



Greater Manchester Spatial Framework Transport Study

Addressing the Issues

November 2018

Mott MacDonald
9 Portland Street
Manchester M1 3BE
United Kingdom

T +44 (0)161 914 8880
mottmac.com

Transport for Greater
Manchester
2 Piccadilly Place
Manchester
M1 3BG

Greater Manchester Spatial Framework Transport Study

Addressing the Issues

November 2018

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	November 2018	AB	FL	CS	Draft
B	November 2018	AB	FL	CS	Final

Document reference: 391724 | 2 | B

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

Contents

Executive summary	1
1 Introduction	6
1.1 Background and purpose of this report	6
1.2 How this report will support the new draft of the GMSF	6
1.3 Relationship with the 2040 Transport Strategy and Delivery Plan	7
1.4 Overview of this report	8
2 The vision for the future transport system	9
2.1 The 2040 vision	9
2.2 The critical transport challenges for Greater Manchester	10
2.3 What could a future transport system that meets these challenges look like?	13
2.4 How this future transport system could be delivered	15
3 What the future transport system could look like in Greater Manchester	16
3.1 Early plan period - 2018-2026	16
3.2 Late plan period - 2027-2037	20
3.3 Post plan period - 2038 and beyond	22
4 What the future transport system could look like in the Regional Centre Study Area	24
4.1 Early plan period - 2018-2026	24
4.2 Late plan period - 2027-2037	26
4.3 Post plan period - 2038 and beyond	27
4.4 Regional Centre Study Area interventions summary	27
5 What the future transport system could look like in the Northern Study Area	29
5.1 Early plan period - 2018-2026	29
5.2 Late plan period - 2027-2037	31
5.3 Post plan period - 2038 and beyond	32
5.4 Northern Study Area interventions summary	33
6 What the future transport system could look like in the Eastern Study Area	35
6.1 Early plan period - 2018-2026	35
6.2 Late plan period - 2027-2037	37
6.3 Post plan period - 2038 and beyond	37
6.4 Eastern Study Area interventions summary	38

7	What the future transport system could look like in the Southern Study Area	40
7.1	Early plan period - 2018-2026	40
7.2	Late plan period - 2027-2037	42
7.3	Post plan period - 2038 and beyond	44
7.4	Southern Study Area interventions summary	44
8	What the future transport system could look like in the Western Study Area	47
8.1	Early plan period - 2018-2026	47
8.2	Late plan period - 2027-2037	49
8.3	Post plan period - 2038 and beyond	49
8.4	Western Study Area interventions summary	50
9	What the future transport system could look like in the North Western Study Area	52
9.1	Early plan period - 2018-2026	52
9.2	Late plan period - 2027-2037	54
9.3	Post plan period - 2038 and beyond	55
9.4	North Western Study Area interventions summary	55
10	Funding, governance, scheme development and delivery	57
10.1	Funding and financing	57
10.2	Governance	58
10.3	Scheme development, prioritisation and delivery	59
11	Conclusions	62
11.1	Delivering a world-class transport system	62
11.2	Key early plan period priorities	62
11.3	Key late plan period priorities	63
11.4	Key post plan period priorities	64
11.5	Next steps for the GMSF Transport Study	64
	Appendices	66
A.	Glossary of terms	67
B.	List of interventions	69

Executive summary

This report presents the second part of the ongoing transport study to prepare the transport evidence base for the Greater Manchester Spatial Framework (GMSF). This *Addressing the Issues* report follows on from the *GMSF Transport Study: Understanding the Issues* report, which is being published separately by Transport for Greater Manchester (TfGM) and the Greater Manchester Combined Authority (GMCA).

The main purpose of this *GMSF Transport Study: Addressing the Issues* report is to provide recommendations to the Greater Manchester authorities (TfGM, GMCA, the Greater Manchester local authorities and the Mayor) on how the critical future transport challenges for Greater Manchester – identified in the *Understanding the Issues* report – can be addressed. To that end, this report shows in more detail what Greater Manchester's future transport system could look like, building on the strategic direction for transport set out in the Greater Manchester Transport Strategy 2040 (Figure 1).

This potential future outlook is deliberately aspirational and transformative, but equally, it is also intended to be realistic and deliverable within funding and feasibility constraints. It is the outcome of a collaborative process across Greater Manchester facilitated by Mott MacDonald, which has involved officers from the GMCA, TfGM, and all ten local authorities in the city-region, as well as other stakeholders.

Status of this report

This report has been prepared in November 2018 to support the new draft of the GMSF. At the time of writing, the new draft of the GMSF is still being finalised. It is intended that TfGM will use the recommendations presented in this consultants' report to prepare a new *Greater Manchester Transport Strategy 2040: Delivery Plan 2020-2025*. This Delivery Plan will be published by TfGM and the GMCA alongside the new draft of the GMSF for public consultation in early 2019 (Figure 1).

Figure 1: Status of this report



Greater Manchester's future transport system

This report first shows what Greater Manchester's future transport system could look like at the city-region-wide level in Section 3. It then presents an outlook for the future transport system in different geographical localities of Greater Manchester in more detail, using the six Study Areas introduced in the *GMSF Transport Study: Understanding the Issues* report (Sections 4-9).

