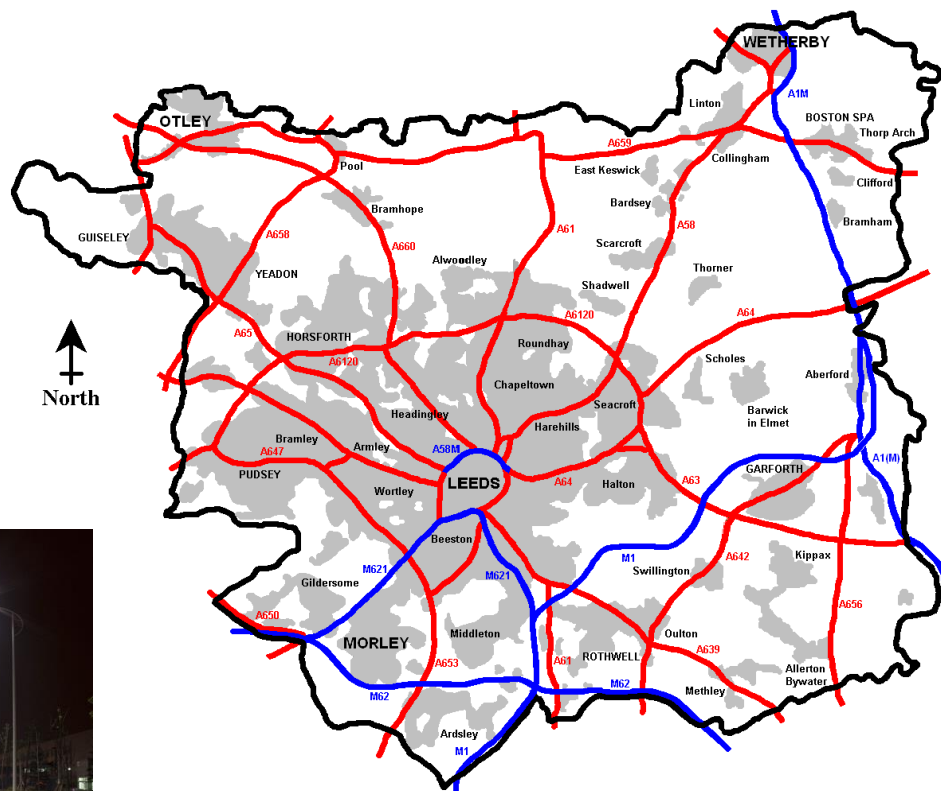
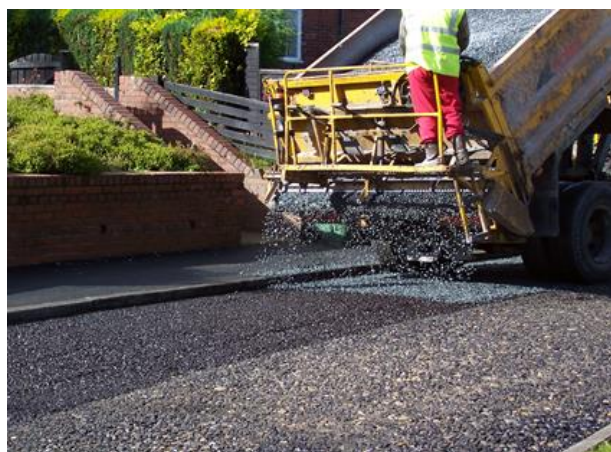


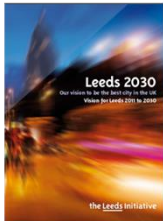
Highway Infrastructure Asset Management Strategy



Amendment List

Version	Issue date	Amendment Description
1	Dec 2015	Original Document
2	Nov 2016	Updated Appendix A & various text changes to include Infrastructure into the title of both the Strategy and Plan
3	October 2018	Amended to include WMHI Code of Practice.

Asset Management – Strategic Documents



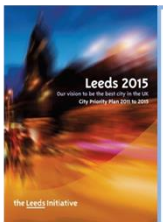
- ★ By 2030, Leeds will be fair, open and welcoming.
- ★ By 2030, Leeds' economy will be prosperous and sustainable.
- ★ By 2030, All Leeds' communities will be successful.

