

# Highway Asset Management Strategy

Highways, Growth & Neighbourhoods Directorate  
December 2018

# Table of Contents

Record of Amendments .....	3
Introduction.....	4
1 The Importance of Highway Infrastructure to Manchester.....	5
2. Asset Management Principles.....	6
3. Asset Management Framework .....	7
4. Asset Management Objectives.....	9
5 Strategy for Main Asset Groups .....	10
6 Data management & information systems.....	15
7 Good Practice .....	16
8 Performance Reporting .....	17
9 Strategy Review .....	18
Glossary & abbreviations.....	19

## Appendices:

Appendix 1: Manchester’s highway assets.....	21
Appendix 2: Community Network .....	23
Appendix 3: Action Plan .....	25

# Highway Asset Management Strategy

## Record of Amendments

Issue No:	2.2 / 2018
Status:	Draft
Date:	December 2018
Author:	Tony King
Reviewed by:	Steve Robinson
Owner:	Manchester City Council
Approved by:	Executive
Target Review Date:	December 2021

### Amendments List

Version	Amendment	By	Date
2.1	Introduction, 1.4, 1.5, 3.7, 3.8, 3.9, framework diagram, 4.2.3, 4.3.2, 5.3, 5.7, 5.13.3, 5.14.3, 5.14.6, 6.2, 7.3, 9.1, 9.3, Appendix 1 2.2 and Appendix 3 amended	TK	01/02/2017
2.2	1.5, 2.3, 2.4, 3.3, 3.4, 3.7, Figure 1, 4.2.3, 5.4, 5.13.3, 5.14, 5.18.4, 6.1, 6.2, 8.1, 9.3, Appendix 2 amended, Appendix 3 removed.	TK	15/12/2018

## Introduction

- As the Highway Authority we have a duty to act as custodian of the highway asset to ensure that it is fit for purpose and maintained accordingly.
- Manchester City Council recognises the importance of its highway infrastructure and how an effectively maintained and managed network contributes to the achievement of its corporate goals. This strategy sets out an approach for the management of all highway assets including lighting, drainage, bridges and structures, cycling infrastructure and signage.
- Throughout this document the term “Highway” refers to all assets within the highway boundary which have been officially adopted by the council. Assets that have not been adopted, or are located on private streets, are not maintainable at public expense and have not been included within this Highway Asset Management Strategy (HAMS).
- The Council understands that effective asset management will deliver clarity around standards and levels of service, and help it to make best use of its available resources. This approach is set out in the accompanying Highways Asset Management Policy. We will aim to maximise value out of our current resources but also look to identify potential new funding streams, invest through savings, development opportunities and seek additional resources through competitive funding bids.
- This HAMS sets out a long term approach to achieving the aims in the Policy and how the long term objectives for managing our highway assets will be met. It provides the framework for delivering our corporate priorities through effective, informed and consistent decision making. This strategy sets out an approach for the management of all streetscape assets including lighting, drainage, cycling infrastructure, signage and traffic signals.
- This document has been produced following assessment of customer needs, local priorities and asset condition. It also ensures that both short and long term needs are appropriately considered, whilst delivering a minimum whole life cost approach to our Highway Assets.
- The Strategy is used to prioritise schemes that are to be implemented within the Council’s capital maintenance programmes.
- The Strategy covers all highway maintenance activities funded by revenue and capital streams.
- This is not a static document. It will be reviewed and updated regularly in response to changing legislation, funding and the expectations of highway users.

# 1. The Importance of Highway Infrastructure to Manchester

- 1.1 The city’s highway network is the largest and most visible community asset for which the City Council is responsible. It is used daily by the majority of people who live and work in the city and is fundamental to the economic, social and environmental well-being of the community. Over 80% of journeys to work are made using the highway network, alongside a growing diversity of commercial traffic. Our ability to offer a reliable and resilient highways system is not only important for existing businesses; it is also a determining factor in attracting new businesses, particularly those with a time-critical need for logistics and commercial transport links.
- 1.2 The highway network also helps to shape the character and quality of the local areas that it serves and makes an important contribution to wider local authority priorities, including regeneration, social inclusion, community safety, education and health. The city’s highway network is therefore a key enabler of economic prosperity, productivity and social wellbeing. A well-functioning and well maintained network helps to enable growth by reducing business costs, improving access to markets, enabling competition, improving labour mobility, enabling economies of scale and agglomeration, and helping to attract inward investment.
- 1.3 The effectiveness of current investments in improvements to cycling and public transport infrastructure will be compromised if the condition of the highway network as a whole is inadequate.
- 1.4 The Strategy is not based on a specific assumed funding level, and therefore, significant changes to the strategy will not need to be made if major changes in available budget occur.
- 1.5 This HAMS helps to make the best use of the resource that is available and assist in the allocation of that resource in accordance with agreed strategic priorities.



## 2. Asset Management Principles

2.1 The Government recognises that long term savings can be made by employing asset management techniques. By carrying out more long term planned works rather than short term maintenance repairs we can achieve:

- long term reduction in reactive maintenance costs;
- clearer decision making with our planned work;
- improved management of the risks on our critical assets;
- a reduction in third party accident claims, better customer satisfaction and stakeholder involvement;
- improved journey times and reduced delays;
- a better customer and stakeholder awareness of the value of our assets;
- a clearer understanding of future demands and a better managed network;

2.2 For a road, an optimum asset management strategy involves a long term programme of maintenance works with a combination of resurfacing schemes as well as applying preventative treatments (micro asphalt or surface dressing) at the optimum time before the road has deteriorated too far.

