MANCHESTER
CITY COUNCIL

Highway Asset Management Policy & Strategy

Highways, Neighbourhoods Directorate
October 2022

V2.4

Table of Contents

Record of Amendments

Issue No:	2.4 / 2022
Status:	Draft
Date:	October 2022
Author:	Tony King
Reviewed by:	Councillor Rawlins (Executive member for Environment)
Owner:	Manchester City Council
Approved by:	Steve Robinson
Target Review Date:	October 2025

Amendments List

Version	Amendments	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
2.3	AM Policy added, Introduction, 2.2, 3.1, 3.7, 3.9, 4.5, 5.2, 5.5, 5.8, 5.9, 5.11.3, 5.12.1, 5.12.2, 5.12.3, 5.14.2, 5.17.4, 6.2, 7.3, 9.1, Appendix 2 added.	TK	01/06/2022
2.4	Introduction, 1.3, 4.5, 5.11.3, 5.13.8, Appendix 1 - 2.2.	TK/Mark Duncan	20/10/2022

Highway Asset Management Policy

1. The Highway Asset Management Policy supports The Our Manchester Strategy, which sets out the council's commitment to improving the lives of the people of Manchester.

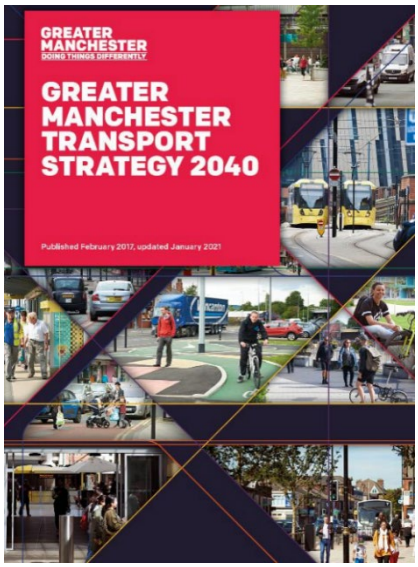
2. The Our Manchester Strategy sets a long-term vision for Manchester's future and describes how we will achieve it. It provides a framework for actions by partners working across Manchester, in public sector organisations, businesses and the voluntary sectors and in our communities. We all have a role to play in making Manchester the best it can be.

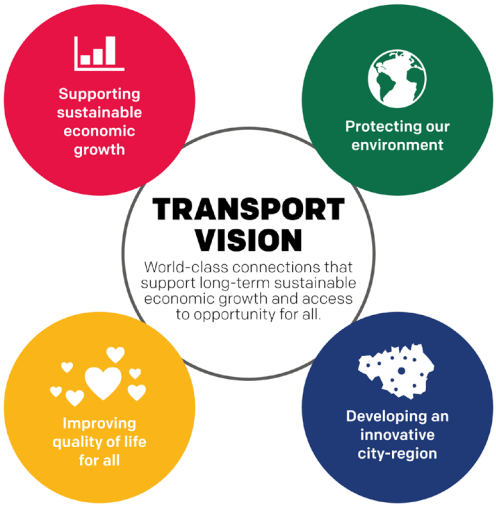
3. The Corporate Plan describes the Council's contribution over the next 2-3 years to delivering the Our Manchester Strategy. Our vision is for Manchester to be in the topflight of world-class cities by 2025 and to be somewhere that is:

   - Thriving
   - Full of talent
   - Fair
   - A great place to live
   - Connected

4. Maintaining the Council's highway assets to the best possible standard within the available resources is a focus of activity for the Council towards achieving our Corporate Plan goals as well as those defined for Greater Manchester (GM) in the Greater Manchester Transport Strategy 2040 (see diagram below).

5. Manchester City Council is committed to the development of good practice, innovation, and continuous improvement.





6. As a highway authority, Manchester City Council has a statutory duty to maintain, operate and improve the highway network on behalf of all its customers. We do this by using an asset management approach to maintain our highway network in a sustainable way without compromising the health & safety of our staff or customers.

   Our vision for our highways service is:

   ... to manage, maintain and improve the highway and public spaces network for the current and future needs of our residents...

7. This will be achieved by supporting the following 5 key items of the Our Manchester Strategy:

   - **A thriving & sustainable City** – We'll have a diverse, distinctive and well-connected economy creating jobs and opportunities for all and good support for businesses, established and growing. Transport plays a vital role in Manchester's economic vitality. Regeneration aspirations will rely on effective transport links to enable employees and visitors to access new homes and workplaces, and for the business in and around our city to grow.
   - **A Connected City** – An integrated, smart, well maintained transport network will reflect the city's changing shape and the way people move around. We'll have more cycling and walking, with the improved infrastructure and signage needed. The city will be at the centre of first-class networks – locally, regionally, nationally and internationally.
   - **A progressive & equitable City** – Providing infrastructure access for all to employment, education, healthcare, leisure, and social opportunities enables people to make the most of life, supporting stronger communities.
   - **A liveable & low carbon City** – We'll encourage walking, cycling and public transport with more investment in the infrastructure needed and harness technology to improve sustainability, reduce our carbon footprint and increase climate resilience.
   - **A highly skilled City** – By continuing to specify social value requirements in all our highway projects we are ensuring that we get extra value for Manchester's residents, including training, apprenticeships, and work placements for local people.