Vision for Leeds



- ★ Economy – Create a more reliable, less congested, better connected transport network.
- ★ Environment – Have a positive impact on our built and natural environment.
- ★ People and Place - Put people first to create a strong sense of place.

West Yorkshire Transport Strategy 2040



- ★ Best city... for health and wellbeing.
- ★ Best city... for children and young people.
- ★ Best city... for business.
- ★ Best city... for communities.

City Priority Plan



- ★ Meet our statutory duty of maintaining a safe highway network.
- ★ Maintain the highway assets in an efficient manner as possible.
- ★ Meet the requirements of local businesses and the public.

West Yorkshire Asset Management Framework



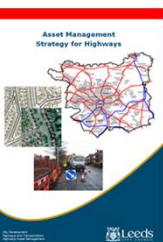
- ★ Improve the quality of life for our resident, particularly for those who are vulnerable.
- ★ Make it easier for people to do business with us.
- ★ Achieve the savings and efficiencies required to deliver frontline services.

Best Council Plan



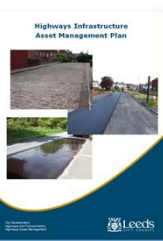
- ★ Economy. To improve connectivity to support economic activity and growth in West Yorkshire and the Leeds City Region.
- ★ Low-Carbon. To make substantial progress towards a low carbon, sustainable transport system for West Yorkshire, while recognising transport's contribution to national carbon reduction plans.
- ★ Quality of Life. To enhance the quality of life of people living in, working in and visiting West Yorkshire.

West Yorkshire Transport Asset Management Plan (TAMP)



- ★ Maintain a steady state road condition.
- ★ KPI's improving.
- ★ Reduction in potholes.
- ★ Reduction in liability claims.

Highway Infrastructure Asset Management Strategy



- ★ Goals, Objectives and Policy.
- ★ Inventory and Levels of Service.
- ★ Option Identification, Decision making and Maintenance Options.
- ★ Performance Measurement and Improvement Actions.

Highway Infrastructure Asset Management Plan (HIAMP)

Highways and Transportation Annual Programme

State of the Highway Network Report



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Foreword



It is with much pleasure that I endorse Leeds City Council’s new Asset Management Strategy for Highway Infrastructure. The Leeds highway network represents a major and important feature of the physical infrastructure that impacts all of our lives. This strategy marks a major step forward in explaining and defining how Leeds City Council will deliver its highway services in the coming years.

I am delighted that this strategy will now provide a better understanding for those amongst us who wish to contribute to future highway services. In this respect, the strategy recognises the need to collect and maintain asset and condition data that will allow objective decision making with regard to investment and policy and ensure best value is being achieved.

Leeds Asset Management Strategy for Highway Infrastructure embodies a local approach to asset management which compliments the national requirements particularly the new code of practice “Well-Managed Highway Infrastructure”. I believe that this strategy will enable Leeds highways to demonstrate the basis of its decision making and that it is providing value for money to its highway users. I am confident that this strategy provides a foundation for successful delivery of highway services for the people of Leeds, business and visitors.

I welcome it and commend it to all who read it.

A handwritten signature in black ink, appearing to read 'Richard Lewis'.

Councillor Richard Lewis
Executive Member for Transport and The Economy

Section 1 – Introduction

Leeds City Council recognises the importance of its highway infrastructure and how an effectively maintained and managed network contributes to the local economy and in achieving its corporate goals. We understand that effective Asset Management is a platform to deliver clarity around standards and levels of service, and to make best use of available resources.

This “Highway Infrastructure Asset Management Strategy” sets out how the Council will best manage the highway network taking into consideration risks associated with uses of the highway local priorities, asset condition and best use of available resources. It presents the Council’s Strategy for the management of our highway assets as at April 2015 and allows planning over both the short and long term, whilst delivering a minimum whole life cost approach to our Highways Assets.