This outline vision of the future transport system is presented into three distinct time periods that cover the duration of the GMSF period and beyond. These time periods are:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.

- Post plan period – 2038 and beyond.

The emerging investment programme

TfGM is currently developing an investment programme to underpin the delivery of the transport vision presented in this report, which will in turn support the GMSF, the Greater Manchester Strategy and the 2040 Transport Strategy. This programme includes transport interventions at various different stages of development, ranging from early ideas and concepts for further study, to schemes that are currently being developed and designed, all the way through to projects already committed or already under construction.

The emerging investment programme will require significant amounts of funding to be raised in the future. Because of the transformational nature of the transport investment sought, alternative funding mechanisms will need to be identified to deliver this package of interventions. Funding and delivering the planned investment programme will therefore be a major challenge for all transport partners in Greater Manchester, and the expectation is that developers will make a major contribution to those interventions that are required to enable development.

Scheme development, prioritisation and delivery

The emerging transport investment programme includes a wide range of potential investments. They will need to be developed, appraised and prioritised and tough decisions will have to be made about where limited funds can make the biggest impact.

These decisions will be guided by Greater Manchester's 2040 Transport Strategy, and future Delivery Plans which support the 2040 Transport Strategy. The GMSF and the 2040 Transport Strategy share the same aims, a common vision for the future of transport in Greater Manchester, and a common set of emerging priorities for future interventions on the transport network to achieve this vision.

More detailed sub-strategies for specific modes or geographical areas are also currently being prepared by TfGM, the Greater Manchester local authorities and other key stakeholders. These sub-strategies will set out more specific principles and guidelines to shape the emerging investment programme. In most cases, the sub-strategies identify a series of prioritised, shortlisted investment ambitions. These can then be taken forward for individual development and testing.

Key early plan period priorities

Over the next few years, the first priority will be to deliver the significant investments that are already underway. A range of other investments now have funding provisionally identified, and these investments will need to be brought forward and delivered as a priority, for example through Greater Manchester's allocation of the Transforming Cities Fund.

The Greater Manchester Congestion Deal¹ has outlined a series of objectives and actions aimed at reducing congestion. Some of these will be implemented over the next few years, including the new Mayor's Challenge Fund for walking and cycling and the purchase of additional trams and associated infrastructure through the Transforming Cities Fund.

Bus remains by far the most used form of public transport in Greater Manchester. Assessing options for reform of the bus market is therefore a key priority in the early plan period. Subject to

¹ Transport for Greater Manchester (2017), Greater Manchester's Congestion Deal. Available from: <https://www.tfgm.com/congestion>

a viable business case, an independent audit and consultation as required by the Bus Services Act 2017, and subject to a decision by the GMCA and the Mayor whether to proceed, this could bring significant benefits for residents and passengers. This could include improvements to routes, frequencies, timetables, fares and quality standards, and could also support the roll-out of smart, integrated ticketing.

In the early plan period significant investment will be focused on creating 'Streets for All' on Greater Manchester's road network. 'Streets for All' is a new way of thinking about the role of streets in creating sustainable, healthy and resilient places, with a focus on the needs of people and place, rather than considering the movement of vehicles alone. Typical short-term Streets for All improvements will include junction improvements, bus infrastructure improvements (including Quality Bus Transit on selected high-frequency bus corridors), public realm and placemaking improvements and cycling infrastructure.

Equally important will be to continue the planning and development work for the medium- and long-term investments set out in this report. This includes work on the 2040 Transport Strategy's sub-strategies. For example, the HS2 and Northern Powerhouse Rail Growth Strategy has recently been published, and work on the Rapid Transit Strategy is currently ongoing.

Greater Manchester will also need to stay at the forefront of transport innovation, and ensure that the region's transport infrastructure is fit for the future. TfGM's innovation programme will include studies and trials to explore the benefits of autonomous vehicles, flexible on-demand transport, and the concept of Mobility as a Service, as well as accelerating the further roll-out of electric vehicle charging points and supporting a new fixed docking bike-hire scheme.

Finally, gaining greater long-term certainty over transport funding in Greater Manchester will be vital to successfully delivering the vision for a world-class transport system set out in the 2040 Transport Strategy. Although Greater Manchester has access to some devolved transport funding through its devolution deal, current fiscal arrangements in the UK mean that the majority of funding from transport continues to flow from central Government. Conversations with central Government about long-term transport funding certainty for the region will therefore continue to be a priority.

Key late plan period priorities

Between 2026 and 2033, the Greater Manchester transport network will be transformed by the arrival of HS2 at Manchester Piccadilly, Manchester Airport, Stockport and Wigan. HS2 will transform the capacity and connectivity of Britain's rail network, and act as a catalyst for the long-term growth ambitions of the North of England and Greater Manchester. However, in order for HS2 to have the transformational impact expected, a significant amount of work is required to develop and implement the supporting infrastructure to enable the arrival of HS2. It will also be important to manage the potential impact of HS2 on local commuter rail services.

After 2033, the greatest challenges and priorities for Greater Manchester's transport system are likely to focus on a radical transformation in inter-city and intra-city rapid transit and rail capacity. Two key long-term interventions that are currently being studied include Northern Powerhouse Rail, which will place Greater Manchester at the heart of a new inter-city rail network for the North integrated with HS2; and a city centre tunnel, which would provide a more radical solution for travel in the Regional Centre once the limits of the existing public transport network are reached.