Highway Asset Management Strategy

Introduction

- Manchester City Council recognises the importance of its highway infrastructure and how an effectively maintained and managed highway network contributes to the achievement of its corporate goals. This strategy sets out an approach for the management of all highway assets including roads, footways, street lighting, drainage, bridges, and structures and cycling infrastructure. Street trees are managed by our Grounds Maintenance team and are not included in this strategy.

- This document has been produced following assessment of customer needs, local priorities, and asset condition. 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. 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.

- The Councils approach to maintaining its highway assets will follow the principles of Reduce, Reuse, Replace in its use and disposal of materials. This will be done by reducing the need to transfer waste material to landfill sites by reusing material where possible and by taking a whole life approach to asset management which optimizes maintenance requirements. We will look to reduce our carbon footprint, referencing PAS 2080 (carbon management in infrastructure verification) where possible.

- The Strategy is used to prioritise schemes that are to be implemented within the Council’s capital maintenance programmes and 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 most 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 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 is inadequate. Well maintained roads and footways encourage, and support increased sustainable transport in line with the council's active travel priorities. Levels of walking and cycling need to continue to increase to improve health and to alleviate pressure on the roads and public transport system. Better quality roads have a positive impact on Carbon reduction as cars use less fuel on journeys taken on well-maintained roads.

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 and more efficient / sustainable use of resources.

- 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 reducing supporting clean air objectives.
- 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 Lifecycle planning:

2.2.1 Life cycle planning comprises the approach to the maintenance of an asset from construction to disposal. It is the prediction of future performance of an asset, or a group of assets based upon investment scenarios, usage, and maintenance strategies.

2.2.2 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 (e.g., micro asphalt or surface dressing) at the optimum time before the road has deteriorated too far. Because we are treating the road before it has failed, reactive repair costs over time are reduced and with it less likelihood of third-party claims. Preventative treatments also have a much lower carbon footprint than resurfacing which helps with our drive to become carbon neutral by 2038. Savings in whole life capital costs are illustrated in the example below:

Road section:

Length:	1,000m
Width:	6m
Area of section:	6,000m^2

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

i) Reconstruction / resurfacing – 2021 cost = approx. £40/m^2

Initial construction;		
After 15 years, resurfacing =	£240k	
After 30 years, resurfacing =	£240k	
After 40 years, resurfacing =	£240k	
TOTAL COST =	£720k	Plus high reactive costs / third Party claims

ii) Preventative treatment – 2021 cost = approx. £6/m^2

Initial construction;		
After 8 years, treatment =	£36k	
After 16 years, treatment =	£36k	
After 24 years, treatment =	£36k	
After 30 years, resurfacing =	£240k	(after 3 treatments the road is likely to need resurfacing)
After 40 years, treatment =	£36k	
TOTAL COST =	£384k	

2.2.3 Using preventative treatments on the scenario above would make capital savings of about £336k over the life of this section of road. Considering our road network comprises over 1600 sections of similar size, the savings can be seen to be considerable.

2.2.4 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. This is the roads equivalent of painting wooden window frames regularly, rather than waiting for them to rot and need expensive replacement.

2.2.5 The Council has been developing life cycle plans for all its major assets (carriageways, footways, structures, drainage, and street lighting). Life-cycle models are not used to identify specific schemes or programmes of work, rather they are tools for testing and managing our treatment strategies and to provide evidence to support and make the case for the allocation of budgets.

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. It demonstrates how asset management links to our broad organisational context and strategic direction of travel, all the way through to frontline delivery of services.

3.2 As well as linking in with the City Council's own vision and objectives, the framework also shows the link with the wider objectives of Greater Manchester Combined Authority (GMCA) via its Transport for Greater Manchester (TfGM) Committee, who defines the strategies and policies for transport in GM.

3.3 Through devolution, the 10 GM district highway authorities 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'* (WMHI) 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 Neighbourhoods Directorate. The structure for governance and decision making relating to highways functions is shown in Appendix 2.

Figure 1 – Highways Asset Management Framework

Organisational Context

National Transport Policy

- Government Transport Policy
- HMEP Guidance
- CIPFA
- DMRB

Local Transport Policies

- GMCA 2040 Vision, Strategy & Delivery plan
- Manchester's LDF Core Strategy
- **'Our Manchester'** - The Manchester Strategy
- MCC Climate Change Action Plan
- Neighbourhood Business Plan

Stakeholder Expectations

- An integrated, smart & affordable transport system
- World class infrastructure and connectivity to drive growth
- NHT survey results

Legal & Financial

- Legislation
- Acts of Parliament
- Well-Managed Highways COP
- Available Finance

Asset Management Planning

Highways Asset Management Policy

Commitments to Strategic Policies & Objectives

Highways Asset Management Strategy

How asset management principles are adopted to achieve the Policy objectives

Other Policies & Strategies

GM KRN Asset Management Strategy
GM Highway Inspections Framework
Performance Management Framework
Highways Asset Data & Information Strategy
Ward Plans & priorities
Network hierarchies

Lifecycle Planning

Life cycle plans for each main asset group

Planned Work Programmes

Forward works programmes and annual delivery programmes for main asset groups

Enablers

Leadership & Organisation

Demonstration of asset management culture
The Council's asset service delivery structure

Communications

Strategic communications plan
Highways Communication Strategy

Competencies & Training

Competency matrices / training plans
Benchmarking

Risk Management

Risk management processes
Risk registers

Performance Management

Levels of service
Performance targets and monitoring

Asset Registers

Data and information management
Data collection requirements

Performance and Delivery

Service delivery plans & policies
Winter Maintenance
Procurement mechanisms
Resource Management
Planned & reactive maintenance
Capital maintenance schemes
Liaison with other infrastructure projects
Business Planning
Highway Safety Inspections
Service level agreements
WGA Reporting

3.8 Under this structure, highway functions are overseen by the Highways Portfolio 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 GM.