Leeds highway network comprises of just over 2900 kilometres of carriageway. The unclassified network accounts for around 78% of the asset. The footway and cycle network length is over 5,000 kilometres. The highway asset also includes 26,613 traffic signs, around 632 traffic signal installations, 58 kilometres of safety fencing and 104,763 lighting columns. In terms of structures the Council is responsible for 4075 road bridges, footbridges, underpasses, subways, culverts and retaining walls. The highways asset also includes drainage, street furniture, road makings and verges.

The Council has calculated that the asset value in accordance with the requirements for Whole of Government Accounts. For the end of year 2014/15 the gross replacement cost was estimated to be £6.84 billion and the depreciated replacement cost was £5.7 billion.

Asset management is seen as a tool to enable the Council to establish appropriate budget allocations by demonstrating the effects of under-investment and the implications of not meeting safety and serviceability requirements of the customers using the network.

This Strategy will be used to inform priorities in the Councils Business Planning Process and will support the continuous improvement of Highway Asset Management.

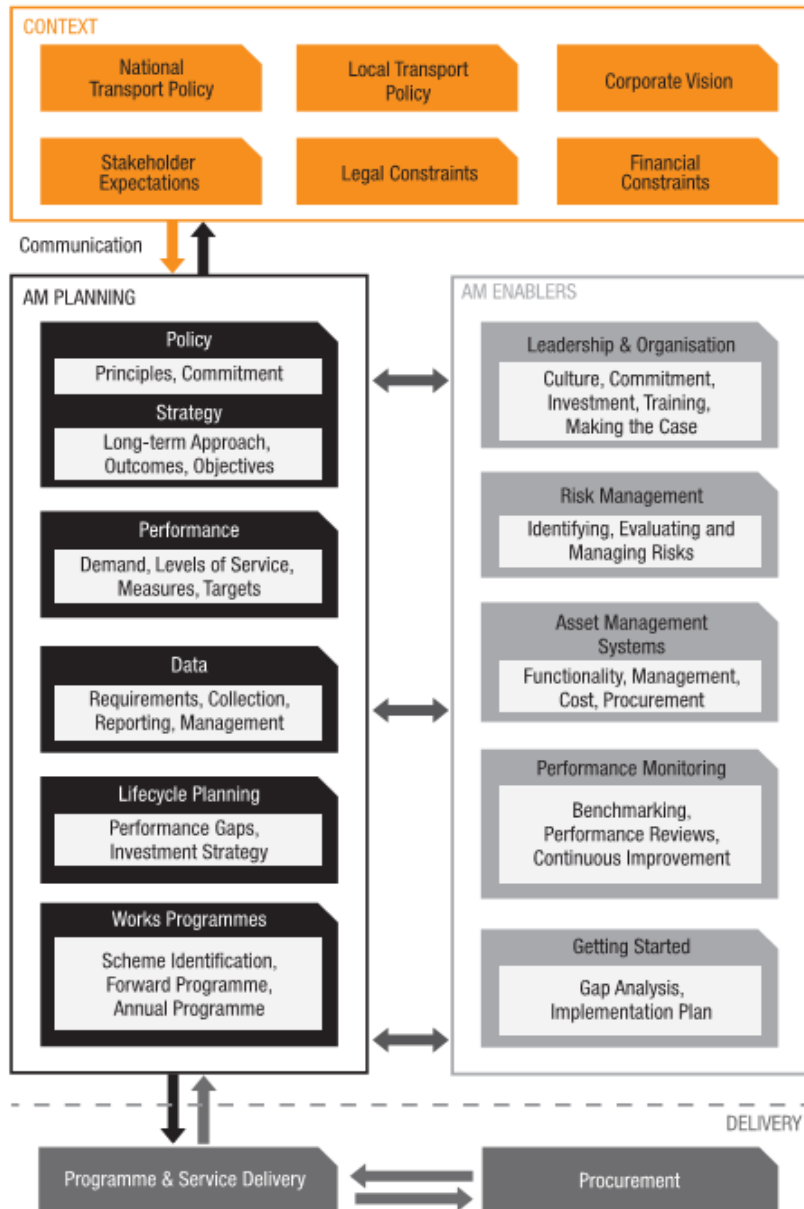
Section 2 – Asset Management Framework and Policy

This Strategy sets out how the policy within the West Yorkshire Combined Authorities Asset Management Framework will be achieved. The policy confirms the Council’s commitment and demonstrates how a Highway Asset Management approach aligns with the authority’s corporate vision and strategic objectives including: economic growth, regeneration, social inclusion and protecting the health and safety of the community and the environment.

