



Bee Network Committee

Date: Thursday 28th November 2024
Subject: GM Highways Network Management
Report of: Peter Boulton, Network Director Highways, TfGM

Purpose of Report

This report provides an overview of the changing nature of the Greater Manchester (GM) highways network. It captures the performance of the KRN (Key Route Network) and the asset maintenance condition; the measures in place to support network management and in particular support the reliability of the bus network; future developments that will support our city region Bee Network and Right Mix ambitions; and the challenges we need to address to ensure the highway network supports the changing transport needs of our growing city-region and all of Greater Manchester's people, places and businesses.

Recommendations:

The Bee Network Committee is requested to:

1. Note the contents of the report;
2. Endorse a review of the GM Highways Protocols as identified at section 3.6; and
3. Note that the draft Local Transport Plan, due to be published in 2025, will build on the GM Streets for All approach, requiring change in how we plan, configure and manage our Highway Network to encourage, and provide for, more people to travel by sustainable modes - walking, wheel, cycling and bus, in line with our Transport Vision and Right Mix ambition.

Contact Officers

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Equalities Impact, Carbon and Sustainability Assessment:

Recommendation - Key points for decision-makers

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Impacts Questionnaire

Impact Indicator	Result	Justification/Mitigation
Equality and Inclusion		
Health		
Resilience and Adaptation		
Housing		
Economy		
Mobility and Connectivity		The report identifies that how we use our roads is changing and proposes reviewing how we managing them in the future.
Carbon, Nature and Environment		
Consumption and Production		
Contribution to achieving the GM Carbon Neutral 2038 target		It does not contribute to achieving the GM Carbon Neutral 2038 - it recognises that how we use are roads are changing and that we need to better use our infrastructure and roads if we to achieve our right mix targets which in turn will contribute to achieving the GM Carbon Neutral 2038.
Further Assessment(s):	Carbon Assessment	
G Positive impacts overall, whether long or short term.	A Mix of positive and negative impacts. Trade-offs to consider.	R Mostly negative, with at least one positive aspect. Trade-offs to consider.
		RR Negative impacts overall.

Carbon Assessment				
Overall Score				
Buildings	Result	Justification/Mitigation		
New Build residential	N/A			
Residential building(s) renovation/maintenance	N/A			
New build non-residential (including public) buildings	N/A			
Transport				
Active travel and public transport	N/A			
Roads, Parking and Vehicle Access				
Access to amenities	N/A			
Vehicle procurement	N/A			
Land Use				
Land use	N/A			
No associated carbon impacts expected.	High standard in terms of practice and awareness on carbon.	Mostly best practice with a good level of awareness on carbon.	Partially meets best practice/ awareness, significant room to improve.	Not best practice and/ or insufficient awareness of carbon impacts.

Risk Management

Not applicable

Legal Considerations

Not applicable

Financial Consequences – Revenue

Whilst there is no direct financial consequence associated with this paper the requirement for continued funding (both revenue and capital) to support the maintenance and future development of GM's highways network is essential if we are to maintain a safe, reliable and effective highway network.

Financial Consequences – Capital

See Above

Number of attachments to the report:

None

Comments/recommendations from Overview & Scrutiny Committee

Not applicable

Background Papers

Not applicable

Tracking/ Process

Does this report relate to a major strategic decision, as set out in the GMCA Constitution?

No

Exemption from call in

Are there any aspects in this report which means it should be considered to be exempt from call in by the relevant Scrutiny Committee on the grounds of urgency?

No

1. Introduction

- 1.1. Our highways, from neighbourhood streets, through to motorways, are the foundation of our transport system. Over 90% of people's journeys to, from, or within Greater Manchester (GM) are primarily by road; some 2.5 billion trips per year. For the others, people generally rely on the highway network at some point in their journey – for example when accessing rail stations or tram stops.
- 1.2. Responsibility for our local highways lies with the 10 GM Local Highway Authorities, with the Trunk or Strategic Road Network (SRN) – which in GM largely consists of Motorways - being maintained and operated by National Highways. The most important local roads are designated as the GM Key Route Network (KRN).
- 1.3. The SRN and KRN together carry the largest volumes of motor traffic within GM. These routes are crucial arteries for movement of goods and freight, with the KRN also carrying many of our core bus routes. Much of the KRN within built up areas is comprised of streets, with many different and competing functions. They are where people live, work, spend time and often provide the most direct routes for people walking, wheeling and cycling.
- 1.4. Transport for Greater Manchester (TfGM) undertakes specific highway functions as defined by delegations from the GMCA for areas of activity where a city-region wide approach is required. These include:
 - Strategic management and coordination of the KRN;
 - Road Safety;
 - Asset Management;
 - Roadworks permitting;
 - Urban Traffic Management and Control (UTMC) – including traffic signals;
 - Intelligent Transport Systems; and
 - Transport Modelling and Forecasting.
- 1.5. TfGM works in collaboration with the 10 GM Local Highway Authorities (LHAs), National Highways, GM Police and people using our roads to deliver a safe, reliable and resilient highway network for everyone.

2. Our changing highways

- 2.1. Greater Manchester's roads are changing to align with, and deliver, our Local Transport Plan, "GM Transport Strategy 2040", vision and objectives. This includes

our Right Mix ambition for 50% of all journeys to be made by sustainable modes – walking, wheeling, cycling and public transport 2040 – representing an increase from 1.5 million trips per day in 2017 to 2.6 million a day in 2040. Our Streets for All (S4A) approach is informing this change, centred on 2 key pillars:

- people focused
- context sensitive

- 2.2. The Local Transport Plan refresh, currently underway, builds on the vision-led approach of the GM Transport Strategy 2040 (GMTS2040), applying these pillars more widely – people focused, and place based.
- 2.3. A number of ambitious programmes and projects are underway to support the vision, which involve physical changes to highways and how they are managed including Active Travel (Walking, Wheeling and Cycling); Streets for All and Quality Bus Transit. These involve optimising the use of limited street space to deliver better and more space for people walking, wheeling, and cycling; to give more priority to bus users; and to make our streets better places to live, spend time in, and travel along.
- 2.4. The highway network in GM is mature, and further significant capacity expansion within built-up areas is not envisaged. The changes we are making to our highways are essential in ensuring the capacity of the transport network keeps pace with population growth and supports sustainable economic growth throughout the city-region, by allowing residents, workers, visitors and freight to move more cleanly and efficiently. They also align with, and support, other programmes and activities such as bus franchising and delivery of the GM Bus Strategy, our Clean Air Plan, and Vision Zero for Safer Roads.
- 2.5. A safe, reliable and effective road network is essential in delivery of the Bee Network, our integrated walking, cycling and public transport system, and providing safe, efficient, and inclusive mobility for everyone. A well-managed highways network facilitates timely and predictable public transport services, encouraging more people to choose buses, trams, or trains over personal vehicles. This shift not only reduces traffic congestion but also lowers emissions, contributing to a healthier environment.
- 2.6. Furthermore, a comprehensive highways network that prioritises walking, wheeling and cycling infrastructure promotes active travel options, fostering a culture of walking, wheeling and cycling. Such investments in infrastructure enhances public

health, improves local economies, and creates vibrant, connected communities, making them essential for sustainable urban development.

