

Department of Place
Planning, Transportation & Highways Service

Highway Infrastructure Asset
Management Strategy

Amendment List

Issue / Revision	Issue / Revision Date	Remove		Insert	
		Page	Iss. / Rev.	Page	Iss. / Rev.
Version 1.0	Sept 2016	Original			
Version 2.0	Dec 2017			Various	Minor text amendments
Version 3.0	Dec 2018			Various	Minor paragraph/text amendments
Version 4.0	Jan 2020			Various	Updated text to sections 7, 8, 9 and Appendix 1. Addition of Appendices 2 and 3

CONTENTS	PAGE
1. Foreword	4
2. Introduction	5
3. Highway Asset Management Framework	5
4. Highway Asset Management Implementation Plan	7
5. Council Plan 2016-2020	8
6. Highway Infrastructure Asset Management Policy	9
7. Highway Asset Management Strategy	9
8. Lifecycle Planning	10
9. Performance Management	11
10. Communications	12
11. Valuation and Budget Allocation	13
12. Joint Working and Partnerships	14
13. Review	14
Appendix 1: Highways Assets Managed by Bradford Council	16
Appendix 2: Performance Management Framework	18
Appendix 3 - NHT KBI & HMBI Results 2015 to 2019	19

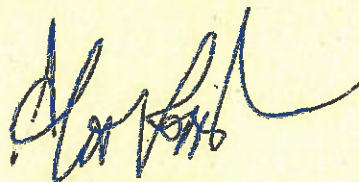
1. Foreword

We are pleased to endorse Bradford Council's 'Highway Infrastructure Asset Management Strategy'. This document sets out how we intend to manage and maintain the highway asset, including the various elements including carriageways, footways, highway drainage, street lighting, bridges, traffic signals, etc.

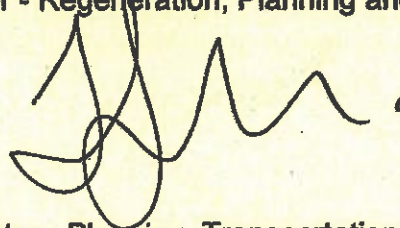
Bradford's highway asset, which is used by all residents, businesses and visitors to the area, must be fit for purpose as it is a vital contributor to the economic health of the community and reflects the quality of the environment. Ensuring the ongoing safety of all users of this network is a very high priority for this Council. The infrastructure also needs to be able to respond to environmental change and extremes of weather, hence we must ensure that we invest in the network in a timely manner and that the resources we have available are used as efficiently as possible in order to provide the maximum benefit, both now and in the future.

Maintenance of the highway infrastructure network is a matter of keen public interest and concern. Since 2003, Metro, and more recently West Yorkshire Combined Authority, has undertaken an annual 'tracker' survey. In 2015, a National Highways & Transport Network (NHT) Public Satisfaction Survey was carried out for the first time within the Bradford District to determine the public's view of highway and transport issues. The survey included highway maintenance and satisfaction with maintenance activities. The outcomes of these annual surveys will be communicated via the Council's website and responses will help in developing our levels of service.

This strategy provides a foundation for the successful delivery of highway services in Bradford. We welcome it and commend it to all who read it.



Councillor Alex Ross-Shaw
Portfolio Holder - Regeneration, Planning and Transport



Julian Jackson
Assistant Director - Planning, Transportation and Highways

2. Introduction

Bradford Council recognises the importance of its highway infrastructure and how an effectively managed and maintained network contributes to the local economy and supports its corporate objectives. We understand that effective asset management is a platform to deliver clarity around standards and levels of service, and to work collaboratively to make best use of available resources.

This 'Highway Infrastructure Asset Management Strategy' sets out how the Council will best manage the highway infrastructure network taking into consideration customer needs, local priorities, asset condition and best use of available resources. It presents the Council's strategy for the management of our highway assets and allows planning over both the short and long term, whilst delivering a minimum whole life cost approach to our highway assets.

The highway infrastructure network is the Council's most valuable asset. The gross replacement cost, calculated in accordance with the requirements for Whole of Government Accounts, is estimated to be in excess of £3 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.