This Asset Management Strategy is one of the key strategic documents relating to the Council’s Highway Services. A key element of the Strategy is the Council’s Highway Infrastructure Asset Management Plan (HIAMP) which is currently being updated to reflect this new Strategy. This Plan contains approved policies and guidance, service standards and interventions in respect to the Council’s legal requirements and its service provision.

This document reflects the guidance provided by the Highways Maintenance Efficiency Programme, (HMEP) document ‘Highway Infrastructure Asset Management’ and the new National Code of Practice ‘Well-Managed Highway Infrastructure’ which promotes a risk based approach to all aspects of asset management .

Section 2 – Asset Management Framework and Policy (continued)



(Highway Infrastructure Asset Management Guidance – UKRLG/HMEP, May 2013)

Figure 1 – Asset Management Framework

This Highway Infrastructure Asset Management Strategy is based on the framework shown in Figure 1. The elements of this strategy will support continual improvement in the management of the various highway assets. This Strategy explains how individual asset groups and elements fit in the framework, describes how the asset management planning process is implemented and refers to tools currently employed, as well as references to other key documents.

The development of the asset management framework described in Figure 1 follows national guidance and recognised good practice. It is also based on the Council’s approach to delivering services and aligns with the corporate policies on performance management and risk management.

Section 3 – Levels of Service

Levels of service describe the standard of services provided. These are measured and monitored against performance outcomes in order to determine if these satisfy customer expectations and are in line with both national and local performance indicators. There is a direct link between levels of service, corporate objectives, Local Transport Plan (LTP) priorities and funding levels. In addition, when setting and determining service levels the council must also consider its statutory obligations as the Highway Authority. Measuring risk and liability as well as the application of national standards at a local level must be taken into consideration when determining a set of baseline standards.

In line with national guidance and good practice, Leeds City Council uses a lifecycle approach to managing its highway maintenance activities. Understanding how long specific maintenance treatments last, the relative cost of these treatments and the levels of service provided are essential pre-requisites to good asset management. Leeds' goal is to improve public satisfaction with its highway service whilst maintaining value for money and continuing to provide a safe highway network, in line with corporate priorities.

Successful implementation relies on knowledge of the asset, its current and future performance, expenditure and customer feedback, as well as an understanding of the various service levels that may be achieved for the different funding options.

The infrastructure of the highway network is a matter of keen public interest and concern. This was established from the West Yorkshire Customer Satisfaction Transport Tracker Survey 2011. Annual consultation is planned using the NHT survey, the first one being done in the summer 2015 we will use these results to understand our stakeholders' needs and develop the best way to communicate our understanding.

The following four factors are used to define levels of service, where the first two reflect the requirements of the customer.

Safety – describes the risk to the customer in using the asset and will in all cases be required to meet high standards. **Our first priority will be to provide a safe, resilient highway network for all who use it.**

Serviceability – describes whether the asset actually delivers what service users and the Council require of it. **The council will as far as possible ensure that the highway network is available and accessible.**

Value for Money – is judged relative to minimising the long-term cost of maintaining the asset. Various surveys are carried out primarily to identify faults in the highway which, if untreated, are likely to adversely affect its long term performance and serviceability. They provide information on the nature and severity of deterioration which is used to determine appropriate maintenance treatments in line with asset management objectives. **Our adoption of an asset management approach will enable greater value for money to be delivered within budget constraints.**

Environmental sustainability – The Council already takes steps to minimise the environmental impact caused by its management of highway assets, including recycling and reusing materials. **Our adoption of asset management will place sustainable solutions at the centre of our approach to highway maintenance.**

Section 4 – Strategy for Individual Asset Groups

As part of the asset management framework, and in accordance with other national guidance, the highway asset has been divided into asset groups. Each group is then broken down into asset elements (see Appendix A).