2.3 These preventative treatments mean that the whole life costs to maintain the road can be minimised when compared to just resurfacing when the surface has failed. The capital cost of treatments is lower and also, because we are treating the road before it is allowed to fail, reactive repair costs over time are reduced and with it less likelihood of third party claims. Savings in whole life capital costs are illustrated in the example below:

### Road section:

Length: 1,000m  
Width: 6m  
Area of section: 6,000m<sup>2</sup>

Over a 40 year life cycle period (not allowing for any increase in costs over time):

#### i) Reconstruction / resurfacing – 2018 cost approx. £40/m<sup>2</sup>

Initial construction =	£240k	
After 20 years, resurfacing =	£240k	
After 40 years, resurfacing =	£240k	
TOTAL COST =	£720k	Plus high reactive costs / third Party claims

#### ii) Preventative treatment – 2018 cost approx £6/m<sup>2</sup>

Initial construction =	£240k
After 10 years, treatment =	£36k
After 20 years, treatment =	£36k
After 30 years, treatment =	£36k
After 40 years, resurfacing =	£240k
TOTAL COST =	£588k

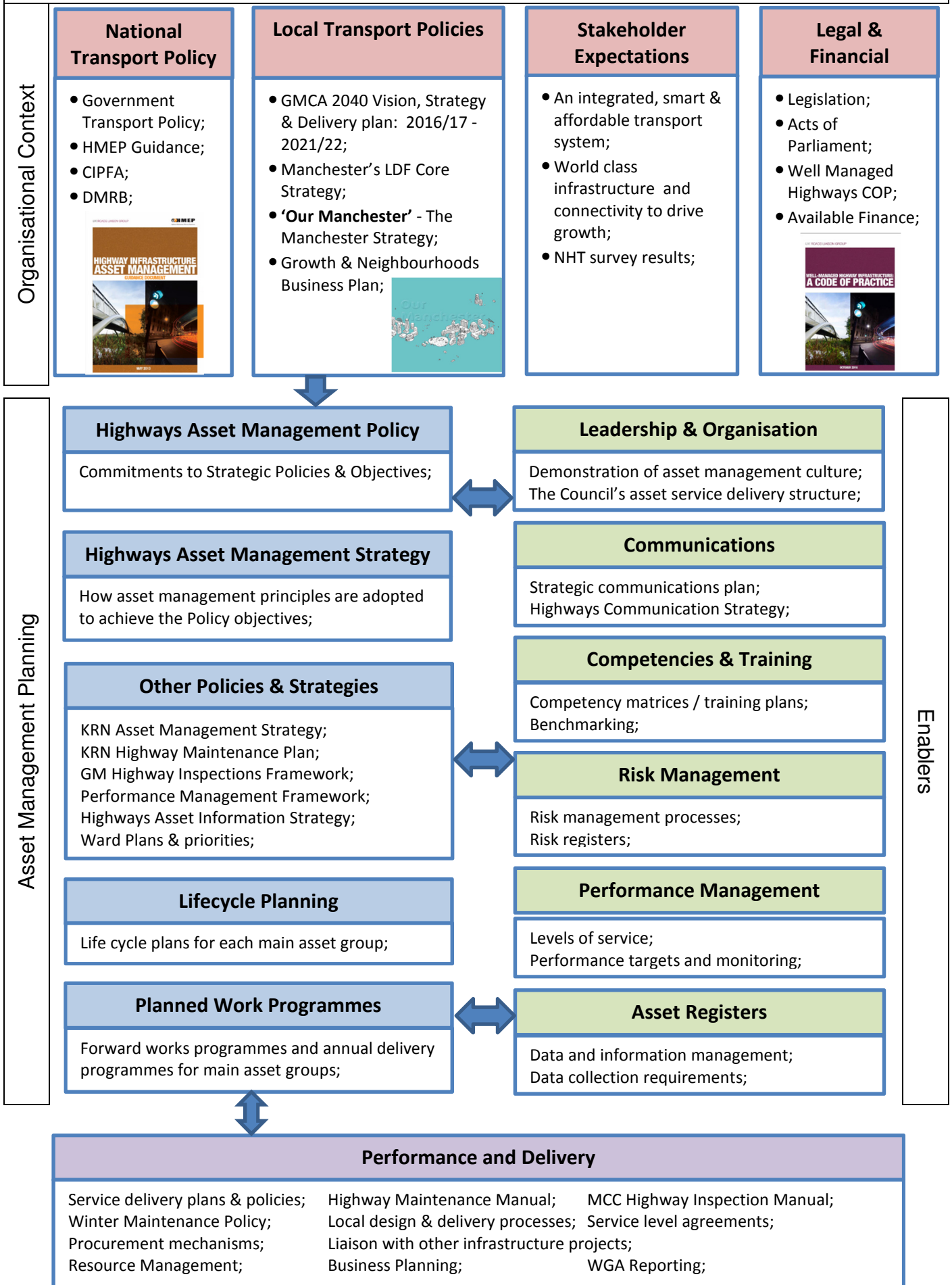
2.4 Using preventative treatments on the scenario above would make capital savings of £132k over the life of this section of road. Considering our road network comprises over 1600 sections of this size, the savings can be seen to be considerable.

- 2.5 Whilst it may appear that we are spending money on roads that do not need treatments, this approach is the most cost effective use of the budget.
- 2.6 This strategy is the roads equivalent of painting wooden window frames regularly, rather than waiting for them to rot and need expensive replacement.
- 2.7 Essentially asset management is 'looking into the future' of the whole life of a particular asset.