3. Highway Asset Management Framework

The constituent Councils of the West Yorkshire Combined Authority (WYCA) (namely City of Bradford Metropolitan District Council, Leeds City Council, Kirklees Council, Calderdale Council and Wakefield Council, with the inclusion of City of York Council) have developed an asset management framework as a basis for working together collaboratively, in order to drive best practice through the sharing of knowledge, experience and resources.

The WYCA asset management framework reflects national guidance provided by the Highways Maintenance Efficiency Programme (HMEP) document 'Highway Infrastructure Asset Management' along with the document 'Well Maintained Highways – Code of Practice for Highway Maintenance Management'. Figure 1 is an extract from the HMEP document.

The asset management framework is also based on the Council's approach to delivering services and aligns with the corporate policies on performance management and risk management.

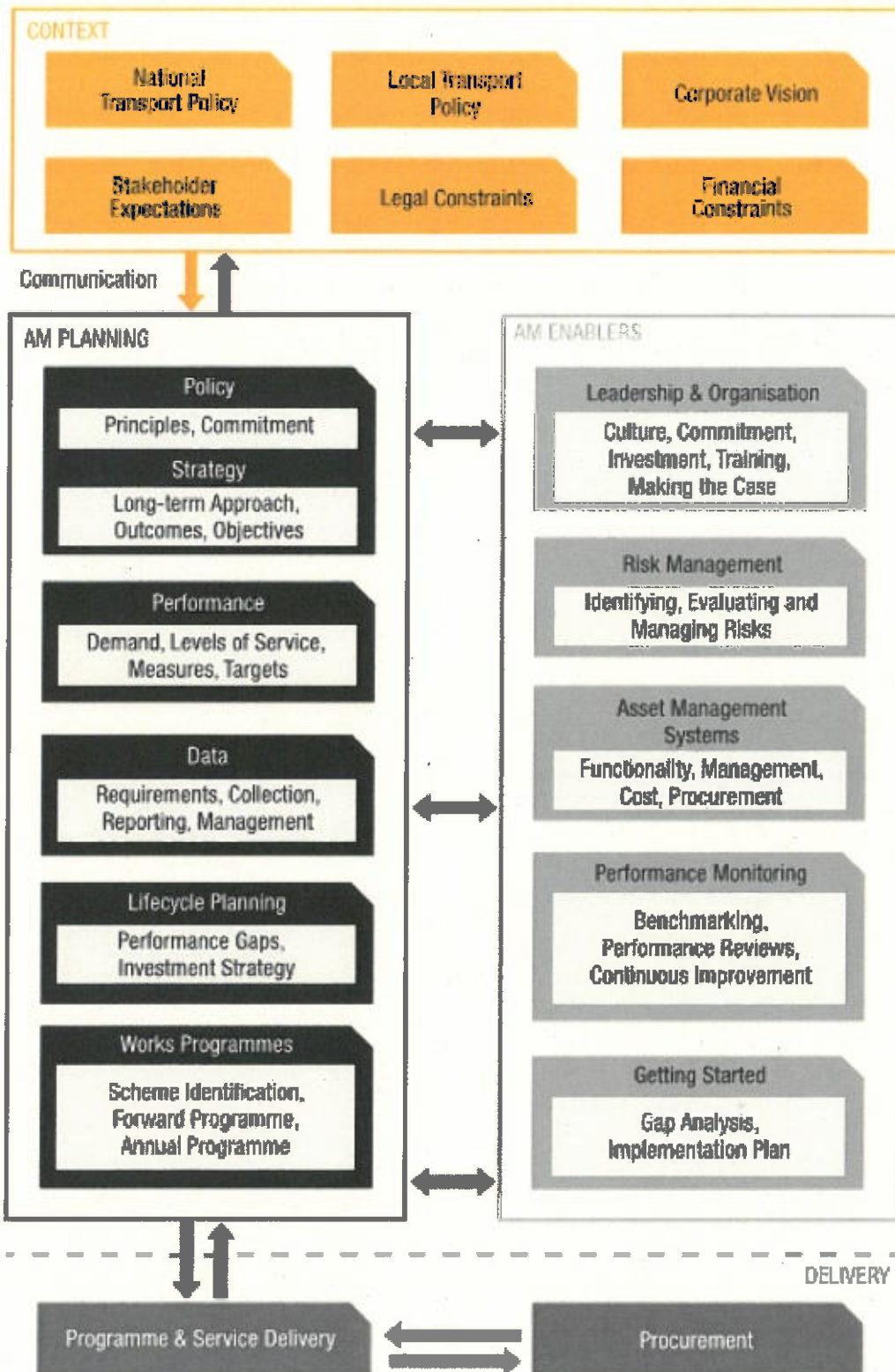


Figure 1 – Asset Management Framework (Highway Infrastructure Asset Management Guidance – UKRLG/HMEP, May 2013)

4. Highway Asset Management Implementation Plan

Figure 2 represents the structure for the implementation of asset management for Bradford Council within the wider collaborative WYCA context.

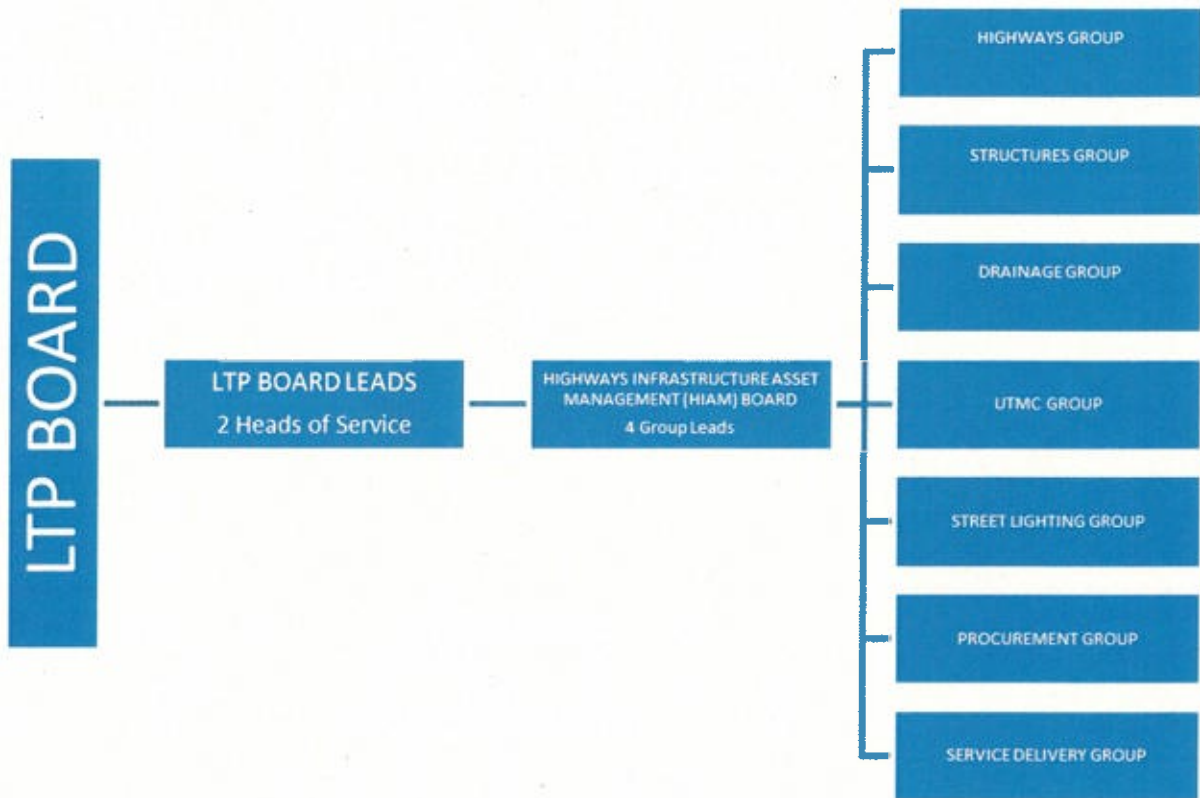


Figure 2 – WYCA Asset Management Implementation Plan.