A key function of the asset management process is to understand the spending needs of each asset group and element against performance, aims and objectives. This means understanding funding needs to meet, LTP objectives, delivery, planning and performance targets.

Inherent to this process is a need to understand the influence of budget decisions on customer satisfaction and delivery of the corporate priorities. Furthermore, the impact that investing on one asset element may have on the overall performance of other asset elements, as well as the whole asset, is examined. To this end, a Strategic Investment Budget (SIB) approach has been developed and is being used.

This can only be achieved through reliable, current and robust data. Leeds City Council has data and information strategies, which prioritises its data collection needs, data management requirements and the IT infrastructure necessary to process and present this information.

This approach has been adopted to allow a clear understanding of budget allocation across the different asset elements, which includes recording where money is invested. This allows the Council to monitor performance against service delivery and thus allows the implementation of a continuous improvement process, within the constraints of available funds.

Dividing the asset into elements and identifying the relative costs and demand for planned, routine and reactive maintenance activities is seen as an essential process upon which an investment strategy can be developed and reviewed.

One of the aims of good asset management is to improve co-ordination between highway improvement and highway maintenance schemes. Taking into account the cost and implications of maintaining the asset at the design stage will ensure that whole life costs of schemes are optimised. The Asset Management Strategy aims to raise awareness of this issue, in accordance with national guidance, by ensuring that any new infrastructure has adopted the most appropriate design option and the most appropriate materials.

Leeds City Council has developed and is implementing a process for incorporating new works into the existing highway network. The process advocates lifecycle management values and introduces early communication between clients and maintaining agents to ensure that asset management principles have been considered and agreed as part of the scheme implementation.

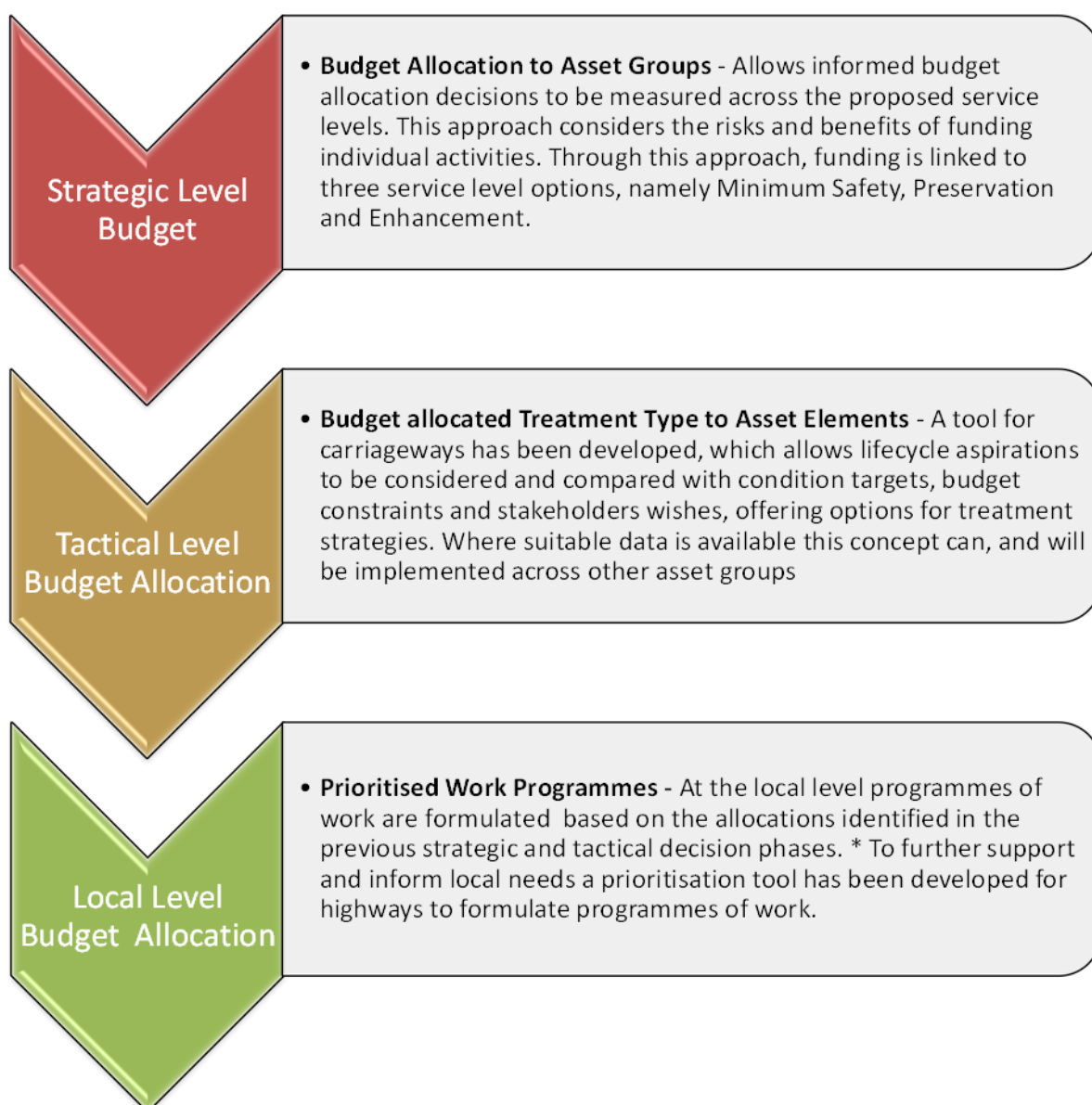
This process aims to ensure that all capital and revenue investment options have been considered fully, where new works should only require maintenance in line with expected lifecycles.