### **3. Asset Management Framework**

- 3.1 The HAMS is one of the key strategic documents relating to the Council's Highway Services. The Asset Management Framework table below (Figure 1) encompasses these key documents and illustrates the local and national influences and dependencies that are in place to deliver these services.
- 3.2 As well as linking in with the City Council's own vision and objectives, the framework shows the link with the wider objectives of Greater Manchester Combined Authority (GMCA) via its Transport for Greater Manchester Committee, who defines the strategies and policies for transport in Greater Manchester.
- 3.3 Through devolution, the 10 GM district HA's agreed in 2015 that a Key Route Network (KRN) of strategic roads be established to drive the growth agenda, and since April 2015, TfGM has had responsibility for its strategic management and performance, under the oversight of the GMCA. Highway Authority responsibility for the network is still retained by the individual GM authorities.
- 3.4 TfGM have produced a KRN Highway Asset Management Strategy, including performance targets, as well as a longer term KRN Highway Maintenance Plan. Manchester's HAMS aligns with these plans so that a high quality, safe, efficient and reliable KRN network is maintained across the region.
- 3.5 A key element of the Manchester's Asset Management Framework are the operational procedures, policies and guidance, service standards and interventions that reflect the Highway Authority's legal requirements.
- 3.6 This strategy reflects the guidance laid down in the suite of national Codes, in particular the 2016 Code of Practice '*Well-Managed Highway Infrastructure*' and the guidance issued by the Highway Maintenance Efficiency Programme (HMEP) on the use of asset management principles.
- 3.7 Responsibility for planning and delivery of Highway works within Manchester City Council sits within the Growth & Neighbourhoods Department. The structure for governance and decision making relating to highways functions is currently being reviewed and will be attached with this strategy once finalised.
- 3.8 Under the new structure, highway functions will be overseen by the Highways Executive Board, which has a wider remit in ensuring that all activities are in line with the Council's strategic priorities as well as those of Greater Manchester.

# Figure 1 - Highways Asset Management Framework





- 3.9 The Council has set up a Highway Asset Manager role to promote and deliver asset management practices in the delivery of highway services, develop strategic documents and embed and promote asset management practices.
- 3.10 Appropriate training and knowledge sharing with other authorities and national organisations will be maintained to ensure continual good practices are utilised.
- 3.11 The organisational structure and practices will be continually reviewed to ensure the most efficient and cost effective means of managing the highway assets is provided and that the organisation responds to changing circumstances.

#### **4. Asset Management Objectives**

4.1 Our Highways Asset Management Strategy has set out the below performance objectives to provide guidance to the delivery of our service, and establish alignment for our performance management framework:

##### **4.2 Delivering Customer Satisfaction with our Service:**

4.2.1 Manchester's road network provides the backbone of its economy and the maintenance of its highways in an appropriate condition is paramount. This is reflected in customer contact data captured through our CRM process, as well as the results of the NHT satisfaction surveys, which show on-going customer interest in the condition of carriageways.

4.2.2 Engaging with stakeholders to understand their needs and expectations provides the information needed to determine and review the service provided by highway infrastructure assets and hence the asset management activities.

4.2.3 This will be achieved by:

- Regularly communicating and consulting with internal and external stakeholders. A list of key stakeholders has been identified and a Communication Strategy for Highways has been formulated which documents this process formally;
- Obtaining, measuring and reporting outcomes from regular consultation and feedback to ensure that we take into account the values and important views of our stakeholders when making decisions about our asset management service. We currently capture feedback from the annual NHT customer satisfaction survey, customer contact data, State of the City reports and from neighbourhood teams. We are working with our Performance & Intelligence team to effectively capture local priorities and monitor improvements over time.

##### **4.3 Maintaining a Safe & Serviceable Highways Network:**

4.3.1 As stewards of the Manchester City Council highways network, we will ensure that our asset is maintained in a safe and serviceable condition in order that it will continue to provide a strong service to our road users and stakeholders.

4.3.2 This will be achieved by:

- Operating an effective programme of safety inspections and managing defects using a risk based approach as defined in the Well Managed Highway Infrastructure Code of Practice;

- Undertaking highway maintenance according to our published maintenance standards;
- Providing a comprehensive planned Winter Maintenance service on key sections of the highway to keep it free of frost, ice and snow, in line with our winter maintenance policy;
- Keeping water away from the road surface and minimising impacts of surface water by providing and maintaining adequate drainage;
- Providing and maintaining essential street and footpath lighting in accordance with national standards;
- Maintaining the bridges and other structures that form part of the highway network, and strengthening them if necessary to cater for modern traffic, or restricting their use by heavy vehicles;

#### **4.4 Delivery of Cost Effective Asset Management:**

4.4.1 Our highways service will adopt a whole life approach to highways investment and will increase the proportion of the network maintained under our asset maintenance and improvement approach. We will ensure that remedial work is undertaken where required to ensure safety of users.

4.4.2 This will be achieved by:

- Highways asset condition data being used in the targeting of maintenance on specific parts of the network for the most effective and economic benefits;
- Making greater and more frequent use of low cost preventative treatments to prolong the network life to avoid the need for expensive major renewal;
- Making highway investment decisions on a whole life basis, i.e. considering future highway maintenance costs early in a scheme design;

### **5. Strategy for Main Asset Groups**

5.1 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 components and activities. The main asset groups, components and value are shown in Appendix 1.

5.2 In the application of the strategy it is important to recognise that the failure of certain routes and infrastructure would have a greater impact on Manchester's economy and communities than the failure of others.

5.3 Our first priority for funding will be the KRN to support our strategic priority of growth. When funding is available we will next prioritise roads of local significance for growth, which we have classified as the Community Network (CN), the criteria for this network is detailed in Appendix 2. The KRN and CN also incorporate Manchester's Resilient Network (RN), defined as the infrastructure of crucial importance in maintaining economic activity and access to key services during extreme weather conditions or other emergencies.