Another key priority in the late plan period will be to significantly expand the capacity and reach of the rapid transit network. Towards the end of the GMSF plan period, this could include the conversion of existing suburban rail lines to metro/tram-train operation to provide much greater

capacity and frequency and improve their financial performance. There are a range of proposals for further new rapid transit connections, as discussed in this report, and these will be considered further in a new Rapid Transit Strategy for Greater Manchester. In each case, significant scheme development work will be required to find the best solution, secure funding, and move to delivery.

Improvements will also need to be made on the road network, for example in the form of a package of multi-modal interventions to improve the efficiency and reliability on the M60 North West Quadrant. This is currently the subject of the Manchester North West Quadrant Strategic Study.

The late plan period will also see Greater Manchester continue to invest in other interventions, such as the continued implementation of the Streets for All strategy and associated corridor upgrade programme, and rail and Metrolink capacity and frequency improvements.

The Greater Manchester transport authorities will also continue to have an important role in guiding the development and market penetration of emerging smart mobility solutions, such as Mobility as a Service.

Key post plan period priorities

The full delivery of Northern Powerhouse Rail, a city centre metro tunnel, and the conversion of suburban rail lines to metro/tram-train operation is likely to extend into the post plan period. The case for these highly complex interventions continues to be the subject of current studies by TfGM, Transport for the North and other partners.

On the road network, investments post 2038 could include a Trans Pennine Tunnel between Manchester and Sheffield. Options for this are currently being developed by Highways England, Transport for the North and Department of Transport. The implementation of the preferred package of improvements from the Manchester North West Quadrant Study is also likely to extend into the post plan period.

Fully or largely automated vehicles could also become part of everyday life for many residents. Under the right conditions, these innovations could deliver major benefits, although their impact is still highly uncertain.

Next steps for the GMSF Transport Study

Public consultation on the new draft of the GMSF is anticipated to take place in early 2019. Following this, work will continue on the GMSF Transport Study in anticipation of Examination of the final GMSF. At Examination, the findings from the GMSF Transport Study will be required to demonstrate the soundness and deliverability of the GMSF to a planning inspector. To prepare for this, further work will be required to:

- Model the impacts of the planned housing and employment growth on Greater Manchester's transport networks.
- Plan the key GMSF growth locations to determine site-specific or area-specific transport plans.
- Develop and adopt more specific plans to support the 2040 Transport Strategy and start to develop business cases for strategic transport investments which will support the GMSF growth areas.
- Work with other stakeholders to coordinate the direction of growth in the city-region, including Highways England, Transport for the North, Network Rail and HS2 Ltd.

- Develop a funding and financing plan transport investment needed to support the GMSF.

Following the consultation on the second draft of the GMSF, the findings of this GMSF Transport Study will be reviewed against the consultation comments. The final portfolio of transport evidence will be published prior to Examination.

1 Introduction

1.1 Background and purpose of this report

Mott MacDonald has been commissioned by Transport for Greater Manchester (TfGM) to undertake the Greater Manchester Spatial Framework (GMSF) Transport Study. The aim of the GMSF Transport Study is to help the Greater Manchester authorities (TfGM, GMCA, the Greater Manchester local authorities and the Mayor) to prepare the transport evidence base for the GMSF, which will be needed to demonstrate the soundness and deliverability of the GMSF in transport terms.

This report presents the outcome of the second stage of the GMSF Transport Study. This *Addressing the Issues* report follows on from the *GMSF Transport Study: Understanding the Issues Report*, which presented the outcome of the first stage². The *Understanding the Issues* report summarised the critical transport challenges for Greater Manchester, which have been identified in the context of the planned housing and employment growth in the city-region. The main purpose of this *Addressing the Issues* report is to define in greater detail how these critical transport challenges for Greater Manchester can be addressed.

To that end, this *Addressing the Issues* report presents a series of detailed recommendations to give insight into what Greater Manchester's transport system could look like in the future, building on the strategic direction set out in the Greater Manchester Strategy and the Greater Manchester Transport Strategy 2040.

Similar to the *Understanding the Issues* report, this *Addressing the Issues* report is the outcome of a collaborative process across Greater Manchester facilitated by Mott MacDonald, which has involved officers from the GMCA, TfGM, and all ten local authorities in the city-region, as well as other stakeholders. It has also been informed by analysis of public responses to the initial GMSF consultation process that ended in January 2017. It is principally a qualitative report, but it draws on a wide range of evidence, including existing transport data and insights from stakeholder workshops.

Status of this report

This report has been prepared in November 2018 to support the new draft of the GMSF. At the time of writing, the new draft of the GMSF is still being finalised. It is intended that TfGM will use the recommendations presented in this consultants' report to prepare a new *Greater Manchester Transport Strategy 2040: Delivery Plan 2020-2025*. This Delivery Plan will be published by TfGM and the GMCA alongside the new draft of the GMSF for public consultation in early 2019.