This Strategy advocates a planned and risk based approach to Asset Management (including the identification of critical assets), but there may be exceptional circumstances in which a particular asset fails rapidly, beyond prediction. In this event, programmes of work will be reprioritised across all asset groups in order to facilitate the inclusion of additional schemes.

Section 5 – Asset Management Planning

The asset management strategy supports continual review and improvement of its processes and procedures, ensuring, as far as possible, that the standards identified in relevant legislation and codes of practice are adopted and that our customers receive a good and efficient service that reflects the resources available.

Leeds City Council considers that SIB is fundamental to good asset management planning and robust investment and lifecycle planning decisions. Substantial resources have therefore been focused on and will continue to support the development of processes and tools to inform budget decisions at strategic, tactical and local levels.



* Where suitable data is available and where appropriate this concept is being extended to encompass other asset groups. This will allow decisions to be made that consider criteria other than condition and determine programmes that are not necessarily ‘worst condition first’.

Section 6 – Data Management and Information Systems

The Council’s Highway Infrastructure Asset Management Strategy and Plans are supported by robust and reliable data.

Leeds has a robust data collection methodology which ensures it meets national government survey requirements regarding road condition data collection on the principal and non-principal network. In addition it also carries out inspections and surveys on assets including, unclassified roads, footways, traffic signal installation and associated equipment, street lighting, bridges and other structures.

The following systems are currently in operation by the Authority to manage its Highway Infrastructure Data

- Symology ‘Insight’ Highway Management System, covering most of highway management needs, including works orders, public enquiries, street works, structures, network management, inspection process;
- United Kingdom Pavement Management System (UKPMS);
- GIS (ArcMap);
- Bridges Management eXpert (BMX)
- UTMC has a separate 24/7 fault management system in place, with faults automatically highlighted by the UTMC computer, or by a member of the public or a responsible body;
- Leeds specific tools to support all these systems.