5. Council Plan 2016-2020

The Council Plan 2016-2020 explains how we will prioritise our time and money on the things that will have the biggest positive impact on our district and citizens over the next four years.

We want the district to be prosperous and sustainable. We want people to be healthier, and to care for themselves, others, and the district around them. The Council Plan explains how we will work with people, communities, organisations, and businesses to make this happen.

Our Priorities, Principles and Behaviours

The Council Plan sets out our commitment as a Council to achieve our priorities. Our six priorities are:

- Better skills, more good jobs and a growing economy
- Decent homes that people can afford to live in
- A great start and good schools for all our children
- Better health, better lives
- Safe, clean and active communities
- A well-run Council, using all our resources to deliver our priorities

The principles we will work by are:

- Working together
- People in charge of their own lives
- Equality
- Every pound counts

Our behaviours – how we work together – are:

- Positive
- Engaging
- Responsible
- Flexible

From these priorities, a number of principles have been derived that link directly to an asset management approach:

- Making sure that services give value for money, maximise efficiency and make the most of all the available resources in Bradford District.
- Taking action early to stop problems getting worse or from happening in the first place.
- Looking to the future not just the short-term.
- Exploring innovative ways of delivering and sustaining services.
- Being honest, open and transparent about the choices being proposed.

6. Highway Infrastructure Asset Management Policy

The WYCA Asset Management Framework includes overarching policy statements, to provide strategic direction and communicate purpose in applying asset management to achieve each authority's objectives. These have been incorporated into Bradford Council's Highway Infrastructure Asset Management Policy.

The policy details the Council's commitment to adopting an asset management approach in order to support its corporate priorities.

The Highway Infrastructure Asset Management Policy can be found on the Council's website at:

<https://www.bradford.gov.uk/transport-and-travel/highways-asset-management>

7. Highway Infrastructure Asset Management Strategy

The Highway Infrastructure Asset Management Strategy is one of the key strategic documents relating to the Council's Highway Services. The core elements of the strategy are:

- Inventory and data management.
- Levels of service.
- Lifecycle Planning.
- Risk Management.

Inventory and Data Management

The Council has a robust data collection methodology which ensures it meets national guidance and statutory requirements in relation to road condition on the principal and non-principal road network. In addition, it also carries out inspections and surveys of assets including; unclassified roads, footways, traffic signal installations and associated equipment, street lighting, bridges and other structures.

The following systems are currently in operation by the Council to manage its highway data:

- Symology 'Insight' Highway Management System - covering most of highway maintenance needs, including highway inventory, works orders, public enquiries, street works, structures, network management and inspection processes
- Gaist Asset Stream
- GIS (ArcGIS)
- United Kingdom Pavement Management System (UKPMS)

Levels of Service

Levels of Service are a means of describing the standard of service provided by the asset for the benefit of the customer and represent the economic, environmental and social aims. When determining service levels and standards, the Council must take into account various factors including corporate priorities, Local Transport Plan (LTP) priorities, available funding and our obligations as the Highway Authority.

Our aim is for an infrastructure network asset which:

- Is safe and serviceable in relation to its use
- Provides connectivity to support economic activity and growth within the district and wider region
- Has sufficient capacity to cater for the number of vehicles using the road to prevent undue delay and congestion
- Enhances the quality of life of people living in, working in and visiting the district
- Creates an amenity value, enhances the environment and contributes to place making
- Is appropriately maintained to conserve its value and integrity for current and future service needs

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.

Levels of Service have been set in order to measure our performance against annual targets (see also Section 9. Performance Management).

8. Lifecycle Planning

In line with national guidance and good practice, the Council uses a lifecycle planning 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 prerequisites to good asset management. The Council's 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.