1.2 How this report will support the new draft of the GMSF

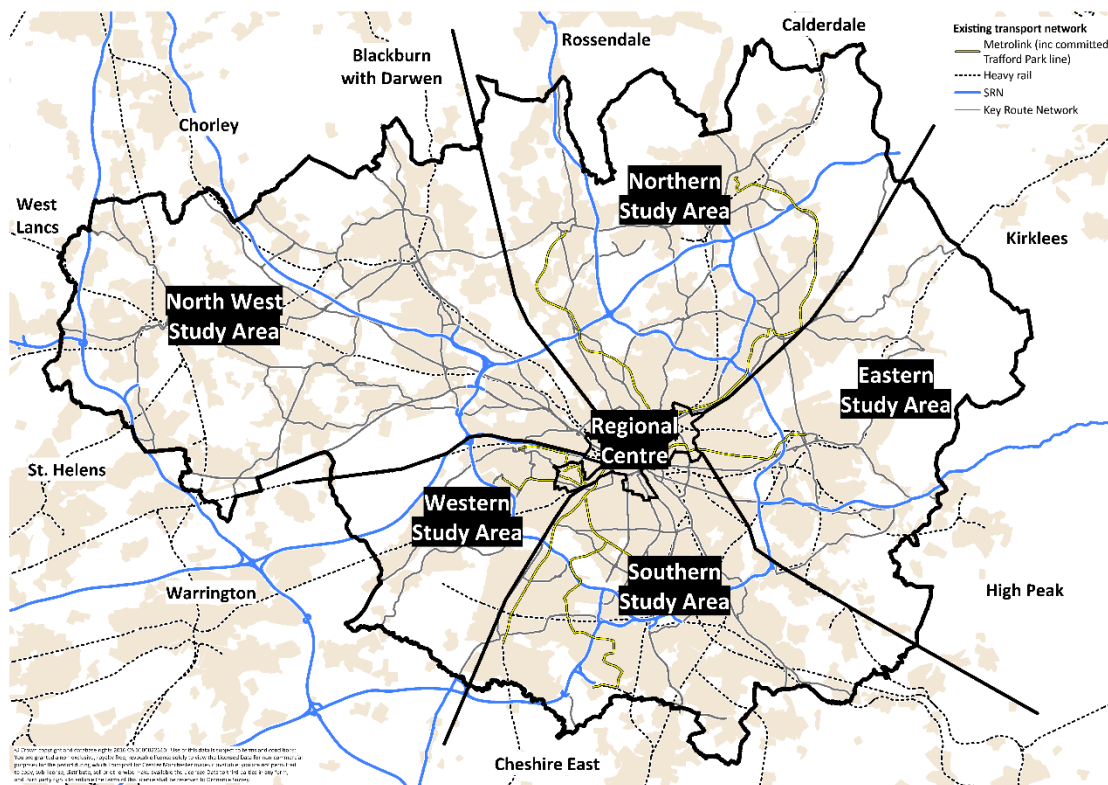
This report has been commissioned by TfGM, on behalf of the Greater Manchester local authorities and the GMCA, to support the second Consultation Draft of the GMSF. The new Draft GMSF will set out a re-written spatial strategy for housing and employment land growth across Greater Manchester up to 2037. It aims to maximise development in Greater Manchester's existing land supply and in town centres, and reduce the impact on greenbelt.

² The *Understanding the Issues* report is being published separately by TfGM and the GMCA.

This *Addressing the Issues* report supports the second Consultation Draft of the GMSF by setting out recommendations for a potential vision of what Greater Manchester's transport system could look like, both during and beyond the GMSF plan period. This potential vision represents an aspirational and transformative outlook for the future, but equally, it is intended to be realistic and deliverable within funding and feasibility constraints.

Section 3 presents an overarching outlook for Greater Manchester's future transport system at the city-region level. Sections 4 to 9 then look at each of the six Study Areas introduced in the *Understanding the Issues* report in more detail. These Study Areas are shown in Figure 2.

Figure 2: The six Study Areas, introduced in the *Understanding the Issues* report



Source: Transport for Greater Manchester

Note: The term 'City Centre' refers to the core city centre area bound by the Manchester and Salford Inner Relief Route (MSIRR) and the University Corridor. The term 'Regional Centre' is defined as Greater Manchester's primary economic centre, as defined in the 2040 Transport Strategy, and includes the city centre, The Quays to the west, and the Etihad Campus to the east, among other key growth areas in the core of the city-region.

1.3 Relationship with the 2040 Transport Strategy and Delivery Plan

The 2040 Transport Strategy is Greater Manchester's strategy for delivering, in transport terms, the growth aspirations of the region as set out in the GMSF. The GMSF and the 2040 Transport Strategy share the same aims, a common vision for the future of transport in Greater Manchester, and a common set of emerging transport priorities. The relationship between the GMSF and the 2040 Transport Strategy is discussed in more detail in the *GMSF Transport Study: Understanding the Issues* report.

Alongside the 2040 Transport Strategy, TfGM also published a five-year Delivery Plan. Having a Delivery Plan alongside the long-term 2040 Transport Strategy enables TfGM to define more specific plans for the next five-year period, including for new investment, service delivery, maintenance/renewal, and future studies.

It is anticipated that a new Delivery Plan covering the years 2020-2025 will be published by TfGM together with the new Draft GMSF for public consultation. This Delivery Plan will be informed by this *Addressing the Issues* report, and will set out a comprehensive new transport plan for the next five years to support both the new GMSF and the 2040 Transport Strategy.