- 5.4 Understanding what condition the City Council's highway assets are in is essential in planning for the future, both in making decisions about how they are managed and in understanding the future investment required to maintain or improve their condition. Manchester's approach to collecting and managing data is outlined in our Highways Asset Information Strategy.
- 5.5 Accurate condition data and lifecycle modeling is essential to provide annual Whole of Government Accounting (WGA) data for our infrastructure assets, which we have a statutory obligation to provide.
- 5.6 In 2013 the Council commissioned a detailed condition survey of our carriageway and footway network, including kerbs and verges, as well as an asset survey to collect drainage and pedestrian crossing data.
- 5.7 In order to keep this data up to date, we carry out annual video surveys to cover half of our carriageway and footway network on a rolling programme. This is analysed against previous data and our asset registers updated accordingly. This means that we carry out a full condition survey of the network approximately every 2 years.
- 5.8 The video survey will also be used to collate additional asset information and update registers as required.
- 5.9 It is also intended to undertake other surveys periodically, including:
- Scanner on our KRN in conjunction with other districts in Greater Manchester;
  - Griptester / SCRIM surveys to measure skid resistance;
  - Core surveys to assess construction depths;
- 5.10 The strategy for each main highways asset group is detailed below, but when any maintenance works is being carried out, our aim will be, particularly for strategically important places such as district centres, to improve the maintenance of the streetscape in a cohesive way.

## 5.11 Carriageways

5.11.1 Carriageways (roads) are by far the largest of the Council's assets and account for an estimated 65% of the total highways asset value. Maintaining their condition and preserving their value is vital to the success of the Council's maintenance strategy and they will be given budget priority above other elements of the highway asset.

5.11.2 **Desired Outcome:** to deliver a sustainable improvement in overall condition;

- Priority Investment: a preventative strategy should be adopted as this will deliver the best value for money. A programme of preventative works will be prioritised for delivery;
- Where funding is available investment will be prioritised on the KRN, the Community Network and all other local roads in that order;
- Maintenance works may also be programmed to coordinate with other capital projects being carried out in Manchester, which will be cost effective in terms of delivery and add additional value to the project;
- Investment in large patching will continue which is much more cost effective than pothole repairs;
- Investment in drainage maintenance and improvements will continue where appropriate;

- We will aim to achieve a decrease in quantities of minor defects (pot holes and similar) in the longer term;
- De-cluttering will be considered for all aspects of Highway Asset management;

5.11.3 Preventative approach - A preventative approach should be adopted. This means investing a greater proportion of the available budget to treat roads in the early stages of deterioration. Preventative treatments, such as micro asphalt surfacing, target assets that are not currently in need of full structural renewal and will extend the assets whole life by arresting/delaying deterioration. A programme of preventative treatment will form part of this Strategy and is incorporated in Delivery Plans.

5.11.4 Reactive and Routine Repair Costs - Ongoing review of reactive repair standards will form part of this Strategy. The review will examine investigation and intervention levels and will determine how more cost effective ways of delivering an acceptable standard of repair to safety defects and other minor defects can be achieved.

5.11.5 The Strategy is designed to allow better management of customer expectations. By providing specified target standards, by improving planning of works and providing longer term programmes of work it is expected that users will have greater clarity of what can be expected. Improved communication with customers using this information should improve customer perception and satisfaction.

5.11.6 We also need to continue collecting asset condition and inventory data to ensure the information we hold is accurate and up to date. This information will be used for future works programmes, for deterioration modelling, lifecycle planning, performance monitoring and for providing information in accordance with the CIPFA Code of Practice and WGA.

5.11.7 We will continue to seek alternative and innovative treatments to restore and extend the life of the road surfaces.

## 5.12 Footways

5.12.1 The priority for footways is to deliver a sustainable improvement in the condition of higher use footways and address the worst condition other footways to help maintain a safe network.

5.12.2 **Desired outcome:** to improve condition of high use footways and maintain the overall condition of the footway network at no worse than current.

- Priority Investment: Where the funding is available our priority is to target the worst condition heavily used footways on strategic routes and the worst condition footways on the community network;
- Footways on other local roads will be considered for maintenance works based on condition and / or proximity to other identified highway schemes;
- A preventative Strategy will be adopted using surface treatments where appropriate;
- Where carriageway works have been identified, adjacent footways may also be included, based on condition and funding availability;
- Other than in conservation areas or other special circumstances, when maintenance works are required, our policy will be to replace flagged footways with bituminous materials. As well as being more cost effective, this will help to mitigate future maintenance liability.

5.12.3 Preventative approach - A large proportion of Manchester's footways are bituminous. A regime of preventative treatments such as micro asphalt surfacing offers the opportunity to deliver improved condition at a lower cost. Where funding allows, a programme of preventative treatment will be incorporated in Delivery Plans.

## 5.13 Highway Structures (bridges)

5.13.1 **Desired outcome:** to maintain safe structures addressing structures where strengthening is desirable, utilising bridge condition and location as determinant factors;

- Priority investment: in statutory duties and a small number of priority structures defined as 'critical assets' which are on the KRN;
- Strengthening programme; strengthening of structures will be undertaken progressively using a prioritisation of those structures where strengthening provides the greatest benefit to users;
- Maintain the safety of the structures stock - Reduce the number of structures requiring strengthening works;

5.13.2 **Statutory Duties** -The council will continue to meet its statutory duties as the owner of highway structures via a regime of inspections and management of abnormal loads and bridge use. Funding allocations to allow repair of damage to structures requiring immediate attention (e.g. vehicle strikes in order to keep the asset safe) will be maintained.

5.13.3 Bridges and structures are inspected regularly and condition information is currently held on our bridge management system (Pontis), used by all the GM districts, which allows us to carry out inventory data collection & analysis, determine optimal whole life treatments, predict needs and performance measures, and develop capital work programmes.