3. The four protocols

- 3.1. TfGM's responsibilities in relation to the highway network are set out within four Protocols, agreed in 2015, between the 10 LHAs, GMCA and TfGM:
 - Protocol 1: Traffic Signals;
 - Protocol 2: Transport Studies / Forecasting;
 - Protocol 3: Network Management and Development; and
 - Protocol 4: Road Safety.
- 3.2. TfGM currently provides a range of highway support services to key stakeholders in relation to the KRN, including opportunities for collaborative working arrangements throughout the region.
- 3.3. Asset Management is a key area where the GM region can benefit from collaborative working, in seeking to promote consistent maintenance standards and drive towards standard processes and procedures.
- 3.4. Network management in terms of traffic flows, congestion management and road safety on the KRN is a key focus area for TfGM. Working with GM LHAs there are opportunities to develop standard network management principles, enhance the good work carried out through the Greater Manchester Road Activity Permit Scheme (GMRAPS) and develop a consistent approach to the delivery and detail of Traffic Regulation Orders throughout the region.
- 3.5. There is now greater focus on, and demand for, the GM highway network. Bus franchising has exposed the bus network, and in turn the supporting road network, to greater scrutiny and expectation of availability whilst the development of the active travel network and wider bus priority stretches the demand for this finite road space. This has highlighted a role for a more strategic and integrated approach to network planning, across our highway and modal networks. This will inform consideration of modal priorities on particular corridors, roads and junctions, and how the different modal networks are provided for in a coherent, connected and legible way across the city-region as a whole. This is essential for delivery of not only the Bee Network, and right-mix, but a highway network which works for all.
- 3.6. In light of the changes in the GM policy, strategy and approach to our highways, roads and streets since 2015, the increasing demands upon limited street space,

and the emerging statutory Local Transport Plan, the committee is asked to endorse a review of these Highway Protocols.

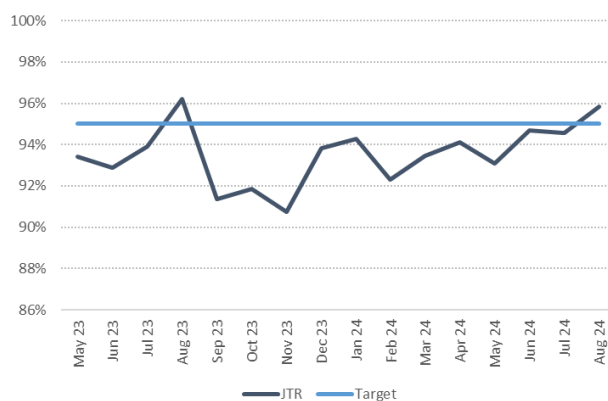
4. Highway network performance

4.1. The traffic performance of the highway network is critical to the performance of the Bee Network and the reliability of the bus and tram services that use our roads, that in turn will give the people who live, work and visit Greater Manchester the confidence to use public transport. The KRN, whilst only being 7% of the total GM road network, carries around 70% of all peak traffic and around half of the bus mileage in GM so the importance of its performance cannot be understated.

Journey Time Reliability

- 4.2. Our key performance indicator for highways is journey time reliability. This was developed in response to the 2040 strategy which outlines TfGM's commitment to working with LHAs in delivering reliable journeys on a resilient highway network. The metric measures the percentage of journeys completed within an acceptable journey time threshold (defined as the typical journey time plus a tolerance of 25%).
- 4.3. To better reflect the aspirations in TfGM's business plan and align with reporting of bus performance the Journey Time Reliability Metric was revised during 2024. The measure now reflects the period from 6am to 11pm, Monday to Sunday (rather than peak times on weekdays only), the monitored network covers the whole of the KRN and routes in the regional centre rather than a limited number of corridors and the target level for journey time reliability was increased from 90% to 95% (or 19 in 20 journeys are deemed to be on-time).

Figure 1. Journey Time Reliability

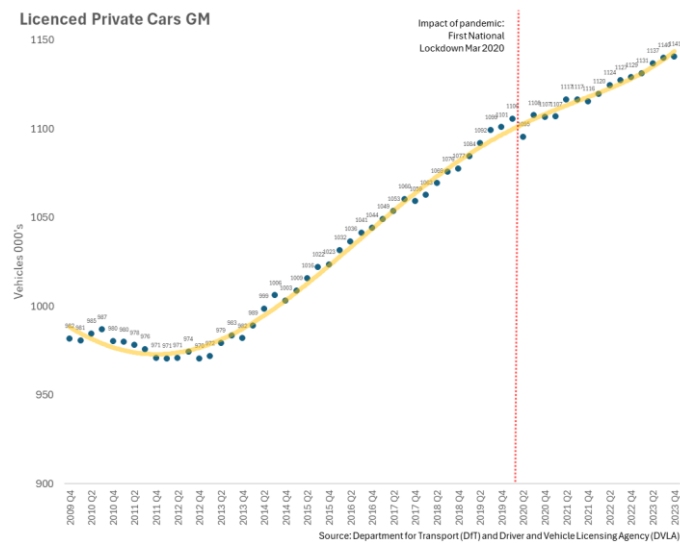


- 4.4. Journey Time Reliability is consistently lower in the Regional Centre, with many of the roads and junctions in, around, and on approaches to the Regional Centre operating at or close to capacity. This means a relatively small increase in traffic demand or reduction in highway capacity can have a disproportionate impact on journey times and delays.

Car Ownership

- 4.5. Car ownership in GM continues to increase. Data published by the DfT shows that the number of licenced private cars in GM is 6% up on 5 years ago and 16% up on 10 years ago. Figure 2 details the growth in private cars licenced in GM between 2009 and 2023. This growth has been driven not only by non-car owning households acquiring a car, but also households adding cars. Both have implications for demand for public transport, as well as traffic congestion.