1.4 Overview of this report

This *Addressing the Issues* report combines the insights from the six Study Areas to present a detailed understanding of what Greater Manchester's future transport system could look like in the context of the planned GMSF growth. It includes commentary on:

- Greater Manchester's ambition for what the transport system could look like in the future (both during and beyond the GMSF plan period), building on the strategic direction set out in the 2040 Transport Strategy.
- Recommendations for potential priority transport interventions that could deliver these ambitions. These priorities include committed interventions, planned interventions, and interventions to be further developed.

The remainder of this report is structured as follows:

- **Section 2: Vision for the future transport system.** Building on the 2040 Transport Strategy, this section sets out a recommended overarching vision for the transport system, including an approach to addressing the critical transport challenges identified in the *Understanding the Issues* report.
- **Section 3: What the future transport system could look like in Greater Manchester.** This section presents the ambition for Greater Manchester's future transport system and the potential interventions that could deliver this.
- **Sections 4-9: What the future transport system could look like in the individual Study Areas.** These sections provide a more detailed look into what the future transport system could look like in each of the Study Areas in the short, medium and long term.
- **Section 10: Funding, scheme development and delivery.** This section provides more detail on the work that will be required to deliver the above aspirations, including securing funding, progressing scheme development and continuing scheme delivery.
- **Section 11: Conclusions.** This section outlines the overarching conclusions from this report and sets out the next steps for the Greater Manchester transport authorities and stakeholders.
- **Appendix A: Glossary of terms.** This section provides a glossary of the key technical terms used in this report.
- **Appendix B: Emerging Transport Investment Programme.** This appendix lists the interventions identified through the GMSF Transport Study that could contribute towards the growth aspirations of Greater Manchester.

How to use this report

To gain an understanding of the future transport system in your local area, it is recommended to read **Section 3: What the future transport system could look like in Greater Manchester**, in combination with the relevant geographical Study Area in **Sections 4-9**.

2 The vision for the future transport system

2.1 The 2040 vision

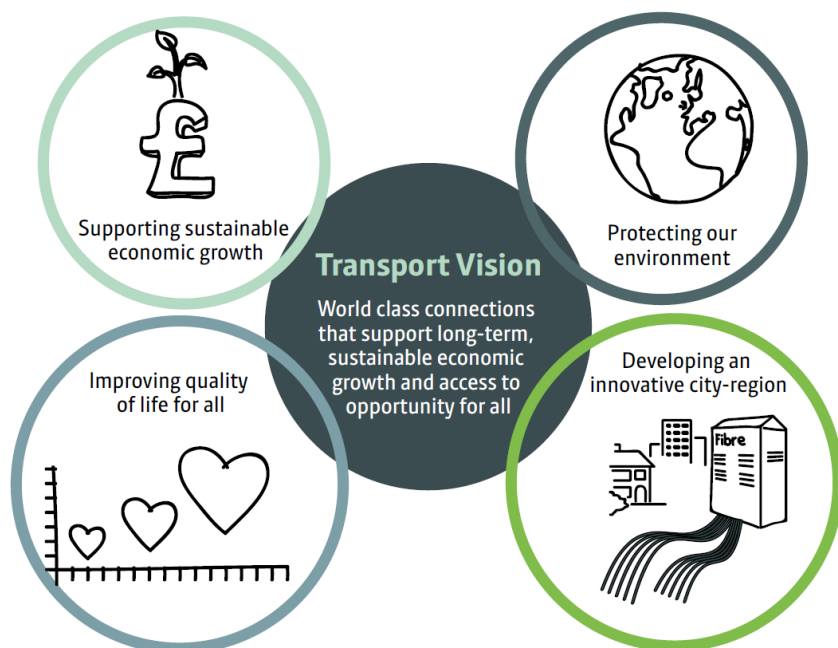
The Greater Manchester Transport Strategy 2040 defines Greater Manchester's long-term vision for its transport system. This ambitious strategy sets out to establish a fully integrated, high capacity transport system. The 2040 Transport Strategy was developed by TfGM on behalf of the GMCA and the ten Greater Manchester local authorities and adopted in 2017.

The 2040 Strategy adopts a vision-led approach to planning transport in Greater Manchester, which starts with the outcomes Greater Manchester wants to achieve, and identifies interventions that best align with that vision. The vision set out in the 2040 Transport Strategy is for Greater Manchester to have *'World class connections that support long-term, sustainable economic growth and access to opportunity for all'*.

2.1.1 The key elements of the 2040 vision

The four key elements of the vision, which represent the goals of the 2040 Transport Strategy, are set out in Figure 3 below:

Figure 3: The 2040 vision



Source: Greater Manchester Transport Strategy 2040

As well as meeting the requirements of the travelling customers, the transport system needs to help the local economy to flourish and prosper, and support residents' ability to contribute to and benefit from that prosperity, as envisaged by the overarching Greater Manchester Strategy.

The transport system must connect people to opportunities and information, entrepreneurs with ideas and capital, and employers with talent and skills. It also needs to play a part in creating

better places: supporting new development and regeneration, reducing the dominance of cars and goods vehicles and improving the environment.

Finally, the role of technology and innovation will be even more influential in the period up to 2040, enabling improvements to performance and reductions to costs and fuel consumption. It will also allow Greater Manchester to provide tailored transport information directly to users, providing a much better customer experience.