5.13.4 Bridge Strengthening Programme – A list of schemes has been identified where maintenance work is desirable. The remaining structures will be managed utilising a regime of inspection/monitoring. The Strategy is based upon addressing the highest priority structures within this list as below:

- Priority 1 Works: Structures which require immediate (next 1-3 years) attention to prevent them from becoming hazardous to users or that require works that will prevent high repair costs from being required. Further priority for structures on the KRN;
- Priority 2 Works: structures which require attention but can be managed by monitoring until funding is available to enable works to be undertaken (targeted completion of this programme within 10 years);

## 5.14 Drainage & Flood Defence

5.14.1 Manchester has produced a detailed Flood Risk Strategy, published in 2014, which sets out the key issues and a long term plan for Manchester to manage surface drainage and address flooding issues.

5.14.2 There are approximately 116,000 road gullies in Manchester. As part of a service review started in 2017/18, we have procured a framework contract to undertake

cyclical gully cleansing which embodies a first-time-clean approach, for an initial period of 2 years, with an option to extend for a further 2 years.

5.14.3 As part of the framework, the framework contractors will initially visit, clean and capture data across all our gullies. This will then be followed by a second pass, which will commence 9 months after the first pass, to enable silt levels to be recorded to form part of an Asset Condition Survey with data captured and reported back via a live Drainage Asset Management System.

5.14.4 Monitoring and recording silt levels will allow us to intelligently set up more effective drainage cleansing frequencies in the future by targeting those gullies that fill up with silt and detritus quicker, as well as those on more strategic routes.

5.14.5 There are occasions where cleaning will not resolve surface water flooding problems and gullies and drainage pipes will require replacement. Repairs will be prioritised based on the priority score or other strategic priorities.

5.14.6 Gullies on roads identified for planned maintenance works are cleaned prior to works commencing and after works are completed. Any further drainage problems identified in the initial cleaning will be incorporated into the planned maintenance works.

5.14.7 When other highway capital schemes are being implemented and existing drainage problems are found, these will be repaired where possible as part of the scheme.

## **5.15 Street Lighting**

5.15.1 The City Council's Street Lighting management and maintenance are delivered through an existing long term PFI contract which extends to June 2029. This PFI has enabled investment in what was a failing asset to ensure that the lighting of the city plays its part in ensuring safety for all road users and helps with the perception of safety of our neighbourhoods.

## **5.16 Traffic Signals**

5.16.1 All traffic signal control equipment in Greater Manchester is owned by the GMCA and are managed and maintained by Urban Traffic Control (UTC) section of Transport for Greater Manchester (TfGM). We work with TfGM to ensure that this equipment is maintained and operated so as to aid flow of traffic and improve road safety.

## **5.17 Capital Improvement and Road Safety Schemes**

5.17.1 The Strategy supports the need to focus on improving road safety and encouraging growth through delivering appropriate capital improvement schemes. Whilst the Strategy does not directly cover these activities, it is intended to facilitate a joined up approach to the delivery of improvement and maintenance schemes. There is also an on-going requirement to understand the future maintenance implications of new capital schemes.

5.17.2 Where maintenance works are programmed in strategically important areas, such as District Centres, we will aim to coordinate these with other public realm works being carried out to ensure that the end result is a cohesive upgrade of the area.

5.17.3 The Asset Management Strategy and resultant long term delivery plans, will allow a more coordinated approach to the provision of Capital Improvement and highway maintenance schemes. This will ensure that maximum value is achieved from various capital and revenue investments through the lifecycle of new and existing assets.

## **5.18 Critical Assets**

- 5.18.1 Some elements of the highway network are more vulnerable than others and some routes are more relied upon than others. A risk based approach is an essential element of asset management in establishing priorities, levels of service and coordination of activities.
- 5.18.2 Identified high level risks are recorded on a risk register and an assessment of threat, vulnerability and consequence carried out to give a balanced view of the risk levels associated with different activities and options. A final risk rating is produced which enables comparisons to be made between each risk.
- 5.18.3 Manchester's critical highway assets are those defined where failure would result in significant impact on the local, and potentially the regional economy.
- 5.18.4 These assets are included in a 'Resilient Network', defined using a risk based approach, using factors such as traffic volumes, risk of flooding, past incident reports, bus routes, major businesses, proximity to schools etc. and liaising with neighbouring authorities, emergency services and existing emergency procedures. Appropriate contingency planning for a failure event has been determined, and relevant protocols established should failure occur, incorporating lessons learned.
- 5.18.5 These critical assets also tie-in with the Winter Services gritting strategy, identified community network and the wider network identified by TfGM as part of their managed strategy for the KRN in Greater Manchester.

## **5.19 Sudden asset failures**

- 5.19.1 Whilst the Strategy advocates a planned and risk based approach to Asset Management, there may be exceptional circumstances in which a particular asset fails rapidly - beyond prediction. In this event, planned activities will be reprioritised (using the principles contained within this Strategy) across all asset groups in order to facilitate the inclusion of additional schemes within the programme.

## **5.20 Planning Considerations**

- 5.20.1 The Council understands the importance that growth and re-development has on the future of the local area and economy. However, there is a need to ensure that any new development / change of use promoted through the planning process fully consider the impact on the existing highway network and its future maintenance.
- 5.20.2 Highway maintenance works carried out by other bodies, for example utility companies and developers, will continue to be monitored by our street works team to ensure that appropriate materials and good practices are utilised, and the GMRAPS permitting system to check that work programmes coordinate with ours.