Figure 2: Number of private Cars licenced in GM

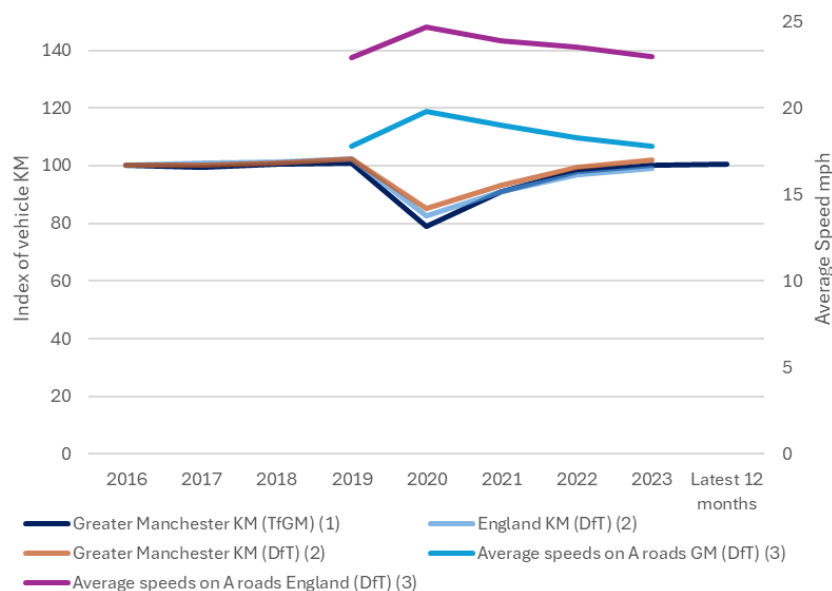


- 4.6. The data from the DfT shows that there are approximately 1.1 million licenced vehicles in GM. In contrast, data from the Automatic Number Plate Recognition (ANPR) cameras installed to monitor the CAZ show on average 4 million unique licence plate reads each month. This discrepancy between the number of private licenced vehicles and unique licence plates reads reflects GM's position as a regional centre for employment and commerce with a high proportion of commercial vehicles and/or vehicles from outside GM on GM's roads. Some of these vehicles will also be passing through the city region.

Motor Traffic Volumes

- 4.7. Both data from TfGM's network of Automatic Traffic Counters and data published by the DfT show traffic volumes and average speeds have returned to pre-pandemic levels. Figure 3 below indicates traffic volumes and average speeds in England and GM.

Figure 3: Traffic volumes and average speeds England and GM



- 4.8. While the overall volume of traffic has returned to pre-pandemic levels, there has been some changes in travel behaviour under this headline figure. Traffic volumes during the AM peak are lower than prior to the pandemic. This reduction is offset by an increase in the evening and on the weekends.
- 4.9. Journey time profiles reflect the levels of delay and congestion across the day. For the network as a whole there are distinct peaks in the AM and PM, with the PM peak lasting longer and is slower at its apex than the AM peak.
- 4.10. The journey time profile for the regional centre shows the PM peak is significantly more congested than the AM peak with average speeds in the regional centre and on the Manchester Salford Inner Relief Route (MSIRR) of 7mph. During periods of peak demand (e.g. events and/or seasonal) or restricted capacity (e.g. an incident such as an RTC) average speeds can fall to around 4mph.

Figure 4: 12 month average journey time profile for KRN and Regional Centre.

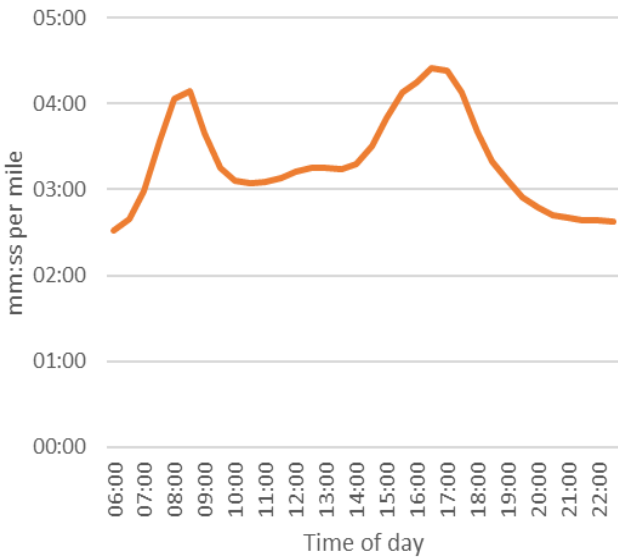
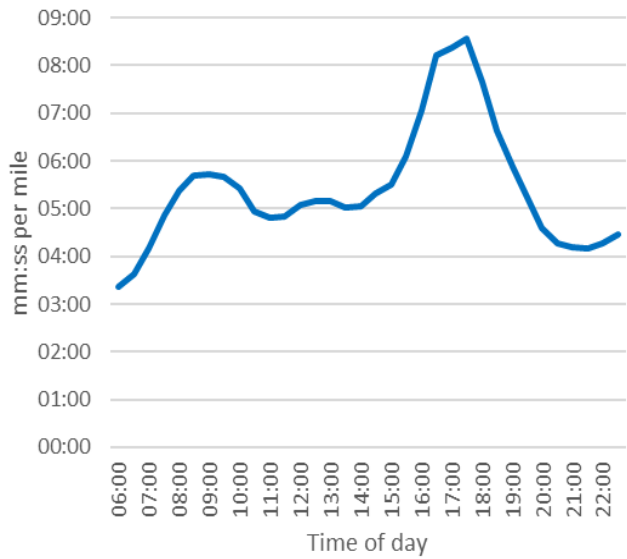
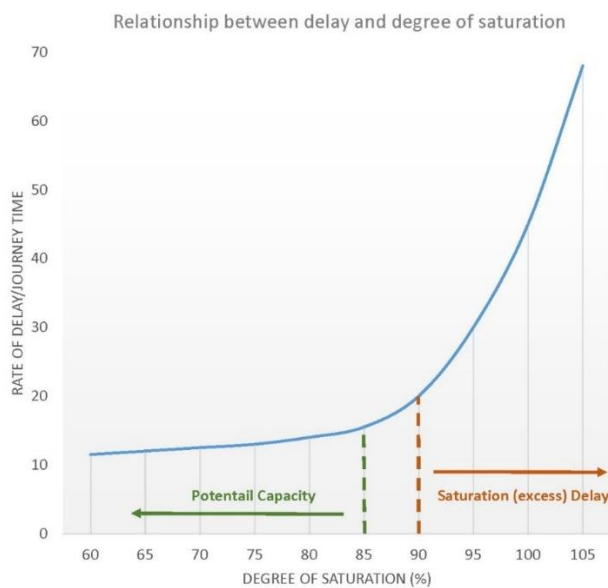


Figure 5: 12 month average journey time profile for Regional Centre (Weekdays, term).