The vision is supported by the seven network principles defined in the 2040 Transport Strategy, which will apply consistently as improvements are made to Greater Manchester's transport system to ensure that it meets the needs of all customers (Figure 4).

Figure 4: The 2040 Network Principles



Source: Greater Manchester Transport Strategy 2040

2.2 The critical transport challenges for Greater Manchester

Greater Manchester's transport network faces important challenges, which will need to be met in order to deliver the 2040 vision. These issues and challenges are the subject of the *GMSF Transport Study: Understanding the Issues* report.

The *Understanding the Issues* report shows the critical transport issues in the context of the planned growth of the region, identified through consultation with the ten local authorities in Greater Manchester and other stakeholders. These transport issues were grouped according to the 2040 Transport Strategy's spatial themes, which reflect different types of journeys in Greater Manchester:

- Connected Neighbourhoods.

- Travel across the Wider City-Region.
- Getting into and around the Regional Centre.
- City-to-City Links.
- A Globally Connected City.

In addition, the *Understanding the Issues* report also identified several Greater Manchester-wide issues that cut across the five spatial themes.

Based on these transport issues, the *Understanding the Issues* report concluded that the most critical transport challenges for Greater Manchester include:

A radical transformation of the Regional Centre's sustainable transport capacity and connectivity

The Regional Centre will be at the heart of the planned population, housing and employment growth. The 2040 Transport Strategy target to keep road traffic in the city centre at or below current levels will therefore be a major challenge. Given the expected increase in travel in the Regional Centre, particularly during peak periods, improving public transport and walking and cycling infrastructure will be vital.

As the Regional Centre expands outwards, improved intra-centre connections will also become increasingly important to support last mile journeys, for example from a future Piccadilly HS2 station. Again, walking and cycling will need to be given a high priority, with better quality cycle infrastructure and a rapid extension of the cycle network helping to make cycling a mainstream mode of transport. Good connections for key bus routes will also need to be a priority.

Creating sustainable new communities and commercial areas, and building on the strengths of existing urban centres

The growth identified in the GMSF presents an opportunity to create connected communities and commercial locations around sustainable transport. This will require all partners to embed sustainable transport into the design process for new sites, town centres and transport hubs.

The planning of future growth sites will need to ensure that they are well-connected to existing public transport, highways, and walking and cycling networks and do not lock in reliance on the car. This will mean designing these new communities in such a way that residents can easily walk to local facilities and amenities; that they are accessible by bus; and that they are integrated into the existing urban network.

Reducing the reliance on the car for movements across the wider city region, including orbital connections between town centres

Greater Manchester has a strong network of radial public transport routes, but it is often not a reliable and convenient option for travel across the wider city-region. This encourages more people to drive and therefore increases levels of congestion.

The challenge for the 2040 Transport Strategy and the GMSF is that public transport cannot easily cater for these more dispersed journeys. The best way to improve wider city-region journeys will need to be identified on a case-by-case basis and could vary from Metrolink and Bus Rapid Transit to bus priority. These improvements could be supported by Bus Reform and integrated ticketing.

Ensuring that pan-Northern transport interventions for city-to-city trips are fully integrated with regional and local networks

Greater Manchester's future approach to transport will need to be aligned with major national-level transport investments, such as emerging recommendations from the Manchester North

West Quadrant³ and Trans Pennine Tunnel studies⁴, and major rail interventions such as HS2 and Northern Powerhouse Rail (NPR)⁵. Much of this infrastructure will make a major contribution to the rebalancing the economy as envisioned by Government's Northern Powerhouse strategy, although further study is needed to understand the full effects of the proposals.

Investing in local neighbourhoods to make walking and cycling the natural choice for short journeys, and to stimulate town centre and neighbourhood renewal

In the city-region as a whole, nearly half of all trips are less than 2km and 38% of these are made by car⁶. This contributes to congestion and poor air quality. There is a significant opportunity to reduce pressure on congested roads by improving options for walking and cycling – which also delivers major health benefits – and promoting bus travel. This will require new investment to make cycling and walking safer and more attractive; and to ensure easy access to bus stops, Metrolink stops and rail stations for the 'first mile' or 'last mile' or multi-modal journeys.

Maximising the efficiency of Greater Manchester's existing transport networks

As growth places substantial increased demand on the city-region's transport network, it will become increasingly important to maximise its efficiency. Various forms of travel demand management are already in place and actively used by TfGM and the local authorities, but there is scope to make this more long-term and strategic.

Strengthening the role of Manchester Airport as the international gateway to the North of England

Manchester Airport will continue to grow over the course of the GMSF plan period, potentially doubling passenger numbers to around 45 million a year by 2040. Further development at the Airport will also create additional jobs that will lead to increased numbers of workers commuting. Improved surface access, particularly by public transport, will be essential to ensure the Airport remains competitive, easy to reach for passengers, and capable of supporting further employment growth.

Towards the end of the GMSF plan period, HS2 will arrive at Manchester Airport, providing a game-changing boost for long-distance public transport. Equally, there is a need to improve local access, including to places such as Altrincham and Stockport, benefiting both passengers and employees. This will be key to delivering the Airport's significant growth opportunities, including those within the Airport Enterprise Zone. Additional benefits for local and regional travel will be seen once NPR services are also able to use the HS2 infrastructure.