## **6 Data management & information systems**

- 6.1 The City Council's Highway Asset Management Strategy and Plans are supported by robust and reliable data. Manchester's approach to collecting and managing data is outlined in our Highways Asset Information Strategy.
- 6.2 The following systems are currently in operation by the Authority to manage its Highway Data:
- Gaist 'Assetstream' online mapping system;

A web based mapping platform which graphically represents recorded asset information as well as linking to video imagery and an advanced cost and deterioration model to support whole life analysis and WGA submissions.

- Symology Insight for Highways;  
A highways inspection, defect recording and works ordering system using mobile software and hand held devices to carry out inspections, record defects and raise works orders.
- Esri ArcGIS;  
Geospatial databases are used to record project information, and store GIS data in a central location for easy access and management.
- Greater Manchester Road Activities Permit Scheme (GMRAPS) – Permitting scheme used across Greater Manchester. The aim of GMRAPS is to improve the strategic and operational management of the highway network through the better planning and scheduling of activities to minimise disruption and delay to road users. Decisions regarding permits, how the scheme operates and enforcement are taken by the ten Greater Manchester Authorities, either collectively or individually as appropriate. The system ensures that all planned works across the district are coordinated to minimize disruption.
- Pontis (Bridge Management System);  
Bridges and structures assets are currently managed using the Pontis bridge management system. This is used by all ten GM authorities, allowing a consistent approach to holding inventory data, predicting needs and performance measures, and developing capital work programmes.
- KaarbonTech Gully SMART System, which is a drainage asset management system allowing mobile users to add or download gully asset data and also to download geo-referenced mapping for offline use.
- Customer Relationship Manager (CRM) and CP&C software to record queries, requests, complaints and customer feedback in relation to the highway network. Also able to monitor and report performance against service level agreements.

These systems will be maintained and upgraded to benefit from continual improvements in ICT and developments in asset management.

### 6.3 Asset data will be maintained by utilising:

- Reports through safety inspections and routine and reactive maintenance functions.
- Continued procurement of carriageway and footway treatment surveys of the road and footway network. A rolling programme of video surveys of the full network is being carried out, which will be used to update the GRP mapping platform.
- Principal and General inspections of highway bridges & structures.
- Resurveying, as appropriate, of specific asset groups and by following procedures for change control as a result of scheme implementation or maintenance.
- Updates following completed planned maintenance, reactive maintenance and infrastructure improvement schemes.



## 7 Good Practice

- 7.1 Manchester City Council is committed to developing and implementing best practice from lessons learned at National, Regional and local levels. Officers regularly contribute to and attend seminars, conferences and training sessions held by:
- HMEP;
  - The Chartered Institute of Public Finance and Accountancy (CIPFA);
  - Highways Asset Management Financial Information Group (HAMFIG);
  - Highways England;
  - UK Roads Board;
  - ADEPT Asset Management Working Group;
- 7.2 Furthermore, Manchester is committed to the sharing of knowledge and experiences in implementing asset management with other Highway Authorities across Greater Manchester as well as further afield.
- 7.3 To this end, the Council is part of the GM Highways Group comprising the 10 districts of Greater Manchester, as well as the Local Council Roads Innovation Group (LCRIG) currently comprising officers from Blackpool Council, Lancashire County Council, Cumbria County Council, Stockport Borough Council, Bristol City Council, Bradford District Council, Plymouth City Council, Southend Borough Council, Knowsley Council, Halton Borough Council, York City Council and East Sussex County Council, as well as ourselves.
- 7.4 These groups meet regularly to share good practice, discuss new initiatives and benchmark performance.

## 8. Performance Reporting

- 8.1 To ensure that the correct asset management decisions are being made to achieve the objectives set out in this strategy, there needs to be a measure of both the outcomes that are important to the public as well as the engineering objectives that are trying to be achieved. Manchester's approach to measuring and using performance data is outlined in our Highways Performance Management Framework.
- 8.2 It is important that public outcome measures reflect the experience of those using the highway. Measuring these outcomes ensures that appropriate services are being delivered for businesses and communities in Manchester.
- 8.3 Furthermore, tracking asset management outputs will ensure there is a focus on achieving better value for money over the long term. Monitoring effective measures of performance can aid and improve decision making at both a strategic and operational level and provide the link between corporate vision, asset management strategy, levels of service and maintenance operations.
- 8.4 Asset Management Outputs:
- 8.4.1 Measurement and trend analysis of highway asset condition will be an indicator of performance. The measurements will be specific to each asset group. In many cases it is possible to benchmark performance with other local highway authorities.

- 8.5 Public Outcomes:

8.5.1 In order to monitor the impact of the Highway Asset Management Plan on the public, a range of measures are being used and will be developed as asset management is further embedded within the highways service.

8.5.2 Examples of these include:

- Public satisfaction on a range of relevant highway issues through stakeholder surveys. e.g. condition of highways, road safety, speed of repair to highway defects;
- Numbers and locations of road casualties;
- Number and cost of claims associated with highway matters;
- Public enquiries and call centre demand;

8.6 As a member of the GM Highways Group, performance results will be benchmarked with other local authorities within Greater Manchester where possible.

8.7 The performance targets will be reviewed annually during the final quarter of the financial year and adjusted for the following year if necessary.

8.8 As part of the performance management framework, processes will be developed to capture lessons learned with a view to continual improvement in service delivery and good practice.

8.9 New national and regional initiatives and innovations will be reviewed and incorporated into the performance management process where relevant so that any improvements can be captured and reported.

## **9 Strategy Review**

9.1 The Strategy will be reviewed at least every 3 years to allow informed decisions to be made in order to accommodate any changes in funding and priorities within the longer term forecasts.

9.2 The self-assessment questionnaire used for the Local Highway Maintenance Capital Incentive Fund Scheme has been designed to enable authorities to assess their progress on the journey to the implementation of good practice, which will enable effective and efficient use of available funding.