3.9 The Council has set up a Highway Asset Management team within Highways to promote and deliver asset management practices in the delivery of 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 organizational 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 The following performance objectives have been set 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 National Highways & Transport network (NHT) customer satisfaction surveys, which show on-going public 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 & Consultation 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 consider 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 WMHI document.

- Undertaking highway maintenance according to our published maintenance standards.

- Keeping water away from the road surface and minimising impacts of surface water by providing and maintaining adequate drainage and applying Sustainable Urban Drainage Systems (SUDs), where possible.

- Providing and maintaining essential street and footpath lighting in accordance with national 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.

- 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:

- Highway's 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.

4.5 Encouraging active travel modes and reducing the carbon footprint of our projects:

4.5.1 In line with the Manchester Zero Carbon Framework 2020-2038 and the Manchester City Council Climate Change Action Plan 2020-25, reducing the environmental impact of highway works and striving for sustainability is an important focus of the Highways service.

4.5.2 This will be achieved by:

- Prioritising maintenance on local roads and footways to encourage walking and cycling.

- Maximising the use of low carbon, warm-lay and recycled materials in our highway schemes; We will explore innovations and opportunities, invest in lasting change, and continually monitor and review the reductions in carbon emissions the service is achieving, including those of our contractors, to identify where improvements can be made.
  We have increasingly used thermal road repair technology on our roads, which recycles 100% of the existing surfacing in-situ to provide around 90% of the repair material. Coupled with reduced plant and labour requirements, this means that a typical repair reduces carbon by up to 85% compared with a traditional approach.

- The effects of climate change on our highway assets have already been seen during several wet and windy weather events in recent years, as well as extreme temperatures. Our longer-term approach to highway asset management will need to consider what effect climate change may have on investment priorities and lifecycle costs of our highway assets. We will consider this impact by:

- Working towards climate actions that promote the retention and replenishment of nature and the biodiversity environments, by setting targets for future highway

schemes procurement in order to maximise opportunities for Biodiversity Net Gain and implementation of green SUDs.

- Carrying out risk assessments and developing mitigation measures for the effects of extreme weather on our highway infrastructure assets.

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. Network hierarchies have been set up to reflect this and to conform with the WMHI guidance issued in 2016, which is not dependent on the current road classification system. We have developed a 'Resilient Network' to help prioritise funding and target works at critical assets, ensuring that traffic movements in and around Manchester are kept moving, regardless of severe weather or other disruptive events. The revised hierarchies and categorisations, aligning to the code of practice, are shown in Appendix 3.

5.3 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 Data & Information Strategy.

5.4 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, as well as understanding what funding is necessary in order to maintain our highway network sustainably over the medium and long term.

5.5 To keep this condition 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.

5.6 The video survey will also be used to collate additional asset information and update registers as required.

5.7 It is also intended to undertake other surveys periodically, including:

- Scanner on our KRN in conjunction with other districts in GM.
- SCRIM or Griptester surveys to measure skid resistance.
- Core surveys to assess construction depths.

5.8 The Council will continue to take steps to minimise the environmental impact caused by its management of highway assets. This approach will place sustainable solutions at the core of our approach to highway maintenance. Where possible, we will look to maximise the use of recycled and reclaimed materials in our maintenance treatments and increasingly adopt lower carbon initiatives such as cold and warm mix technology in

order to minimise our carbon footprint. We will also work towards mitigating direct and indirect impacts of on the environment and communities from our works by considering:

- Nature Conservation and Biodiversity
- Effects of Extreme Weather
- Environmental Impact
- Carbon Costs – footprint, material appraisal, waste management and recycling
- Energy Reduction
- Noise
- Air Quality
- Light Pollution
- Water sources

5.9 The strategy for each main highway's 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.

5.10 Carriageways

5.10.1 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.

5.10.2 **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 prioritized for delivery.
- Reconstruction and resurfacing programmes are formulated using a prioritisation method which is primarily based on those roads in the worst condition in terms of survey rating and number of identified defects, as well as other considerations, including requests, skid resistance values, accidents and if a cycle or bus route.
- 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 individual pothole repairs.
- Investment in drainage maintenance and improvements will continue where appropriate.
- We will aim to achieve a decrease in quantities of minor defects (potholes and similar) in the longer term.
- De-cluttering will be considered for all aspects of highway asset management.
- We will continue to explore new technologies and materials, particularly the use of recycled materials (existing surfacing materials and remanufactured / enhanced surfacing products). We will also explore the inclusion of infrastructure that supports more environmentally sustainable transport while delivering maintenance schemes (e.g. electric charging points).