The lifecycle plan for assets details specifically how maintenance will be managed and also recognises how the investment in timely routine maintenance affects the future demands for maintenance expenditure. A well constructed asset maintained in good condition should deteriorate at a slower rate than an asset in poor condition and as its condition deteriorates, it follows that maintenance costs will increase. Consequently, it is vital that appropriate

investment is maintained in order to keep a suitable balance between planned and reactive maintenance, enabling an asset to achieve its full potential life term and that funding is in place for the eventual replacement of the asset at that time.

This approach means that we can be more pro-active in prioritising long-term objectives in order to deliver better value for money, i.e. a move away from a worst-first system of working, whereby the risk of failure is mitigated by allocating funds to where they will be the most beneficial. The overall aim for the Council's road network would be to combine efficient delivery methods together with a concerted funding effort to eradicate the failing roads and those containing underlying imperfections and defects that leave us vulnerable to severe weather events.

Lifecycle plans chart the whole of an asset's life from installation, through the various phases of timely maintenance interventions on a cyclic basis with a view to optimising its design life and hence the most efficient whole life cost model. Lifecycle planning and deterioration modelling is carried out in conjunction with our external consultants, Gaist Professional Services.

9. Performance Management

Desired performance is determined by setting performance indicators and associated targets. The performance indicators support the levels of service and are used to provide information on performance gaps, ie the difference between current and desired performance.

Performance measures and targets have been set in order to determine whether levels of service and stakeholder expectations are being met by the Council. The performance measures and targets are based on four objectives or levels of service:

Network Safety

- Complying with statutory obligations
- Meeting users' needs for safety

Network Serviceability

- Ensuring availability
- Achieving integrity
- Maintaining reliability
- Enhancing condition

Network Sustainability

- Minimising cost over time (whole life cost)
- Maximising value to the community
- Maximising improvements to the environment

Customer Service

- Delivering satisfaction
- Providing effective consultation and information
- Providing efficient enquiry and complaints management

A list of proposed performance indicators based on the above core levels of service has been drafted and will be made available to stakeholders on the Council's website. Those indicators relating to Customer Service are derived from the annual National Highways and Transport Network (NHT) Public Satisfaction Survey.

Whilst improvements in some areas can be demonstrated, we are already able to identify areas where improvement is necessary in order to achieve our desired outcomes.

As such, the Council, including senior decision-makers, will undertake annual reviews of the performance indicators and, where performance gaps exist, these will be evaluated and improvement actions established.

This performance management process, together with appropriate lifecycle planning and deterioration modelling, are key to identifying the future spending priorities required in order to sustain the defined levels of service and avoid deterioration of the infrastructure asset that would lead to extensive/costly future repair work and an increase in third party public liability claims.

10. Communications

The Council's Highways Communication Strategy aims to raise awareness and understanding of its approach to highway maintenance. The strategy details how the Council engages with its stakeholders with regard to the district's highway assets, to ensure that they are informed about, and satisfied with, the work being undertaken to maintain and improve the highway network.

Engagement allows the Council to understand stakeholder needs and expectations and provides the information necessary to assist in shaping the service provided, including the establishment and prioritisation of works programmes.

The Highways Communication Strategy can be found on the Council's website at:

<https://www.bradford.gov.uk/transport-and-travel/highways-asset-management>

11. Valuation and Budget Allocation

Whole of Government Accounts (WGA) has set requirements for the way in which the value of the highway asset is reported to the HM Treasury in the Authority's audited accounts. The Council is required to meet the strict requirements for financial reporting of the highway asset and, for this to be achieved, there is a clear need for accurate and detailed inventory information and performance data. This requirement will support asset management by providing an improved understanding of network deterioration and combining that with the levels of service to be achieved.

The process for allocating highway asset budgets is shown in Figure 3.