9.3 This, as well as the good practice recommendations outlined in the HMEP 'Highway Infrastructure Asset Management Guidance' Document and 'Well Managed Highways Infrastructure' code of practice has assisted us in producing a list of improvement actions. Completion of these actions will provide the capability to make better financial decisions, manage our highway assets more effectively in compliance with the new code, and move us towards a 'Band 3' performing authority.

9.4 Progress in delivering the Strategy will be reported on annually at an Annual Strategy and Performance Review.

# Glossary & abbreviations

## Glossary of Terms

<b>Adopted Highway</b>	Public roads and footways maintained by the Council (the Highway Authority) in accordance with the Highways Act 1980
<b>Asset</b>	In the context of this document an asset is an integral feature of the highway infrastructure, such as carriageways, structures and lighting.
<b>Asset Life-Cycle Planning</b>	This involves calculating how much spend is required on our highway assets to maintain their condition over their lifetime, based on different maintenance strategies.
<b>Asset Management</b>	A strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure in order to meet the needs of current and future customers.
<b>Asset Value</b>	The calculated current monetary value of an asset or group of assets. It should be correctly referred to as the 'net asset value', but it is normally shortened to 'asset value'
<b>Deterioration</b>	The physical wear and tear on the asset; damage due to time, weather, etc that can be observed and measured through condition surveys.
<b>Griptester</b>	Trailer based continuous surface friction measuring device used to determine the skidding properties of roads and footways
<b>Highway Network</b>	Collective term for adopted public roads, footpaths and their associated assets
<b>Inventory</b>	Information that is gathered and used to describe each asset type
<b>Levels of Service</b>	The standard applied to the maintenance of highway assets
<b>LTP</b>	Local Transport Plan - Government capital funding for highway and infrastructure maintenance
<b>Network</b>	The highway network inclusive of all its elements, such as roads, segregated footpaths and cycle routes, structures and lighting
<b>Preventative Maintenance</b>	Application of relatively inexpensive maintenance treatments at the most appropriate time to protect and extend the life of assets
<b>Reactive Maintenance</b>	This refers to routine maintenance work that is carried out in response to problems arising on the highway that could endanger the safety of users. This could include activities such as repair of potholes, broken drain covers and response to flooding events
<b>SCANNER</b>	A high-speed surface condition survey undertaken from a van, normally on the principal road network
<b>SCRIM</b>	Sideway Force Coefficient Routine Investigation Machine - used to determine the skidding properties of roads
<b>WGA</b>	Whole of Government Accounts - HM Treasury scheme to create a national single set of public accounting protocols

## **Other Abbreviations:**

<b>CIPFA</b>	Chartered Institute of Public Finance and Accountancy
<b>HMEP</b>	Highways Maintenance Efficiency Programme
<b>HAMFIG</b>	Highways Asset Management Financial Information Group
<b>ADEPT</b>	Association of Directors of Environment, Economy, Planning and Transport
<b>GM</b>	Greater Manchester
<b>GMCA</b>	Greater Manchester Combined Authority
<b>TfGM</b>	Transport for Greater Manchester
<b>KRN</b>	Key Route Network
<b>CN</b>	Community Network
<b>RN</b>	Resilient Network
<b>GMRAPS</b>	Greater Manchester Road Activities Permit Scheme
<b>CRM</b>	Customer Relationship Manager
<b>GIS</b>	Geographic Information System

## Appendix 1 – Manchester’s Highway Assets

1. Manchester’s highway assets have been divided into key asset groups and components and their approximate size and value are shown in the following table:

Asset Group	Main Components	Approx. Quantity
Carriageways (roads)	‘M’ and ‘A’ roads; ‘B’ and ‘C’ roads; Local ‘U’ roads; Road Markings;	1,370 Km
Footways & Cycle Tracks	Footways; Cycleways; Pedestrianised areas; Still some data to collect on separated footways and cycle tracks	2,668 Km
Bridges & Structures	Bridges; Culverts; Embankments; Subways; Retaining Walls; Gantries;	365 bridges & structures
Drainage & Flood Defence	Gullies and linear drainage channels(road and footpath); Highway drains (including pipework); Value included in carriageway figures;	116,000 gullies
Street lighting, illuminated bollards and signs	Maintained under the existing PFI contract with AMEY;	55,000 columns, approx. 7,000 illuminated signs/bollards;
Street Furniture	Insufficient data about the size of this asset.	-

2. HM Treasury and the Chartered Institute for Public Finance and Accountancy (CIPFA) incorporate our infrastructure asset valuations into our Local Authority Corporate Accounts (WGA valuations).