5.10.3 Preventative approach – A preventative approach should be adopted. This means investing a proportion of the available budget to treat roads in the early stages of deterioration. Preventative treatments, such as surface dressing and 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.

5.10.4 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.

5.10.5 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.

5.10.6 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.

5.10.7 We will continue to consider and implement alternative and innovative treatments to restore and extend the life of road surfaces.

5.11 Footways & Cycleways

5.11.1 Footways and Cycleways are key assets in the councils Active Travel agenda and enable people to choose modes of transport that have a positive health impact and minimal carbon impact.

5.11.2 The priority for footways & cycleways is to deliver a sustainable improvement in the condition of those with higher use, and address the worst condition other routes to help maintain a safe network.

5.11.3 **Desired outcome:** to improve condition of high use footways and cycleways and maintain the overall condition of the footway & cycleway network at current levels; Promote increased usage of these assets to support health and wellbeing of communities and increased levels of walking and cycling across the city to support the visitor economy and reduce our carbon footprint.

- Footway programmes are formulated using a prioritisation method which is primarily based on those roads in the worst condition in terms of survey rating and number of identified defects, as well as other considerations, including requests, cycle routes and proximity to other identified highway schemes.
- Most of our cycleways are on-road and their maintenance is governed by the carriageway regime. When formulating our resurfacing programmes, roads containing cycleways are prioritised as part of the selection process.

- A preventative strategy will be adopted using surface treatments where appropriate.
- We will continue to explore new technologies and materials, particularly the use of recycled materials (existing surfacing materials and remanufactured / enhanced surfacing products).
- 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 is to replace flagged footways with bituminous materials. As well as being more cost effective, this will help to mitigate future maintenance liability.

5.11.4 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.

5.12 Highway Structures (bridges)

5.12.1 Highway bridges and structures are fundamental to transport infrastructure because they form essential links in the highway network, without which the network would fail.

5.12.2 Highway bridges and structures typically have long service lives, however, those service lives do come to an end and whilst it is possible to continue for some time to manage them with short-term repairs, all assets will eventually require some form of major maintenance involving either preventative measures or partial or full replacement. This can lead to variable levels of investment requirements over time and, of equal importance, opportunities to undertake preventative actions that will substantially reduce long term costs also need to be anticipated and planned for.

5.12.3 The Council's Bridge Asset Management Strategy (separate document) sets out our approach to managing these assets.

Heaton Park Road Bridge (River Irk)

5.12.4 **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.

5.12.5 **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.

5.12.6 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.

5.12.7 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).

5.13 Drainage & Flood Defence

5.13.1 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. The current inventory of highway drainage assets across Manchester includes about 118,500 road gullies, as well as numerous linear drainage features.

5.13.2 The current gully cleansing operating model is under review with the aim of using technology to improve flexibility, quality and responsiveness to local need ensuring maintenance work is appropriate and risk based rather than a “one size fits all”.

5.13.3 **Desired Outcome:** to deliver a risk-based approach to cyclical cleansing operations, reduce the number of emergency callouts and make the network more resilient to flooding.

- As part of our current gully cleansing regime, we have recorded silt levels which 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. We propose to continue to develop this system further by mapping know areas at risk of flooding (hotspots) which will focus maintenance activities along with the other network hierarchy priorities.
- We will incorporate the linear drainage systems on our network into the cyclical cleansing regime.
- For streets where we know there are always parked cars present, we won’t carry out cyclical visits, but will look to schedule ‘community clean’ days in liaison with the neighbourhood teams, which have proved successful in the past.
- Where replacement or repairs to gullies and drainage pipes are required, these will be prioritized based on risk-based criteria incorporating the vulnerability of the particular drainage asset and its importance in terms of the overall network.

5.13.4 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.

5.13.5 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.

5.13.6 There are numerous gullies present in back alleys which are not yet captured on our inventory, as well as information around the location, condition and performance of most of the highway drains that remove surface water to watercourses or water company sewers. We intend to carry out targeted surveys to identify and record these features once funding allows.

5.13.7 We intend to clean the gullies in back alleys on a reactive basis due to their lower risk rating.

5.13.8 Where possible, we will look to implement SUDs schemes on new developments, which mimic natural drainage processes to reduce the effect on the quality and quantity of run-off from schemes and provide amenity and biodiversity benefits.

5.14 Street Lighting

5.14.1 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.

5.14.2 An LED streetlighting retrofit programme began in September 2017 and by 2021, approximately 54,371 LED streetlights had been installed. The project is predicted to save the Council £49m over a 20-year period. Payback for the project costs will be achieved in about 10 years.

5.14.3 This LED replacement programme makes a significant contribution to the MCC Climate Change Action Plan 2020-25, targeting a reduction in CO2 emissions of 220 tonnes per annum.

5.15 Traffic Signals

5.15.1 All traffic signal control equipment in GM 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.

5.16 Capital Improvement and Road Safety Schemes

5.16.1 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.

5.16.2 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.

5.16.3 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.

Hyde Road Footbridge

5.17 Critical Assets

5.17.1 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.

5.17.2 Identified high level risks are recorded on risk registers 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.

5.17.3 Manchester's critical highway assets are those defined where failure would result in significant impact on the local, and potentially the regional economy.