4.11. The amount of motorised traffic travelling along a corridor can increase with little impact on journey times until a critical point, known as the saturation point, where the volume of traffic approaches the capacity of the road or junction. Beyond this tipping point a small increase in the number of vehicles or slight reduction in the availability or road space leads to a large increase in congestion. Fig 6 below shows the relationship between delay and degree of saturation.

Figure 6: Relationship between delay and degree of saturation.

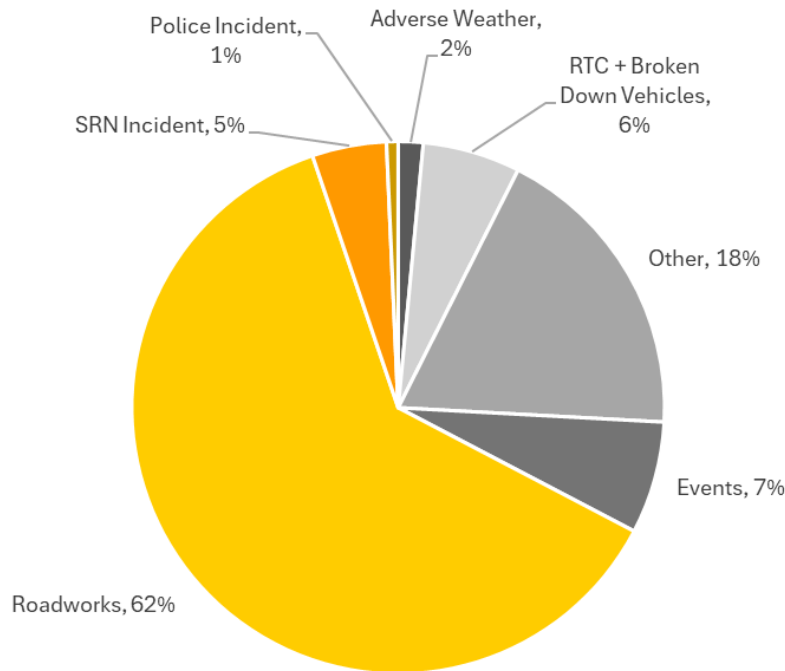


- 4.12. Analysis of journey time data suggests that almost a third of the classified road network in GM (Motorways, A Roads and B Roads) are operating beyond this tipping point at some time during the day.
- 4.13. Conversely, this also means a small reduction in traffic leads to a large decrease in congestion. During the school holiday period there is a reduction in AM peak traffic of approximately 10%. This results in a reduction in journey time of approximately 25%, with some corridors seeing journey times halved. This is due to propensity for commuters to take annual leave in these periods, as well as absence of the “school run”.
- 4.14. Schemes implemented to provide priority for bus and tram uses, improve facilities for people walking, wheeling, cycling and bus users, and to enhance the liveability of our towns and cities often require road space designated for general traffic to be re-allocated to these uses. This reduces capacity for general traffic, changing the tipping point. With the network operating at, or over capacity, such effects can impact network operation beyond the scheme extent itself.
- 4.15. Many of TfGM’s activities such as the delivery of Travel Demand Management initiatives to encourage people to retime (move travel to outside peak periods), remode (change from driving to walking, cycling or public transport), reroute (to avoid traffic congestion) or reduce their journeys are focused on achieving some of the benefits of reducing traffic levels to within these tipping points.

Causes of Delay

- 4.16. Most delay on the highway network is recurrent, caused by peak-time traffic volumes. Figure 7 below shows the causes of delays above the recurrent baseline on the KRN and regional centre routes. This unexpected delay (above recurrent) makes up about 25% of the delays we experience on our network. The level of delay is derived from journey time data obtained under TfGM’s Waze for Cities partnership and data from Automatic Traffic Counters. The cause of delay is derived from incidents and events reported by TfGM’s Control Centre, media and partners such as National Highways. The chart below represents the period between 6am and 11pm Monday to Sunday.

Figure 7: Causes of highway delays (above recurrent).



- 4.17. Consistently the largest contributor to unexpected delay is roadwork activity (62%), followed by events (7%), road traffic collisions and broken-down vehicles (6%) and incidents on the motorway network (SRN) (5%).
- 4.18. 18% of delays are grouped in an “Other” category. This includes traffic signal faults, protest activity and structural issues such as building fires or unsafe buildings. Delays where there is no reported cause, or no cause can be assigned, are also in this category.
- 4.19. TfGM are working with LHAs to improve the way roadworks are managed across GM including improvements to roadworks permitting (through GMRAPS) and the development of the Corridor Management function.

5. Highways Asset Management

- 5.1. Asset management helps to understand the highway, describe how it performs and determines where funding is needed. It is widely accepted by government that it delivers an efficient and effective approach, which has come to prominence in the light of fiscal challenges.

CRSTS Highway Maintenance Funding

- 5.2. The total allocation for maintenance funding since the start of the City Region Sustainable Transport Settlements 2022/23 to 2024/25 has been £120,086,400. Table 1 below shows the total highway maintenance funding provided by DfT to GMCA.

Table 1: GM Highway Maintenance Funding Allocations

Year	Core Maintenance	Potholing Fund	Network North	Totals
2022/23	£ 35,000,000	£ -	£ -	£ 35,000,000
2023/24	£ 35,000,000	£ 6,210,400	£ 4,438,000	£ 45,648,400
2024/25	£ 35,000,000	£ -	£ 4,438,000	£ 39,438,000

- 5.3. The DfT proportionally calculated individual local authority allocations by individual asset groups. Four classifications are used to calculate the funding allocations either on the network length (roads) or the number of assets. The proportions are used to calculate individual GM local authorities maintenance funding. The Indicative proportions of maintenance funding can be seen in Table 2 below.