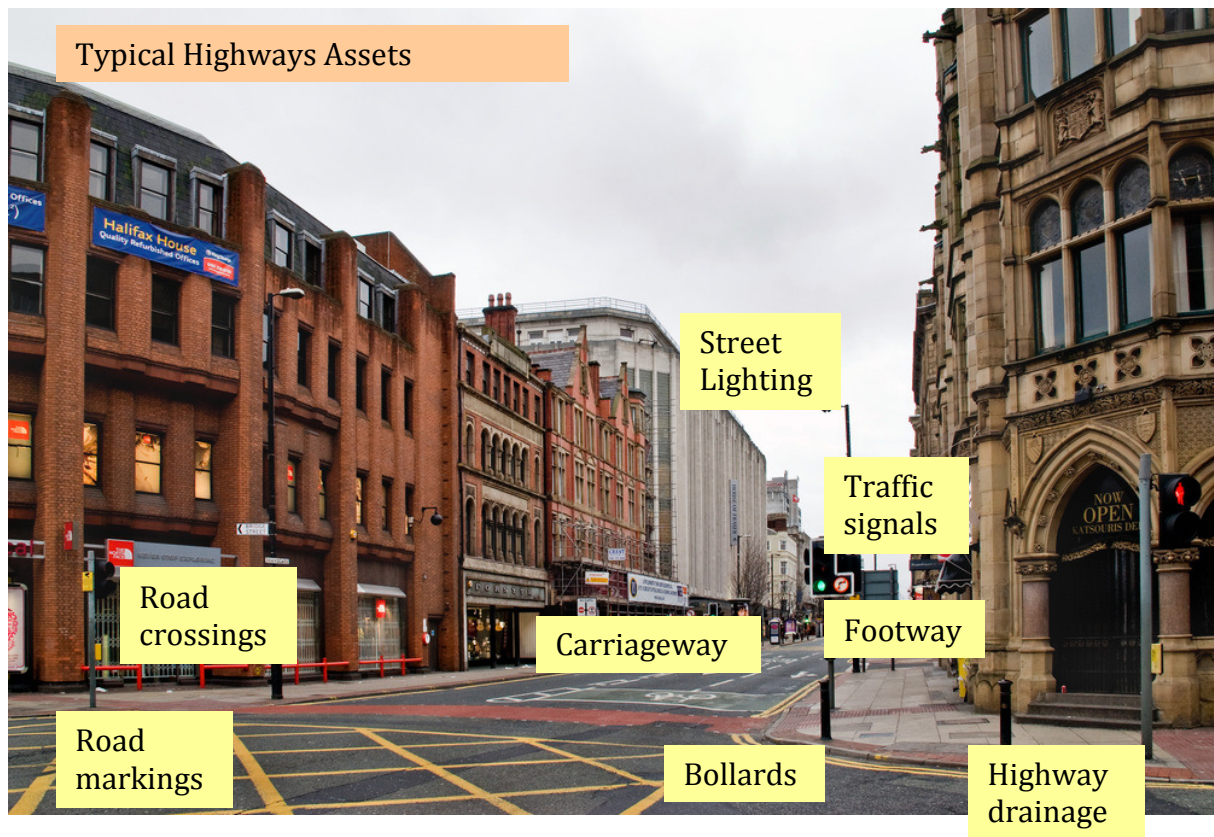
- 2.1 In terms of infrastructure asset types, we are required to determine:

- Gross Replacement Cost (GRC) - the value of the highway network based on the cost of rebuilding it from new at today’s costs, and
- Depreciated Replacement Cost (DRC) – the value of the highway network at today’s costs, taking into account depreciation. The DRC is therefore the net current value of the asset.

- 2.2 Based on the latest 2017 valuations, Manchester’s highway network has an indicative gross replacement value of over £2.7billion (not including the land value) making it

Manchester's most valuable asset. For comparison purposes, the property asset amounts to around £1.5billion for Council dwellings, land and buildings.

3. A key function of the asset management process is to understand the spending needs of each asset group, component and activity against performance, aims and objectives.



## Appendix 2 - Community Network

### 1. Introduction

- 1.1 Prioritising our limited funding, particularly for maintenance is a continuing challenge. There is a risk that those who are most articulate get the greatest amount of funds. This is a key risk to us as a city as our limited funds need to be targeted where they will have the most impact on our objectives and also where we can achieve the highest rate of return for our investment.
- 1.2 There are 2 Council objectives that most closely align to the condition and state of our roads;
- Growth and access – connecting people effectively to jobs and education either directly or through transport hubs is key to the future success of the city;
  - Liveability - so that those already economically active and those who gain employment want to stay in the city;
- 1.3 As previously stated, across Greater Manchester, a Key Route Network (KRN) has been developed on behalf of GM Combined Authority which comprises strategic routes across the region. This network includes most of the major routes in Manchester and covers about 10% of our road network. By prioritising the KRN for funding for network management and maintenance, we are able to target those roads which have the most significant impact particularly on our Growth priorities.
- 1.4 In conjunction with the KRN, we have developed a 'Community network' (CN) within Manchester. This targets our 'liveability' priority and has been developed to ensure that local people are connected directly, or indirectly through transport hubs, to locations where there are concentrations of jobs and education facilities.
- 1.5 This CN encompasses Manchester's Resilient Network (RN), which aims to ensure that during extreme weather conditions, access to key services and the necessary support to communities and the economy is maintained. This was developed following the 2014 Transport Resilience Review, which identified a need for local authorities to identify a RN for their highway network which would be prioritised for repair and maintenance in extreme weather.
- 1.6 Manchester's RN forms part of a wider Greater Manchester (GM) RN, developed by the 10 local authorities which has now been endorsed by the GM Resilience Forum, a partnership of agencies from across the Greater Manchester Sub-Region with responsibility for coordinating and overseeing emergency planning. It aligns with the GM Generic Response Plan as well as the wider resilience strategy for GM's Key Route Network.

### 2. Criteria

2.1 The following criteria have been used to develop our Community Network:

- Core Areas – key roads within:
  - City Centre
  - District Centre areas;
  - Strategic Employment site areas;
- Education – access roads within:
  - 100m of schools or colleges;

- Health – roads within:
  - 200m of Hospitals;
  - 100m of Health Centres;
- Travel:
  - Resilient Network;
  - Bus Routes;
  - Cycle Routes (on road);

2.2 The community network developed using this criteria comprises a total road length of approximately 460 km, making up about 34% of the total road network.

### **3. Consultation**

- 3.1 We consulted with local members and neighbourhood teams during 2018 on the proposed network within each ward.
- 3.2 Periodic review of the CN will be carried out in response to relevant changes in the network, and our asset registers updated accordingly.
- 3.3 This criteria will be used to prioritise programmed maintenance funds and will inform other highway spend as appropriate.