5.17.4 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. These processes are documented in our Resilient Network Plan.

5.17.5 These critical assets also tie-in with the Winter Services gritting strategy, identified CN and the wider network identified by TfGM as part of their managed strategy for the KRN in GM.

5.18 Sudden asset failures

5.18.1 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.

5.19 Planning Considerations

5.19.1 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.

5.19.2 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 Data & 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.

- Yotta Alloy for Highways.
  A highways inspection, defect recording and works ordering system using mobile software and handheld 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 GM. 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 GM 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.

- 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 condition surveys of the road and footway network.
- 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 the development of good practice, innovation and continuous improvement 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 GM as well as further afield.

7.3 To this end, the Council is part of the GM Highways Group comprising the 10 districts of GM, as well as the Local Council Roads Innovation Group (LCRIG) North West, currently comprising officers from Lancashire County Council, Blackpool Council, Cumbria County Council, Blackburn with Darwen Council, Cheshire West & Chester Council and Halton Borough Council, as well as ourselves.

7.4 These groups meet regularly to share good practice, discuss new initiatives, and benchmark performance. Recent specific focus is around how carbon reduction initiatives have been implemented and measured, and challenges around climate change and resilience.

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.

8.4.2 We are developing specific KPIs around carbon reduction in order to measure our progress in minimising our carbon footprint to help the council's commitment to become carbon neutral by 2038.

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.
- Tracking of Social Value commitments defined for contracts.

8.6 As a member of the GM Highways Group, performance results are benchmarked with other local authorities within GM 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 Policy & Strategy Review

9.1 The Policy & Strategy will be continuously reviewed and will be updated when appropriate. It will be fully reviewed at least every three 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 HMEP guidance and WMHI 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 maintain our position as a high performing ‘Band 3’ authority under the Department for Transport's (DfT) self-assessment process.

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

Glossary & abbreviations

Glossary of Terms

Adopted Highway	Public roads and footways maintained by the Council (the Highway Authority) in accordance with the Highways Act 1980
Asset	In the context of this document an asset is an integral feature of the highway infrastructure, such as carriageways, structures and lighting.
Asset Life-Cycle Planning	This involves calculating how much spend is required on our highway assets to maintain their condition over their lifetime, based on different maintenance strategies.
Asset Management	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.
Asset Value	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'
Deterioration	The physical wear and tear on the asset; damage due to time, weather, etc that can be observed and measured through condition surveys.
Griptester	Trailer based continuous surface friction measuring device used to determine the skidding properties of roads and footways
Highway Network	Collective term for adopted public roads, footpaths and their associated assets
Inventory	Information that is gathered and used to describe each asset type
Levels of Service	The standard applied to the maintenance of highway assets
Network	The highway network inclusive of all its elements, such as roads, segregated footpaths and cycle routes, structures and lighting
Preventative Maintenance	Application of relatively inexpensive maintenance treatments at the most appropriate time to protect and extend the life of assets
Reactive Maintenance	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
SCANNER	A high-speed surface condition survey undertaken from a van, normally on the principal road network
SCRIM	Sideway Force Coefficient Routine Investigation Machine - used to determine the skidding properties of roads
WGA	Whole of Government Accounts - HM Treasury scheme to create a national single set of public accounting protocols

Other Abbreviations:

CIPFA	Chartered Institute of Public Finance and Accountancy
HMEP	Highways Maintenance Efficiency Programme
HAMFIG	Highways Asset Management Financial Information Group
ADEPT	Association of Directors of Environment, Economy, Planning and Transport
GM	Greater Manchester
NHT	National Highways & Transport Network
GMCA	Greater Manchester Combined Authority
LCRIG	Local Council Roads Innovation Group
TfGM	Transport for Greater Manchester
KRN	Key Route Network
SUDs	Sustainable Urban Drainage Systems
CN	Community Network
RN	Resilient Network
GMRAPS	Greater Manchester Road Activities Permit Scheme
CRM	Customer Relationship Manager
GIS	Geographic Information System

Appendices

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	Approx. Asset Value (GRC)
Carriageways (roads)	'M' and 'A' roads. 'B' and 'C' roads. Local 'U' roads. Road Markings.	1,370 Km	£1,844m
Footways & Cycle Tracks	Footways. Cycleways. Pedestrianised areas. Still some data to collect on separated footways and cycle tracks	2,668 Km	£475m
Bridges & Structures	Bridges. Culverts. Embankments. Subways. Retaining Walls. Gantries.	365 bridges & structures	£590m
Drainage & Flood Defence	Gullies and linear drainage channels (road and footpath). Highway drains (Including pipework).	118,500 gullies	Included in carriageway figure
Street lighting, illuminated bollards and signs	Maintained under the existing PFI contract with AMEY.	55,000 columns, approx. 7,000 illuminated signs/bollards;	£144m
Street Furniture	Insufficient data about the size of this asset.	-	£61m (based on road length)
		TOTAL:	£3,114m

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).