Table 2: Indicative proportions of maintenance funding

Asset Group	Classification	% Funding Allocated
Roads	A Roads	25%
	B & C Roads	25%
	Unclassified	25%
Bridges	All	14%
Street Lighting	All	2%
Cycleways & Footways	All	9%

- 5.4. In June 2022, £45,000,000 was approved by GMCA for Strategic Highway maintenance from the CRSTS fund. The funding was split equally between the ten GM local authorities to maintain their carriageway and/or structures on streets which are deemed to have a strategic link. Table 3 below shows where their investment is planned for the period of 2022/23 to 2026/27.

Table 3: CRSTS Strategic Maintenance Fund

Authority	CRSTS Strategic Maintenance	Type of treatment
Bolton	£4,500,000	KRN Carriageway Resurfacing
Bury	£4,500,000	KRN Carriageway Resurfacing
Manchester	£4,500,000	KRN Carriageway Resurfacing
Oldham	£4,500,000	Oldham Way Bridge Refurbishment
Rochdale	£4,500,000	Queens Park Rd Bridge Refurbishment
Salford	£4,500,000	KRN Carriageway Resurfacing
Stockport	£4,500,000	Bridge Refurbishment Works
Tameside	£4,500,000	Hattersley Viaduct Refurbishment
Trafford	£4,500,000	KRN Carriageway Resurfacing & Bridge Maintenance Works
Wigan	£4,500,000	KRN Carriageway Resurfacing

KRN Asset Management

5.5. KRN Asset Management is about the holistic (whole life) management of assets and will assist LHAs to realise value from the KRN highway assets. The Government recognises that the following benefits can be achieved by deploying asset management techniques consistently across GM, they are:

- Long term reductions in reactive maintenance costs;
- Better decision making around planned works;
- Improved management of risks and network resilience;
- Reductions in third party accidents and associated claims;
- Better customer satisfaction and stakeholder awareness and involvement;
- Improved journey times and reduced delays;
- Better knowledge of asset performance/condition and the cost to maintain them;
- A clearer understanding of future demands and a better managed resilient network;
- Improved financial performance;
- Closer compliance/alignment with Codes of Practice;
- Enhanced reputation;
- Sharing of physical resources to spread the workload;
- Closer engagement with all stakeholders including LHA's elected members, contractors, transport providers and road users; and
- Smarter ways of working

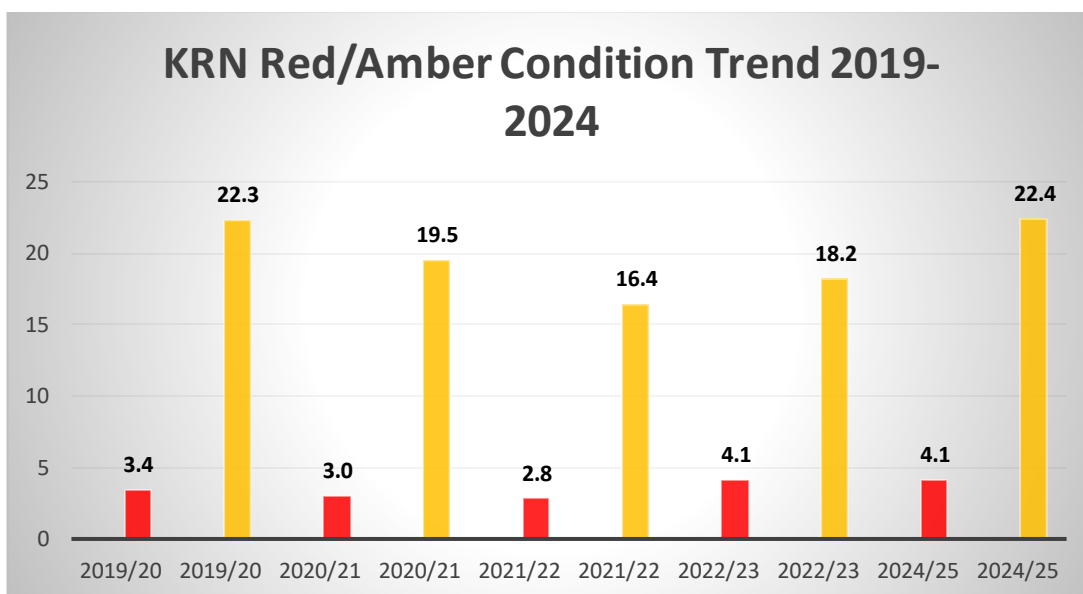
5.6. A KRN Asset Management Strategy (AMS) was developed and agreed with the GM LHAs in September 2017 incorporating a Performance Management Framework (PMF) for the four key KRN assets, which are:

- Carriageways;
- Footways;
- Bridges and Structures; and
- Street Lighting.

KRN Highways Condition Performance

5.7. LHAs have built up consistent KRN condition data sets for both carriageways and structures with key carriageway condition trends detailed in Fig 8 below. This indicates the KRN carriageway red condition has remained under the 5%, however amber condition has risen to 22.4%.

Figure 8: KRN Carriageway condition



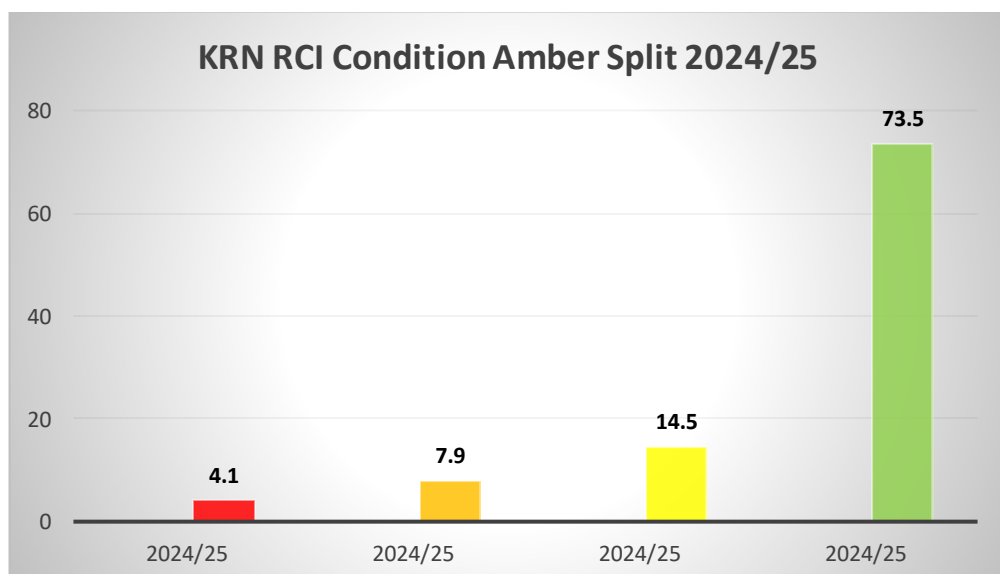
5.8. To prevent further deterioration the regional strategy has been to stop amber falling into red condition. This has been achieved by deploying preventative maintenance techniques and processes through timely intervention to slow deterioration and seal the road surface against water ingress.