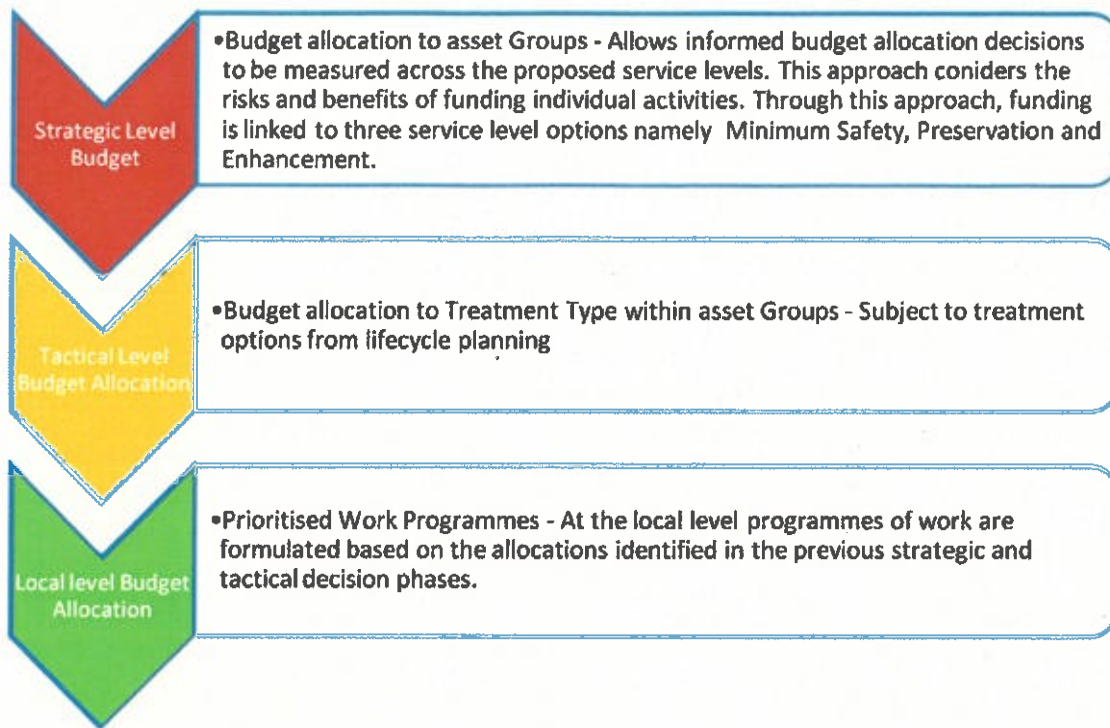


Figure 3 – Budget Allocation Process

12. Joint Working and Partnerships

In line with current good practice guidance on highways industry procurement, the Council is a key member of the West Yorkshire Alliance. This group was formed to actively pursue potential cost reductions that should be available through collaboration by identifying efficiencies, including standardisation of contract specifications, economies of scale, avoiding duplication of effort, share knowledge / expertise, benchmarking and the innovative use of products and materials collectively.

13. Review

The Highway Asset Management team are responsible for the overall management of highway infrastructure network in accordance with this strategy. The team is responsible for updating asset management documentation, providing appropriate information to support delivery of the Highway Asset Management objectives and ensuring the collection of appropriate network data.

This strategy will be reviewed on an annual basis with senior management and the Portfolio Holder for Regeneration, Planning & Transport.

Inherent to this process is a need to understand the influence of budget decisions on customer satisfaction and delivery of the Council's priorities. Customer feedback is obtained using the National Highways and Transport Network (NHT) Public Satisfaction Survey, the annual outcomes of which are communicated to stakeholders and used to guide future decision making processes.

Appendix 1: Highways Assets Managed by Bradford Council

Asset	Quantity	Unit
Carriageways		
Principal Roads ('A' roads)	184	km
'B' Roads	78	km
'C' Roads	119	km
Unclassified Roads	1,461	km
Traffic Calmed Roads		km
Total	1,842	km
Footways		
Primary Walking Route	44	km
Secondary Walking Route	86	km
Local Access Footways	2,912	km
Total	3,042	km
Traffic Signal Installations		
Traffic Signal Junctions	166	no
Single Puffin Crossings	126	no
Dual Puffin Crossings	33	no
Puffin 3 Crossings	6	no
Pelican Crossings	0	no
Dual Pelican Crossings	4	no
Toucan Crossings	26	no
Dual Toucan Crossings	3	no
Toucan 3 Crossings	2	no
Pegasus Crossings	2	no
One Can	0	no
Wig Wag	4	no
Total	372	no
Intelligent Transport Systems		
VMS (includes for car parks)	65	no
CCTV cameras (on-street, including those shared with UTMC)	258	no
Total	287	no
Structures		
Bridges (span/1.5m)	187	no
Culverts (span/1.5m)	136	no
Culverts (span<1.5m)	105	no
Ex Railway Bridges	1	no
Footbridges (Highway)	17	no
Footbridges (PROW)	158	no
Subways	20	no