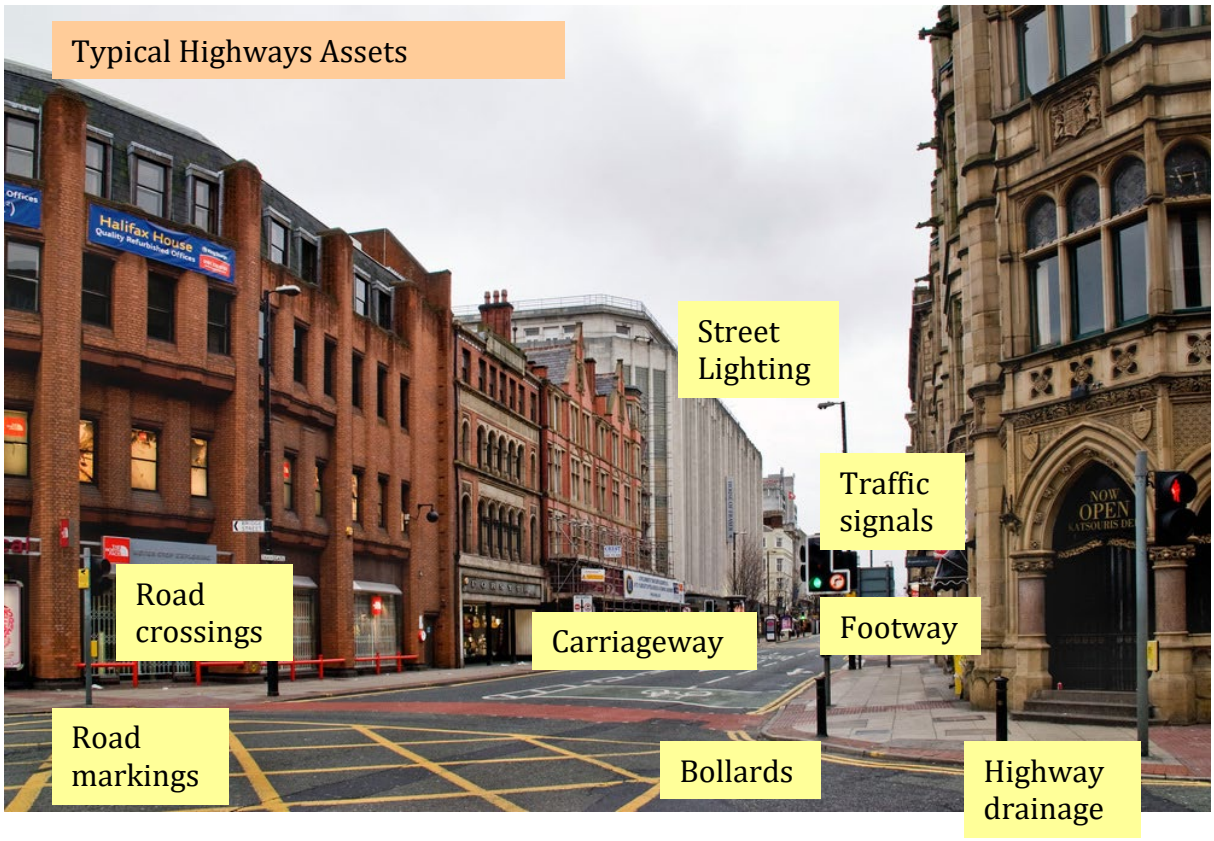
2.1 In terms of infrastructure asset types, we are required to determine:

- 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, considering depreciation. The DRC is therefore the net current value of the asset.

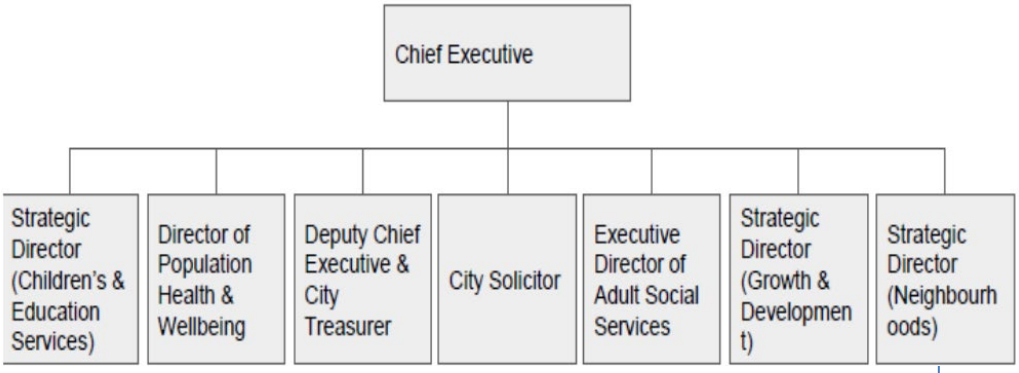
2.2 Based on the latest 2021/22 valuation, Manchester's highway network has an indicative gross replacement value of over £3.1 billion (not including the land value) making it Manchester's most valuable asset. For comparison purposes, the gross book value for all Council property, plant & equipment amounts to around £3.0 billion (2021/22 carried forward).

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.