KRN Structures Condition Performance

5.9. There are 1,150 structures that carry or cross the KRN consisting of bridges, retaining walls, subways and culverts. Across GM, the total number of structures that LHAs are responsible for maintaining is 3,291.

- 5.10. LHA bridge engineers have developed a long-term programme of maintenance for structure assets on the KRN. Programme includes structural maintenance works and principal inspections to monitor condition trends which provides key data for forecasting deterioration trends.
- 5.11. In 2016, TfGM procured a bridge asset management system on behalf of the ten GM LHAs, the system procured was PONTIS BMS. The system went live in July 2016 and is now populated and fully operational.
- 5.12. TfGM bridge condition is reported in the form Bridge Condition Indicator (BCI) and consist of two types of condition inspection, which are:
- General Inspection (GI) – every two years; and
 - Principal inspection (PI)- at least every 6 years to a maximum of 12 years.
- 5.13. Bridge condition is reported as BCI Average (BCIav) and BCI Critical (BCIcrit). For the purposes of this report, the focus is on BCIav. PONTIS records the condition of structures in 5 industry standard condition bands, which are:
- Very Good (VG)
 - Good (G)
 - Fair (F)
 - Poor (P)
 - Very Poor (VP)
- 5.14. The current overall condition of KRN structures across GM is good. Figure 9 below shows the percentage of structures in each condition band to date.

Fig 9: % of structures in each condition band



- 5.15. TfGM will continue to work closely with GM LHAs to build on current good working relationships to secure ongoing KRN investment and developing asset management for long term resilience and sustainability of the KRN.

6. Highway network management - supporting our Bee Network

- 6.1. Managing the highway network throughout Greater Manchester is challenging given the need to balance local, city-region and strategic priorities within and across the ten Local Highway Authorities (LHAs) and the SRN. Overall however, collaboration across the region in relation to: highway maintenance; development management; road safety; and network management has worked well over a number of years. We need to build on this positive collaboration to ensure the highway network continues to support all modes and users, requiring consistency in delivery and network management interventions across the region.

Operational Control Centre (OCC)

- 6.2. The 24/7 OCC is responsible for monitoring and reporting multimodal network performance and ensuring that TfGM responds to incidents on the transport network in a timely and suitable fashion. The OCC monitors planned activity on the network, ensuring that any deviation from the plan is reported and escalated as appropriate.
- 6.3. Working closely with internal and external stakeholders, the OCC aims to enhance GM commuter experience by providing up to date service information to assist them on their commute. A daily network status report is produced to inform stakeholders of the network performance.
- 6.4. Bus operator's staff are co-located in the OCC, helping to provide a broader understanding of the wider network, particularly in areas with limited CCTV and providing support when bus services are having operational difficulties. Urban Traffic Control (UTC) engineers are present in the OCC, carrying out signal interventions when the highway network is impacted.
- 6.5. If there is an incident on the transport network, an escalation procedure is implemented. Depending on the gravity of the incident, this may be informing customers via social media of the incident, or deploying the TfGM Incident Management Team, who are responsible for ensuring TfGM's response to major incidents is supportive of customer and stakeholder expectations.

6.6. Incidents on the network are defined as something that impacts commuter's travel patterns; closure of the SRN, signal failure for rail, road traffic collision or incidents involving Metrolink. Additionally, the OCC supports major events across GM, including:

- Football fixtures at the Etihad and Old Trafford stadiums
- Parklife at Heaton Park
- Manchester Pride across the Regional Centre
- Women's Cycling Tour of Britain
- Live from Wythenshawe Park
- Greater Manchester Marathon across Manchester and Trafford

Traffic Signals

6.7. TfGM on behalf of the GMCA install, maintain, manage and operate over 2500 traffic signals sites within Greater Manchester.

6.8. Installation and maintenance of the traffic signals is undertaken on behalf of TfGM through a service contract. The contractor is contractually required to ensure a traffic signal availability of 97.7%. This figure was agreed following a competitive dialogue exercise. Contract performance is continuously monitored, and availability is constantly more than the specified level.

6.9. The number of traffic signals in Greater Manchester continues to increase due to ongoing development in GM and the requirements of various projects including those to develop the Bee Network. The increase in traffic signals means that the maintenance costs are continually increasing. These additional costs must be funded as part of TfGM's overall levy funding. Efforts continue to ensure TfGM maintain the traffic signals as efficiently and effectively as possible to ensure demand on levy funding is minimised. Opportunities to reduce costs in terms of all aspects of traffic signal operation and maintenance are therefore taken whenever possible and feasible.

Greater Manchester Road Activity Permit Scheme (GMRAPS)

6.10. GMRAPS provides a way to reduce the disruption caused by roadworks through introducing increased levels of control over activities, providing a lever to influence how works are carried out. The scheme is administered by TfGM and operated by all ten Greater Manchester LHAs.

- 6.11. LHAs and utility companies must have a permit in place before works can start on the highway. Permits may also have conditions attached, in order to minimise the disruption to residents and road users.
- 6.12. The TfGM Collaborative Service Centre (CSC) currently provides an overview of the GMRAPS process. Permits are received centrally and checked for simple errors, incorrect addresses, missing information and impact on the Key Route Network or the public transport network. The verified permits are sent on to the individual LHA for further scrutiny and co-ordination with other planned activities within their individual local authority area. The CSC also provides a central invoicing function on behalf of the LHAs.
- 6.13. During the financial year 2023/24 there were 152,664 initial permit applications across Greater Manchester, of which 37,563 applications were for works by LHAs, and 115,101 were for work by all other promoters. The categorisation of permits being sought consisted of 108,428 applications for Minor works, 14,412 for standard works, and 4,593 for Major projects. Urgent activities requiring immediate attention made up the remaining 25,231 of the total applications. There were also a further 13,411 applications made to amend the duration (including changes to start / finish dates) of works following the initial approval. In total, TfGM and the Greater Manchester LHAs assessed 166,075 applications during this period.
- 6.14. The GMRAPS service is continuously looking for improvements into how the scheme can benefit all road users. A number of interventions have been identified to be delivered through the development of GMRAPS to ensure that a consistent approach is adhered to by each LHA throughout the region .

