the highway service, the asset management strategy and Slough's overall approach to asset management (*figure 2*).

		POOR	FAIR	GOOD	EXCELLENT
Level of Service Theme	Level of Service statement	Does not meet minimum national and/or local requirements and/or poor/no information	Meets minimum national and local requirements and/or basic information	Meets recognised current good practice	Exceeds good practice and/or sets challenging targets that will improve service
Safety	<i>Ensure that our customers including motorists, cyclist and pedestrians are able to use the network with confidence regarding their personal safety</i>	Does not meet minimum safety requirements	Meets minimum safety requirements	Meets current good practice in safety	Exceeds good practice in safety
Accessibility	<i>Make sure that highway assets are maintained to a standard that is inclusive to all users including partially sighted, wheel chair users, push chair users and</i>	Does not meet minimum accessibility requirements	Meets minimum accessibility requirements	Conforms to requirements of good practice in accessibility	Exceeds requirements of good practice in accessibility

		POOR	FAIR	GOOD	EXCELLENT
Level of Service Theme	Level of Service statement	Does not meet minimum national and/or local requirements and/or poor/no information	Meets minimum national and local requirements and/or basic information	Meets recognised current good practice	Exceeds good practice and/or sets challenging targets that will improve service
	<i>the hearing impaired</i>				
Availability	<i>Endeavour to reduce congestion and disruption and maximise availability of the network to all users at all times</i>	Does not meet minimum availability requirements	Meets minimum availability requirements	Conforms to requirements of good practice in availability	Exceeds requirements of good practice in availability
Environmental	<i>Consider the environment when choosing highway techniques, endeavouring to reduce carbon use and wastage</i>	Does not meet minimum local and national environmental requirements	Meets minimum environmental requirements	Conforms to good practice in environmental procedures	Exceeds environmental good practice
Financial	<i>Promote economic prosperity and regeneration by making sure the highway network is well managed and fit for purpose</i>	Does not meet minimum targets	Meets minimum targets	Confirms to financial targets	Exceeds financial targets

Figure 2 – Levels of Service and Performance Measurement Definitions

10 Asset Data and Information

10.1 Effective asset management planning requires knowledge of the asset inventory together with asset condition and use. This entails the collection and maintenance of asset data that can assist in decision making, reporting and monitoring.

10.2 Data management is fundamental to the overall asset management process. A significant factor when assessing and identifying the appropriate data requirements is the interrelation of data to other processes that incorporate data use.

10.3 Asset data is required to enable the following asset management processes to be undertaken:

- effective management of the highway network;
- assessment of the life expectancy of individual assets or asset components;
- assessment of current and development of future levels of service;
- assessment of current and development of future performance indicators;
- development of future maintenance options;
- identification of future investment strategies;
- development of short, medium and long-term forward works programmes;
- valuation assessments for each of the assets and the calculation of how they have depreciated in value since they were created.

10.4 Slough recognises the need for accurate and robust data when implementing effective asset management. Currently all highway assets are stored in a GIS based asset register and a UK Pavement Management System. Gaps in data have been identified and will be collected by walked or other surveys. Highways asset condition surveys for carriageways and footways are on-going with outputs are being utilised for calculating performance indicators and treatment scheme selection.

10.5 Moving forward data management procedures will need to be developed to ensure that all asset data is kept up-to-date. Additional attributes may be added to the inventory as continuous updating procedures are implemented. Accuracy of the inventory data must be rigorously maintained, as degradation of data quality will have a significant and detrimental effect on the validity of the results of management procedures. These procedures are essential to develop the tools required to deliver the key aspects of asset management

11 Lifecycle Planning

11.1 Lifecycle plans are used to manage asset groups in a defined and consistent manner by developing an understanding of each asset group in a framework aligned with the structure of the asset management plan. This aids effective and efficient management, not only of the asset groups, but the assets collectively in providing consistent usable information. It can also support developing individual and collective business cases with consideration for risk and level of service.

11.2 For each asset group, lifecycle plans can be linked to the Levels of Service to show the work required to:

- sustain the current performance over the TAMP&S period;
- close the performance gap;
- sustain the target performance over the TAMP&S period.

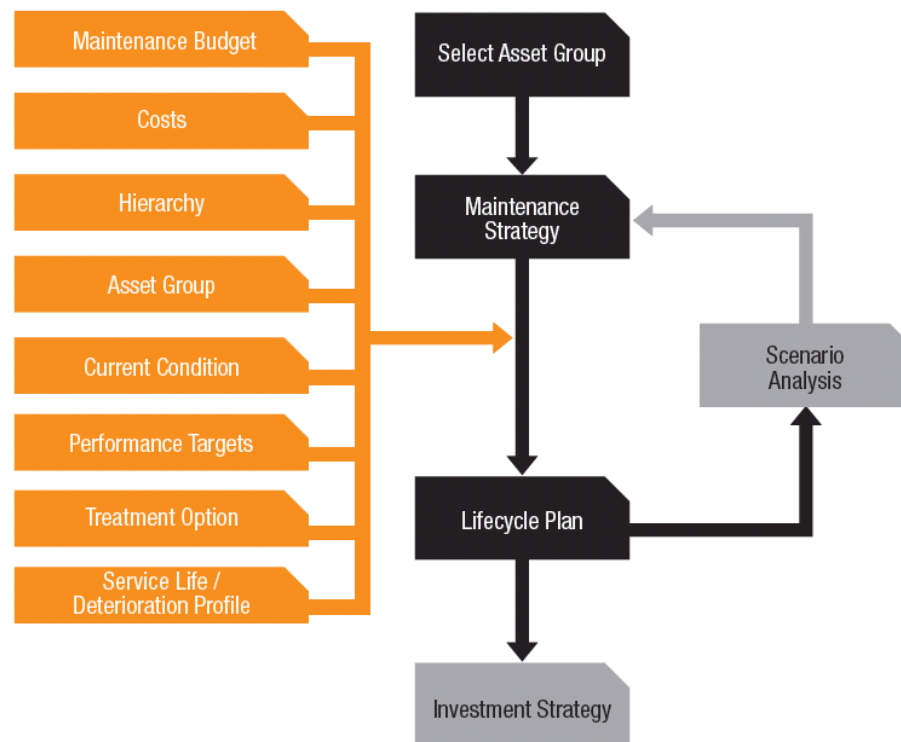


Figure 3 – Lifecycle Planning Process from HMEP Highway Infrastructure Asset Management Guidance Document