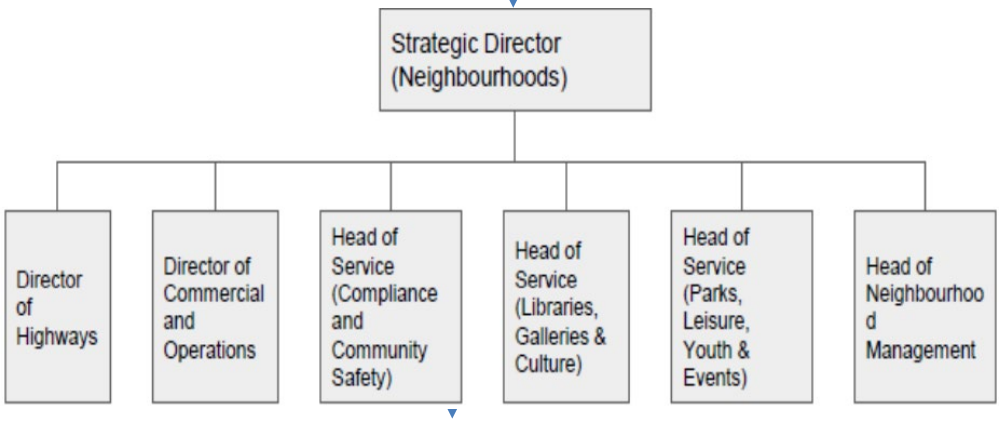


Appendix 2 - The structure for governance and decision-making

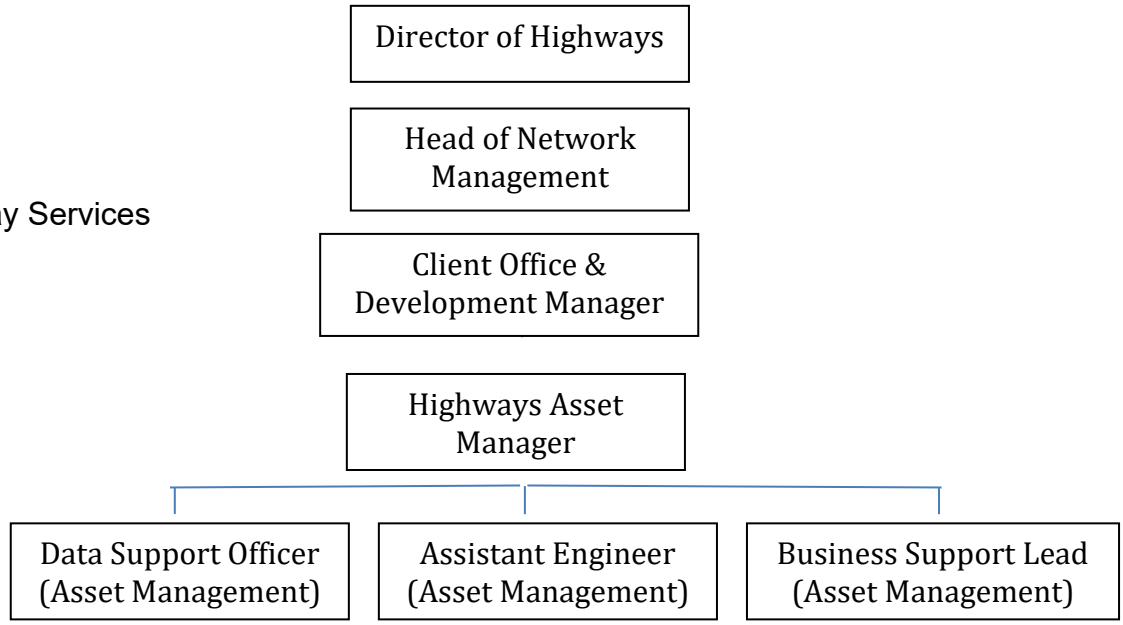
Strategic Manage Team (SMT)



Neighbourhoods



Highway Services



Appendix 3 – Highway Network Hierarchies

1. Introduction

1.1 To support a clearer strategic approach and to conform to the WMHI, the Council has reviewed its road network hierarchies to ensure that they reflect stakeholder expectations, levels of use and strategic importance. We use these revised hierarchies to direct resources, to define our inspection frequencies, to support an assessment of risk, to reflect network condition, to prioritize our treatments and to develop a risk-based approach to managing our highway assets.

1.2 The revised hierarchies and categorizations, aligning to the latest code of practice, are shown in the table below. This table highlights the complexity of local road network classification, which is driven by different and varying legislation and purposes.

Network Family	Hierarchy / Classification	Key factors	How it is used
Resilience	Resilient Network (RN)	High level strategic purpose. Links to key service locations. Links to critical power distribution sites / water treatment works or telecommunication hubs. Links to key transport hubs. Links to key locations of economic value. Roads with high risk of flooding. Heat resilience – are any of our roads going to melt in a heatwave?!	To ensure the network is resilient to severe weather and other major disruptive events. To support the management of risk. To determine which parts of the network receives investment priorities.
	Winter Service Network & Minimum Winter Network	Traffic volume. Links to key service locations. Links to key transport and business hubs.	To determine the extent and priority of precautionary winter gritting across the highway network.
Network Management	Key Route Network (KRN)	Traffic volume. Strategic purpose.	Inform strategic funding decisions. Key for supporting growth.
	Community Network (CN)	Core areas. Access to education hubs. Access to health hubs. Bus & cycle routes.	Prioritize maintenance funding.
	Traffic sensitive streets	New Roads and Street works Act (1991) designates ‘9’ criteria that can be used for defining	Used to help determine road space occupation as part of GMRAPS permit