Section 7 – Good Practice

Leeds City Council is committed to developing and implementing best practice and will make best use of the following forums where appropriate:

- Highway Maintenance Efficiency Programme (HMEP)
 - Potholes Review (Prevention and a Better Cure)
 - Highway Infrastructure Asset Management (Guidance Document)
- The Chartered Institute of Public Finance and Accountancy (CIPFA)
- Highways Asset Management Financial Information Group (HAMFIG)
- UK Roads Board
- ADEPT Asset Management Working Group
- National and regional conferences
- Professional Institution engagement
- Competency training

Section 8 – Review Process, Monitoring and Performance Report

The Highways Asset Management Team are responsible for the overall management of the infrastructure of the road network in accordance with the Council’s Highway Infrastructure Asset Management Strategy, and Plan. The team also reviews and maintains these documents, provide appropriate information to support delivery of the Highway Infrastructure Asset Management objectives and ensure the collection of appropriate network data.

This Strategy will be reviewed regularly to allow informed decisions to be made in order to accommodate any changes in funding and priorities within the longer term forecasts.

This Strategy incorporates an approach that is independent of funding levels, and therefore, significant changes to the Strategy will not need to be made if changes in available budget occur.

Progress in delivering the strategy will be reported annually in the ‘Highways Infrastructure Asset Management – State of the Highway Network Report

The benefits of implementing the Asset Management Strategy are summarised below:

- Encourages engagement with other stakeholders, including Elected Members, Senior Officers and the public;
- Readiness to respond to changes resulting from climate change, weather emergencies, contractors, resilience and finance,
- Close working and integration of efforts with other parts of the Council, including Corporate aims and objectives;
- Improved delivery within budget constraints – including procurement;
- Efficiencies – better ways of doing things, or improved service, enhancing performance in a challenging environment.
- Improved understanding of customer aspirations and expectations;
- To influence and focus on the better use of resources.

Appendix A : Highways Assets Managed by Leeds City Council

Major Asset Group	Asset Element	Asset Quantity	Asset Unit
Highways	Carriageways		
	Principal Roads	398	km
	B & C Roads	247	km
	Unclassified Distributor Roads	174	km
	Local Roads	2,065	km
	Total	2,884	km
	Footways & Cycleways		
	Prestige Area	2	km
	Primary Walking Route (1)	27	km
	Secondary Walking Route (2)	66	km
	Link Footways (3)	389	km
	Local Access Footways (4)	2,452	km
	Cycleways	28	km
	Total	2,964	Km
	Structures	Bridges and Other Highway Structures	
Bridges		224	no
Tunnels		7	no
Culverts (>900mm)		205	no
Subways		23	no
Footbridges		60	no
Retaining Walls (>1.2m)		2,725	no
Traffic Signal Mast Arms and Sign Gantries		113	no
Total		3,357	no
Street Lighting		Tay Valley Lighting (PFI)	
	Lighting Columns	93,866	no
	Illuminated Bollards	3,609	no
	Illuminated Signs	6,861	no
	Zebra Crossings	329	no
	School Crossing Patrol Flashers	65	no
	Variable Message Signs (incoming power supply and poles only)	22	no
	Total	104,752	no
UTMC	Traffic Signal Installations		
	Traffic signal Junctions	324	no
	Stand Alone crossings	308	no
	Wig Wag Signals (Fire Stations)	1	no
	Total	633	no

Other Asset Group	Asset Element	Asset Quantity	Asset Unit
Highways	Carriageway & Footways		
	Road Restraint Systems (crash barriers)	58,673	lin-m
	Pedestrian Guardrail	111,629	lin-m
	Non illuminated road signs	26,613	no.
	Drainage		
	Road Gullies (including connections)	141,733	no
	Highway Drains	263	km
	Trash Grills / Grids / hotspots	136	no
	Manholes / Inspection Chambers	3961	no
	Silt traps / Catchpits	223	no
	Pumping Stations	3	no
	Petrol / Oil Interceptors (POI's)	8	no
	Flow Control devices	17	no
Green Spaces	Managed by Parks & Countryside		
	Public Rights of Way – Footways (1025no)	620	Km
	Public Rights of Way – Bridleways (182 no)	170	Km
	Public Rights of Way – Byways (10 no)	9	Km
	Verges	9.2	Sq-km
	Trees	14,397	No.
	Hedges	28	Km

The above elements are regarded as major asset groups for the purpose of this Highway Infrastructure Asset Management Strategy