- 11.3 Consideration is required for each of the phases in *Figure 3* for the assets which will help drive a shift towards longer-term asset management and planning. Such a longer-term approach is a key element of the asset management process.
- 11.4 Lifecycle plans aim to identify the lowest long-term cost for the scope of work required in order to close the performance gap between the current and the target performance level of the asset and to sustain the performance at the desired Levels of Service.
- 11.5 The plans start to optimise the cycle of activities that the assets will experience throughout their lives, including planning, design, construction, operation, maintenance, rehabilitation, reconstruction and disposal. They can be used as general guidance to identify specific maintenance needs through the various stages of the asset life and provide a link to the short-term planning process.
- 11.6 Slough has been utilising the lifecycle planning toolkits developed through the HMEP programme to further develop its lifecycle approach to asset management. The carriageway lifecycle planning toolkit has been run using different maintenance strategies and scenarios. Modelling the status quo including current budget and maintenance techniques has shown highway condition on all classifications of carriageway will decline.
- 11.7 Slough also ran the HMEP Structures Lifecycle Planning toolkit in 2015. The conclusion is that while a planned preventative approach may provide best value in the longer term, the current level of investment is insufficient to realise the full benefits of asset management, or to maintain Slough’s stock of structures at a

steady state condition. Instead, an increase from the current level of funding would be required to generate a significant increase in performance over the analysis period.

12 Collaborative Working

12.1 Central Government Drivers. In November 2011 Government published the National Infrastructure Plan which emphasised the opportunity to make efficiency savings of at least 15% per annum amounting to around £2-3 billion in the delivery of infrastructure projects. Her Majesty's Treasury has led on plans to seek a reduction in costs of delivering highway maintenance services, predicting savings of between £20-30 billion over the next decade.

12.2 Local Government Drivers. "Localism is integral to this Governments thinking. Local politicians want to be assured that their local highways service delivery is as efficient and effective as possible. Furthermore, given shrinking budgets, you want as much expenditure as possible being directed towards front-line services" from Local Highway Authorities Collaborative Alliance and Setting up and Operating an Alliance toolkit HMEP 2012.

12.3 Working collaboratively provides monetary savings in the following ways:

- reduction in duplication (Councils do not need to procure services independently for example);
- lowering cost (as the quantity of work increases, economies of scale);
- helps deliver cost certainty via benchmarking with and previous experience of other members;
- helps develop good practices and sharing of information.

12.4 A recent example of collaborate working is the Slough, Reading & Wokingham Councils street lighting upgrade project due to commence in April 2016 to March 2018. Slough is leading on this project to modernise street lighting across all three boroughs. The project includes the installation of energy efficient LED lanterns, replacement of "at risk" and older style concrete street lighting columns and further implementation of Central Management Systems to remotely manage street lighting levels to improve performance and efficiency. This project will produce a number of benefits/outcomes, some of which have been summarised below:

- significant cost savings: replacing the aging assets would reduce ad-hoc maintenance of columns and the risk to the public of column collapse and also install much more energy efficient lighting units. This would result in energy and maintenance cost savings;
- energy use: LED streetlights are estimated to reduce energy consumption by 78% over the 20 years, helping to meet government targets;
- maintenance: a Central Management System (CMS) will offer wireless control of street lights for day / night time dimming, better detection of faults and enables accurate power consumption monitoring. The LED streetlights offer more than double the lantern life expectancy of standard streetlights thereby significantly reducing the long-term maintenance costs;

- renewal: upgraded columns would provide a safer environment for the community;
- environmental benefit: the scheme has a positive impact on the environment, by reducing the energy consumption and reduces the upward sky glow with luminaries that distribute light in a more efficient manner;
- carbon savings: the estimated CO₂e reduction is 58,000 tonnes which will help to meet government targets;
- community: the street lighting service would improve through conversion to white light sources under which the human eye is better able to see; this is difficult to quantify but will lead to a reduction in antisocial behaviour, and a reduction in crime and fear of crime;
- road safety: the total of accident savings is predicted at £2.1 million over 20 years (a saving of about 2.6 personal injury accidents p.a.). The better quality of white light will offer better visibility to motorists, promote cycling and assist with overall road safety;
- Light pollution: modern lanterns also reduce upward light transmission to provide better views of the night sky.

13 Communication

13.1 A communication strategy is in the process of being drafted. It will set out and explain Slough's approach to highways maintenance and asset management. It will also go into detail on how Slough communicates and makes decisions on its highways maintenance activities such as identification, assessment, programming and delivery of the service to members of the public and stakeholders.

14 Review Process

14.1 This strategy is a 'live' document which will require periodic reviews and updating. Continuous improvement is an essential element of asset management enabling better decisions to be made with better information.

14.2 It is essential to monitor and review the performance of the asset management regime. The monitoring process will enable the timely identification of instances where expected performance is not being achieved so that corrective action can be undertaken, thereby ensuring targets are met. Learning from mistakes, amending processes and feeding this information back into the asset management process will ensure continual improvement of the asset management approach.