Exploiting new opportunities for the efficient and sustainable movement of freight

The efficient movement of goods is critical to the vitality of any large conurbation. The growth envisaged in the GMSF, as well as wider trends such as more home deliveries, will generate additional goods vehicle trips. It will therefore be important to research and develop innovative methods to move freight around the city-region in more sustainable ways.

³ Department for Transport (2016), Manchester north-west quadrant strategic study: stage 3 report. [online]. Available at: <https://www.gov.uk/government/publications/manchester-north-west-quadrant-strategic-study-stage-3-report>

⁴ Department for Transport (2016), TransPennine tunnel strategic study: stage 3 report. [online]. Available at: <https://www.gov.uk/government/publications/TransPennine-tunnel-strategic-study-stage-3-report>

⁵ Transport for the North (2018), Strategic Transport Plan: Draft for public consultation. [online]. Available at: <https://transportfornorth.com/stp/>

⁶ Transport for Greater Manchester (2017), Greater Manchester Transport Strategy 2040: Evidence Base [online]. Available at: <https://www.tfgm.com/2040>

Being prepared for future innovations in technology and travel behaviour, while recognising on-going uncertainty

Transport technologies and services available to travellers and transport operators are rapidly changing. The rapid pace of technological change could open the door for Greater Manchester to improve the performance and reliability of its transport networks, improve the customer experience, provide more seamless multi-modal journeys and reduce the need to travel. At the same time, the uncertainties around these new technologies, such as Mobility as a Service and autonomous vehicles, are still very high⁷. Greater Manchester's approach, therefore, seeks to exploit new technologies where they can add value, but avoid being overly reliant on technological innovations that are still highly uncertain.

The critical transport challenges summarised above are discussed in greater detail in the *GMSF Transport Study: Understanding the Issues* report.

2.3 What could a future transport system that meets these challenges look like?

Given these critical transport challenges for Greater Manchester, a future transport system that delivers the 2040 Transport Strategy and supports the GMSF would therefore likely consist of the following key components:

1. Walking and cycling are the natural choice for short journeys

Walking would be the natural choice for as many trips as possible, and the number of trips that are made by bike in Greater Manchester would have doubled and then doubled again. A genuine walking and cycling culture would be created by putting people first, creating world-class healthy streets for walking and developing a comprehensive, safe and attractive cycle network.

2. New development and regeneration is designed to support sustainable transport

New development would be designed to be healthy and sustainable by: enabling short trips to be made by foot and bike; maximising public transport access; integrating it into the existing transport network; encouraging sustainable deliveries and services, and offering integrated ticketing, digital connectivity and electric vehicle infrastructure. This would not only support the transport vision, but also help to reduce noise and air pollution.

3. Greater Manchester' town centres are pleasant, thriving, well connected places, where walking and cycling predominate, public transport hubs act as a focal point for development and the impact of traffic is minimised

Investment would be focused on high-quality public realm, improved public transport and interchanges, and greatly enhanced walking and cycling connections and facilities. Careful management of parking and policies that support higher density development near transport hubs would also encourage sustainable travel and the regeneration of existing town centres as attractive, accessible places for people to live and work.

⁷ Transport Systems Catapult (2016), Mobility as a Service: Exploiting the opportunity for Mobility as a Service in the UK [online]. Available at: https://ts.catapult.org.uk/wp-content/uploads/2016/07/Mobility-as-a-Service_Exploring-the-Opportunity-for-MaaS-in-the-UK-Web.pdf

4. The Regional Centre has radically transformed public transport, walking and cycling access, within high-quality public spaces, which benefits the whole of Greater Manchester

An HS2 and NPR-connected Piccadilly station would be at the core of a Regional Centre with vastly increased public transport capacity. This would include a city centre tunnel, or equivalent intervention to more than double rapid transit capacity and enable the growth of the rapid transit network across all of Greater Manchester. New connections to and from The Quays would also be essential. Investment would also continue to be focused on public realm with high-capacity and high-quality pedestrian and cycle routes to ensure everyone can access the Regional Centre's employment and leisure opportunities in a sustainable way that does not increase congestion or air pollution.

5. People have genuine alternatives to the car for movements across the wider city-region, with good orbital connections between town centres

This would be enabled by a step change in the quality and reliability of the strategic public transport network, with rapid transit serving a wider area, including all major town centres. This would require improving the capacity of the existing network and better integration between existing kinds of public transport, as well as improving connections to new hubs such as an HS2-connected Manchester Airport station. It would also require much better public transport and cycling connectivity into and between Greater Manchester's principal town and district centres to support inclusive growth. This would include modernising interchanges and implementing Quality Bus Transit on high-frequency routes, providing an attractive alternative to the car for both orbital and radial journeys.

6. The efficiency and reliability of existing transport networks has been maximised

The efficient movement of people and goods, not just vehicles, would be emphasised in order to tackle congestion and public transport overcrowding. This would be achieved through an integrated approach that supports sustainable, healthy and resilient streets and to reduce car dependency. Continued improvement to the management of highways would also be needed to deliver a safe, resilient, well managed and maintained network, for example by improved integrated traffic management. On the public transport network, investment would be needed to improve capacity, address overcrowding on the busiest lines and improve efficiency through improved travel information and targeted marketing and behaviour change campaigns.