Tunnels	2	no
Cattle Grids	6	no
Sign Gantries / Signal Mast Arms	37	no
Retaining walls (retained height/1.5m) 70km	685	no
Retaining walls (retained height <1.5m) 52km	584	no
Stabilised Mineshafts	7	no
Embankment / Reinforced Earth	1	no
Legacy Structures	62	no
Total	2008	no
Other structures with partial liability (ie third party structures carrying adopted highways):		
Rail	244	no
Canal	25	no
Private	1476	no
Total	1745	no
Street Lighting		
Lighting Columns	59,851	no
Illuminated Bollards	2,531	no
Illuminated Signs	5,706	no
Feeder Pillars	146	no
Subway Units	932	no
Refuge Island Beacons	230	no
Vehicle Activated Signs	75	no
Total	69,471	no
Drainage		
Highway Gullies	98,034	no
Highway Drains	Unknown	m
Highway Linear Drainage	Unknown	m
Trash Screens	17	no
Street Furniture		
Non-illuminated Signs	Unknown	no
Non-illuminated Bollards	Unknown	no
Litter Bins	Unknown	no
Safety Fencing	Unknown	m
Seats/Benches	Unknown	no
Pedestrian Guardrail	Unknown	m2
Highway Trees & Soft Estate		
Highway Trees	Unknown	no
Highway Grass Verge	2,370	m2

Appendix 2 - Performance Management Framework

Reference No.	Description	Service Levels			Performance								
		Good	Fair	Poor	Actual (2015)	Actual (2016)	Actual (2017)	National Average (2017)	Actual (2018)	National Average (2018)	Actual (2019)	National Average (2019)	Target (2020)
1*	How satisfied are stakeholders with the condition of road surfaces?	>40%	30-40%	<30%	43%	39%	43%	40%	37%	32%	41%	38%	45%
2*	How satisfied are stakeholders with the condition of pavements?	>60%	50-60%	<50%	59%	55%	55%	55%	57%	54%	58%	55%	60%
3*	How satisfied are stakeholders with the efforts to reduce delays to traffic?	>55%	45-55%	<45%	47%	50%	49%	51%	45%	52%	52%	53%	55%
4*	How satisfied are stakeholders with the ease with which they can contact Highways?	>65%	60-65%	<60%	69%	64%	65%	64%	N/P	N/P	63%	N/P	70%
5	% Cat 1 potholes repairs completed on time	>90%	80-90%	<80%	88%	89%	93%	N/A	88%	N/A	91%	N/A	95%
6	% Cat 2 potholes repairs completed on time	>80%	70-80%	<70%	79%	73%	73%	N/A	89%	N/A	78%	N/A	85%
7	% of signalised installations repaired on time	>90%	80-90%	<80%	81%	87%	85%	N/A	83.5%	N/A	84.5%	N/A	95%
8	% of highway claims repudiated	>85%	75-85%	<75%	83%	83%	87%	N/A	86%	N/A	86%	N/A	90%
9	% Principal Network (A roads) requiring major maintenance	<5%	5-10%	>10%	7%	3%	2%	N/A	3%	N/A	4%	N/A	2%
10	% Non-Principal Classified Network (B & C roads) requiring major maintenance	<10%	10-15%	>15%	8%	5%	8%	N/A	7%	N/A	7%	N/A	4%
11	% of Unclassified Network requiring major maintenance	<20%	20-25%	>25%	17%	9%	6%	N/A	7%	N/A	9%	N/A	6%
12	% of footways requiring major maintenance	<20%	20-25%	>25%	N/Av	N/Av	N/Av	N/A	N/Av	N/A	N/Av	N/A	6%
13	% of council owned highway structures in need of essential repair (excluding retaining walls)	<5%	5-10%	>10%	1.80%	1.60%	3.60%	N/A	8%	N/A	8.80%	N/A	8%
14	% of bridges with imposed temporary width/weight restrictions	<5%	5-10%	>10%	1.30%	0.70%	0.20%	N/A	1.20%	N/A	1.20%	N/A	1%
15	% of UTMC Traffic Signal Installations exceeding average expected service life	<10%	10-15%	>15%	8%	7%	6%	N/A	4.6%	N/A	4.6%	N/A	4%
16	% of Street Lighting columns with LED lanterns	>75%	25-75%	<25%	N/Av	N/Av	N/Av	N/A	13.0%	N/A	18.0%	N/A	45%
17	% of UTMC Installations with LED lanterns	>95%	85-95%	<85%	100%	100%	100%	N/A	100%	N/A	100%	N/A	100%