		a street as 'traffic-sensitive'.	scheme.
	Maintenance hierarchy	Traffic volumes / pedestrian usage. Cycleways. Links to key retail / business hubs. Access to education hubs. Access to health hubs. Condition data.	Used to define inspection and defect repair regimes.
Asset management	Existing roads network classification	Unchanged (based on the strategic level of the links destination).	For reporting and comparing condition data through national PIs and WGA reporting.
	Skid Network	Classified 'M', 'A' and 'B' roads together with other sections of road which generally carry 'A' road volumes of traffic	Annual SCRIM testing carried out each year to determine skid deficient sites and prioritize treatments.
	New Road & Street Works Act Reinstatement categories (NRSWA)	Road category based on the expected traffic to be carried in the next 20 years expressed in Millions Standard Axle (MSA).	To inform street permitting and reinstatement regime for utility companies etc.

2 Resilient Network

2.1 Establishing network hierarchies is also in keeping with the recommendations within the Department for Transport (DfT) Transport Resilience Review published July 2014, which identified a need for local authorities to identify and develop a Resilient Network (RN) for their highway network, which would be prioritized for repair and maintenance in extreme weather.

2.2 The guidance is clear that any council's RN should align with their neighbouring authority's RN's and a GM wide RN has been collated to ensure this connectivity. RN plans for all 10 GM districts were completed and collated by the GM asset management group in 2018 and a map produced.

2.3 Discussions were held with each local authority with several amendments made in order to achieve synergy between all 10 district networks. The proposed GM RN was then presented at the Resilience Development Group (RDG) meeting on 11th October 2018. This covered consultation with all the GM authorities and the responder services including those outlined below:

- Police.
- Fire Service.
- NHS Resilience Manager.

- Ambulance Service.
- Environment Agency.
- Public Transport Operators.
- Utility Providers.
- TfGM.

2.4 Risks have been assessed referencing the GM Community Risk Register, which has been produced to identify the key emergency risks that could occur within GM and to guide agencies and the public in preparing for such eventualities.

2.5 The GM RN 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.

2.6 Periodic review of the RN will be carried out in response to relevant changes in the network, and our asset registers updated accordingly.

3 Community Network

3.1 Prioritizing 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.

3.2 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.

3.3 As previously stated, across Greater Manchester, a KRN has been developed on behalf of GM Combined Authority which comprises strategic routes across the region. 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.

3.4 This CN encompasses Manchester's RN (see 2 above), and was developed using the following criteria:

- 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)

3.5 The CN developed using these criteria comprises a total road length of approximately 460 km, making up about 34% of the total road network.

3.6 Periodic review of the CN will be carried out in response to relevant changes in the network, and our asset registers updated accordingly.

4 Maintenance Hierarchy

4.1 A 'Greater Manchester Highway Safety Inspection Framework' document was produced in October 2018 which details the high-level processes used by all 10 GM highway authorities in terms of network hierarchy, investigatory levels, frequency of inspection and response times to repair.

4.2 The 'Default' inspection frequencies defined in the GM Framework for each designated carriageway and footway maintenance hierarchy are shown in Table 1 and 2 below. Included is Manchester's more detailed criteria description used to assign these categories.

Table 1 - Carriageway & cycleway Hierarchy in GM framework:

Inspection Frequency	Category	Designation	Criteria description
Monthly	2	**Strategic Route**	Principal 'A' roads with dual carriageway sections, urban motorways;
Monthly	3a	**Main Distributor**	Mainly 'A' roads linking urban centres to the Strategic routes;
Monthly	3b	**Secondary Distributor**	Other classified roads ("B" and "C" roads) and major unclassified urban bus routes with several pedestrian crossing facilities;
3 monthly	4a	**Link Road**	Unclassified roads linking main & distributor roads, including urban bus routes not included in Cat 3b;
12 monthly	4b	**Local Access Road**	Unclassified residential or loop roads serving limited number of properties;
As for roads	A	**Carriageway cycleway**	On road cycleway;

As for footway / annually	B	**Cycle Track, Shared cycleway / footway**	Routes for cyclists not contiguous with carriageways or footways or a shared cycle/pedestrian route;

Table 2 – Footway Hierarchy in GM framework:

Inspection Frequency	Category	Designation	Criteria description
Monthly	1	**Primary Footway**	Busy urban shopping and business area footways and major pedestrian routes – Usually part of priority (1 & 2) footway gritting network;
3 monthly	2	**Secondary Footway**	Medium usage footways feeding into primary routes, local shopping centres;
6 monthly	3	**Link Footway**	Footways linking local access footways through urban areas.
12 monthly	4	**Local Access Footway**	Usually, unclassified road footways with low usage, estate footways and cul-de-sacs;
12 monthly	5	**Public rights of way**	Field footpaths and bridleways

4.3 Final inspection frequencies were determined following assessment against other defined risk factors for each network section.

4.4 Regular reviews are undertaken to reflect network changes identified by inspectors, planning or other sources. Examples include new housing developments, schools, road closures etc., which may affect the section hierarchy and/or inspection frequency. This will be undertaken on a regular basis, at least every 5 years, as detailed in the GM framework document. Periodic changes may be made to the hierarchy and/or inspection frequency based on any required network changes.