Greater Manchester Roadworks Charter

- 6.15. To reduce the impact of roadworks on bus services and other road users, TfGM are currently developing a Roadworks Charter. This will include a series of principles and targets which will ensure roadworks are carried out as efficiently and safely as possible, keeping disruption to a minimum and supporting sustainable travel modes. The Charter includes:
- Planning of works - Commit to sharing forward plans to improve collaboration and information to road users;
 - During works - Reduce overall duration and disruption to road users during peak periods and commitments regarding provisions for pedestrians, cyclists,

people with disabilities, users of mobility scooters and bus operators / passengers during works; and,

- Post-works – Decreased number of poor reinstatements and improved safety related response times.

Greater Manchester Lane Rental

6.16. Lane Rental is a process that changes the focus on the working arrangements and provides incentives to carry out works, on traffic sensitive streets, outside of traffic sensitive times. There is an ambition within the region to introduce a Lane Rental scheme, subject to agreement from the LHAs, to:

- Reduce the length of time that works are unoccupied;
- Improve the planning and co-ordination of works;
- Carry out more works outside of peak travel times, reopening at busy times;
- Increase the workforce on site at any one time; to minimise the period of the works; and
- Complete the works to the right standard first time.

Corridor Management

6.17. The Corridor Management function was introduced as a result of the Mayor's Congestion Deal. Their role is to investigate the causes of congestion and work with LHAs to monitor the network and identify where improvements can be made. They will then work with local authorities and other stakeholders to develop and implement packages of measures to keep these important routes moving.

6.18. The team will also identify particular hotspots where the highway is more sensitive to minor changes in traffic flow. Additional activity for such locations will include enhanced scrutiny of any roadwork proposals to ensure the activity has the least impact on the travelling public.

6.19. Route assessments are periodically undertaken on the KRN. Analysis of the observations and assessment data allows the Corridor Managers (with local authority agreement) to determine appropriate interventions to assess where journey time improvements would be most appropriate in addressing the identified congestion problems, on a prioritised, objective and evidence led basis.

Enforcement of Traffic Contraventions

- 6.20. Parking and loading on the highway in contravention of waiting and loading restrictions can be unsafe but also disruptive to the passage of traffic due to the restriction in carriageway width. This reduction in available carriageway space can be more disruptive for larger vehicles such as freight and buses. The unplanned delays caused by such parking often have a detrimental impact on bus services journey time and reliability.
- 6.21. TfGM works with LHAs to ensure that the key routes and bus corridors are monitored by CCTV and Civil Enforcement Officer patrols to support local bus services and deter disruptive parking.
- 6.22. A number of LHAs in Greater Manchester now have the powers to enforce certain moving traffic offences such as stopping in a yellow box or making a prohibited turn. Enhanced enforcement at known locations where congestion occurs will increase the flow of vehicles on the network and improve journey times.
- 6.23. TfGM will work with the LHAs and DfT to ensure all GM highway authorities have the same powers to ensure consistent enforcement across the region

Innovation and Technology

- 6.24. Managing the transport network is becoming increasingly complex. There is a need to adopt policies that make full use of existing assets and manage demand for space on the highway.
- 6.25. Intelligent Transport Systems (ITS) offer real possibilities to meet this challenge by real time monitoring of the highway network performance and providing advanced warning and information to the public. ITS provides the means to manage the demand put on the network proactively on an area wide basis. Urban Traffic Management Control (UTMC) provides the facility to integrate a wide variety of information on highway network conditions from numerous sources/systems to support network management and provide comprehensive travel information across a wide range of communication channels.
- 6.26. ITS currently used to control and manage the existing GM network includes:
 - Systems and solutions: Procurement, implementation and management of ITS systems and tools for multi-modal network management including solutions for pedestrian and cycle priority.

- Asset management and operation: Design, delivery and maintenance of ITS assets, data services and traffic management systems.
- Connectivity: Procurement, design, delivery and maintenance of communication systems for all traffic signals and ITS assets – Fibre, ADSL and mobile networks (inc. 5G).
- Data services: Specification, delivery and maintenance of data collection and monitoring services (inc. real-time use for network management) for insights and operations.
- Major projects: Providing expert design, implementation, and maintenance advice for major capital projects, such as GM Clean Air Zone (CAZ), the GM Local Full Fibre Network (LFFN).
- Innovation and emerging technologies: Development and trialling of new and emerging technologies, such as the use of artificial intelligence at traffic signals and in-vehicle communications.

7. The Future for GM Highways

Integrated Highway and Modal Network Planning

- 7.1. Our highway network – roads and streets – and how we manage them will continue to evolve. For GM to deliver on our GMTS2040 vision and support the GM Strategy, we need to accelerate this process.
- 7.2. To do this effectively across the city region will require a network wide perspective, across all modes, to ensure that individual modal networks, layered upon, and provided for within, our roads and streets are safe, coherent, connected, efficient and attractive. It is also necessary to understand where interventions in one corridor or route may impact the operation of other roads and routes, or networks.
- 7.3. This integrated approach to highway and modal network planning, is especially important for our walking, cycling and bus networks, which will have to accommodate the 40% increase, to 2.5 million daily trips, envisaged in our Right Mix ambition.
- 7.4. We need to reshape our highways to make buses faster, more reliable and more efficient to the benefit of current – and future bus users. We also need to make walking and cycling more attractive for more journeys, and to access buses, trams and trains.

- 7.5. As set out in Streets for All, it is in built up areas, on the KRN, in district, town, and the regional centres where demands from different users and uses are most acute. Given limited highway space, it will not be possible to provide for all uses and users everywhere. A strategic integrated approach to network planning will help to inform decision makers and individual schemes.
2. The SRN is an integral part of our road network, with use for local trips within GM being greater than longer distance trips. The integrated approach will require closer collaboration between the 10 Local Highways authority TfGM, GMCA and National Highways, and bodies such as Greater Manchester Police.
- 7.6. People, whether driving, cycling, walking, or on bus or tram are largely unconcerned as to who the highway authority is for the road or street they are travelling on. The integrated network planning approach aims to deliver similar for users – an overarching network planning approach with the aim of providing and supporting modal networks across the city region, and connecting beyond.