Customer Service
Safety
Serviceability
Sustainability

*National Highways & Transport (NHT) Public Satisfaction Survey results

N/P NHT score not produced in 2018 or 2019
N/A Not Applicable
N/Av Not Available

Appendix 3 - NHT KBI & HMBI Results 2015 to 2019

Indicator	% Satisfaction						2019 Ranking		
	2015	2016	2017	2018	2019	change	NHT Average	National (0-111)	WYCA (1-5)
Highway Maintenance Overall	51	50	49	48	51	3	51	N/A	2
KBI 23 - Condition of highways	39	37	40	34	40	6	36	29	1
KBI 24 - Highway maintenance	52	51	50	49	52	3	52	51	3/4
KBI 25 - Street lighting	65	67	62	62	63	1	64	73	1
KBI 26 - Highway enforcement/obstructions	48	47	47	48	48	0	49	72	3/4

HMBI 01 - Condition of road surfaces	43	39	42	37	45	8	38	19	1/2
HMBI 02 - Cleanliness of roads	56	54	53	51	54	3	56	75	3/4
HMBI 03 - Condition of road markings	59	57	57	54	58	4	56	26	2/3
HMBI 04 - Condition and cleanliness of road signs	61	60	58	58	56	-2	58	76	4/5
HMBI 05 - Provision of street lighting	65	65	62	62	64	2	65	71	4/5
HMBI 06 - Speed of repair to street lights	55	55	52	54	56	2	60	98	4/5
HMBI 07 - Speed of repair to damaged roads/pavements	33	32	32	32	37	5	31	13	1
HMBI 08 - Quality of repair to damaged roads/pavements	38	39	40	38	43	5	38	16	1
HMBI 09 - Maintenance of highway verges/trees/shrubs	55	52	51	51	55	4	52	17	2
HMBI 10 - Weed killing on pavements and roads	50	48	47	48	51	3	49	37	2/3
HMBI 11 - Provision of drains	54	50	50	53	53	0	55	72	3/4
HMBI 12 - Keeping drains clear and working	48	46	46	48	50	2	52	72	2/3

Indicator	% Satisfaction							2019 Ranking	
	2015	2016	2017	2018	2019	change	NHT Average	National (0-111)	WYCA (1-5)
HMBI 13 - Deals with potholes and damaged roads	39	35	38	34	40	6	36	32	2
HMBI 14 - Deals with obstructions on pavements	42	42	41	42	42	0	43	72	2
HMBI 15 - Keeps roads clear of obstructions	54	54	53	52	53	1	57	100	3/4/5
HMBI 17 - Undertakes cold weather gritting	52	52	51	43	52	9	60	105	4/5
HMBI 18 - Provides information on gritting	39	38	39	38	42	4	46	91	4
HMBI 19 - Cuts back overgrown hedges	48	45	46	45	46	1	46	51	2/3
HMBI 20 - Deals with mud on the road	52	52	49	52	50	-2	51	69	4
HMBI 22 - Deals with flooding on roads and pavements	50	45	44	50	49	-1	49	49	3/4