Red Routes

- 7.7. Red routes will be a key tool in keeping GM's highways, and the KRN in particular moving. Red routes were first used in Greater London where they were integrated with the planning and development of the London Bus Priority Network. The schemes also involved improved provisions for people walking and cycling along, and across, the routes, as part of an integrated network planning approach.
- 7.8. The roll out was informed by the development of an integrated Network Plan. A common approach was taken network-wide, for example with side road crossings. Implemented between 1991 and 2001 by the Highways Agency and DfT's Traffic Director for London, these roads were detrunked and transferred from the Highways Agency to the newly established Transport for London, in 2000.
- 7.9. The use of traditional yellow lines and loading restrictions do not restrict vehicles stopping for the purpose of picking up and setting down passengers. In addition, there can be concerns and issues of enforcement regarding inappropriate and obstructive parking and pavement parking. These are issues of particular concern to residents. Inconsiderate parking and loading can make our pavements non-accessible, act as barriers to people walking and wheeling, and damage footways. Red routes serve to formalise parking and loading arrangements, allowing efficient and effective enforcement on these issues.

- 7.10. Red Routes, either marked with red lines, or as a red route clearway, restrict vehicles from stopping to park, load or unload, help traffic move safely and reduce delay, by improving traffic flow. Loading and parking is provided for in marked bays, typically with timed restrictions. They are particularly beneficial for bus users, improving efficiency and reliability of bus operations and reducing journey times. This benefit is maximised when red routes are used in combination with bus lanes and other bus priority measures, and improvements in access to and at bus stops.
- 7.11. TfGM has been discussing options with the LHAs for a network of red routes for the regions busiest and most congested routes building on the initial red route clearway schemes in Salford and Wigan.
- 7.12. Trafford have recently implemented a red route along the busy A56 corridor and a red route clearway on the A5081 linking to the existing red route clearway on Trafford Road in Salford. The scheme is aimed to improve road safety, reduce congestion, and improve air quality on the routes leading towards the congested areas around Old Trafford Football and Cricket stadiums and the regional centre.
- 7.13. Bury have also implemented a short section of red route along the A57 corridor (Walmersley Road). The purpose of this red route was to ease congestion, tackle illegal and inconsiderate parking, and allow for better management of parking and loading, reduce journey times and provide a safer environment for pedestrians and cyclists.
- 7.14. We will continue to work with the LHAs to encourage the identification and development of the red route network throughout the region with proposals currently advanced in both Oldham and Rochdale, integrated with Rochdale – Oldham – Ashton Quality Bus Transit scheme.

Digital Network Management

- 7.15. Operating a modern transport network is about more than just the buses, trams, bikes and roads. It also involves systems and information that measure, manage and enhance the services that deliver them and provides insights to shape our strategic direction and priorities.
- 7.16. Data and technology are key to delivery of the Bee Network. Digital transport solutions provide the opportunity to address transport related challenges, including congestion and accessibility, through the integration of technology and data.
- 7.17. A digital approach is helping us to:

- Respond to changing national and local strategic objectives, with emphasis on connected & integrated networks, increase use of public transport, and greener travel;
- Leverage digital, data, and technology to enhance our operations;
- Meet evolving customer demands and expectations.

- 7.18. To ensure best value, data that is sourced should be multi-use, meeting the operational, tactical and strategic needs of the organisation as well as enabling innovation and partnership in research and development projects.
- 7.19. Integration is key to the success of the Bee Network, and this is also true of our use of data. Transport networks are not used in isolation. The development of our data asset will include systems to join standalone datasets to create an integrated, multi-modal digital representation of the network.
- 7.20. Infrastructure investment ensures the asset is fit for purpose and keeps abreast of new and emerging innovation and technology. As part of our ongoing commitment to manage the network we are currently investing in services and systems to give enhanced visibility of the network, understand how it operates and where the issues are and where investment will achieve its maximum benefit.
- 7.21. ITS tools have the potential to deliver significant benefits with respect to congestion management, increase in road capacity, network operation efficiency, journey time reliability, public transport service reliability together with safety improvements and reduction in environmental impact.
- 7.22. TfGM are trialling future traffic control methods using artificial intelligence based traffic control systems. The aim of these projects is to introduce more sophisticated and faster traffic control methods that can be targeted to provide priority for different modes of transport, including buses, walking and cycling as well as general traffic across a whole transport corridor and road network, not just at a specific junction.
- 7.23. The key to managing the road network efficiently is to have a live view of as much of the network as possible. This includes the traditional CCTV but is increasingly data-led and automated, the aim is to use technology to automatically identify problems, provide operational metrics and use artificial intelligence to automatically resolve problems. TfGM is continually investigating and looking at new means of obtaining more information from a wider range of sources. A Digital Network

Management Strategy for Greater Manchester will be developed as part of the Local Transport Plan process.

Integrated Highway Planning and Management

- 7.24. There is a need to have broader consistency in relation to the management and operation of the region's highways, particularly the KRN and SRN, if we are to provide a reliable highway network to support the Bee Network. The strategic management of the SRN, KRN and wider highway network will embed the longer term aims and interests of the highway network, linked to the policies in the developing Local Transport Plan.
- 7.25. Bus Franchising will be completed for the whole of the GM region in January 2025. With it comes significant financial and reputational risk for GMCA and the 10 GM local authorities. It is therefore recommended exploring wider responsibility of certain transport related functions for GMCA in relation to the KRN to support Bus Franchising.
- 7.26. The Government is considering legislating for combined authority mayors to have power of direction, allowing them to direct highway authorities on exercising their highway powers relating to the KRN. At the time of writing this report, legislation to provide the Mayor with power of direction has not been passed.
- 7.27. The draft Local Transport Plan which is due to be published in 2025, will set out Greater Manchester's policy aims, addressing some of the strategic issues for highway network management that are proving challenging for a high performing bus and active travel network, with integrated network planning, across the highways network, for the transport modes which use it, informed by consideration of people, places, and context.
- 7.28. This will potentially involve the production of a joint Network Plan for the KRN, informed by the revised Highway Protocols as described in Section 4 and the emerging Local Transport Plan. The exact nature and content of such a plan is to be determined; it may be similar to the Network Plan as for London's non-motorway Strategic Roads which set out the original Red Routes and the associated London Bus Priority Network, and more recently the Strategic Cycle Network.
- 7.29. The contents of such a plan would be developed collaboratively between all partners involved in the planning, delivery and management of our highway and

modal networks across the city-region, further building on GM's mature history of collaboration in the delivery of highway services.