7. Greater Manchester lies at the heart of the Northern Powerhouse, with HS2 stations, Northern Powerhouse Rail and other national infrastructure fully integrated with regional and local networks

Connecting national-level investments, such as the high-speed rail stations at Manchester Piccadilly, Manchester Airport, Wigan and Stockport, with regional public transport is of critical importance to the success of the city-region. Greater Manchester's aspirations for Manchester Piccadilly and Manchester Airport are set out in the recently published HS2 and Northern Powerhouse Rail Growth Strategy, and other HS2 growth strategies for Wigan and Stockport are being prepared. Work with partners is also set to continue to ensure that the investments emerging from the M60 North West Quadrant Study, the Trans-Pennine Tunnel Study and others integrate well with local networks and deliver benefits for all Greater Manchester residents. This infrastructure will make a major contribution to the economic objectives of the Northern Powerhouse, and will be vital to improve access to the North's major economic centres.

8. Manchester Airport and the Airport Enterprise Zone continue to grow as the North's international gateway and employment centre, supported by world-class surface access

Supporting the growth of Manchester Airport and the Airport Enterprise Zone as the principal economic and international gateway to the North is dependent on providing passengers, freight, and employees with world-class surface access. Making it easier to get to the Airport would also help deliver the nearby employment growth opportunities. In particular, this would require the delivery of a large-scale rapid transit hub at the Airport, a robust approach to travel demand management and strategic highway improvements.

9. Freight is moved in the most sustainable and efficient manner

A key aim within the 2040 Transport Strategy is to maximise the economic growth and efficiency of Greater Manchester's freight and logistics sector, while minimising its social and environmental impacts. This would require: encouraging sustainable distribution, for example through strategic water and rail freight interchanges; exploration of new approaches to last mile urban deliveries, and encouraging the transition to cleaner fuel.

10. Future technology, innovations, and digital connectivity are effectively harnessed to achieve the vision

Technological innovations in the transport sector would be encouraged in line with Greater Manchester's 2040 vision, particularly where it improves the customer experience and the accessibility and performance of the network. Examples of this include: the roll-out of contactless ticketing across multiple public transport modes; support for car clubs and sustainable Mobility as a Service platforms; adoption of smart approaches to traffic management, signal control and monitoring; and improvements in digital communication to help reduce the need to travel, particularly during peak hours.

2.4 How this future transport system could be delivered

The following sections of this report provide an outlook of what Greater Manchester's transport system could look like in the future, if recommended investments in the short, medium and long term are implemented. Together, they represent a future transport system in which the critical transport challenges are addressed, and the 2040 vision as defined above is fully realised.

This outlook of what the future transport system could look like represents the recommendations made by Mott MacDonald in line with the current understanding of the Greater Manchester transport authorities and developed collaboratively through the GMSF Transport Study. This collaborative understanding continues to be refined based on ongoing studies and strategies. TfGM are planning to publish a new *2040 Transport Strategy: Delivery Plan 2020-2025*, which will define a comprehensive new transport plan for the next five years to support the overall long-term vision for the future transport system.

3 What the future transport system could look like in Greater Manchester

This section outlines what Greater Manchester's transport system could look like in the future, shown by the following time periods:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.
- Post plan period – 2038 and beyond.

3.1 Early plan period - 2018-2026

In the early plan period, much of the growth will be within the existing urban area. The focus will be on better integrating the existing transport system; boosting public transport capacity; investing in walking and cycling; and preparing major schemes for delivery in the medium term.

Equally important in the early plan period will be to continue the preparatory planning and development work for the investments that could be delivered in the late period. For example, the HS2 and Northern Powerhouse Rail Growth Strategy has recently been published, and work on the Rapid Transit Strategy and the M60 North West Quadrant Study is currently ongoing.

3.1.1 Public transport

The **Metrolink network** is set to expand further through the completion of the new £350 million Trafford Park Line in 2020. It will provide rapid transit connections to MediaCityUK, Trafford Park and the Trafford Centre, supporting regeneration and economic growth. In addition, the entire Metrolink network will benefit from the 27 additional trams and associated infrastructure through the Transforming Cities Fund. Work is also ongoing to develop proposals for extending the Metrolink network to the redeveloped and expanded Terminal 2 at Manchester Airport.

There are also proposals to extend Metrolink services as part of Pathfinder trial projects to **test tram-train technology**, enabling tram-like vehicles to operate on existing rail lines. Potential locations for trial projects include Altrincham to Hale, Rochdale to Heywood and Manchester Airport to Wilmslow. This would pave the way for further expansion of the rapid transit network in the late plan period.

There are existing commitments to improve the Metrolink network through a **Tram Management System** that will improve capacity through the city centre and the provision of real time passenger information, as well as a **Metrolink Renewals Programme** that will intelligently invest in timely asset replacement.

The network is set to benefit from the further roll-out of **smart, integrated ticketing** which will make it easier for passengers to change between different types of public transport. There are plans to roll out the first phase of contactless smart ticketing payment on Metrolink, simplify fares and introduce zonal charging in early 2019. This commitment to smart ticketing in Greater Manchester fits with the ambition set by Transport for the North to develop a pan-Northern integrated and smart travel programme.

Assessing options for potential **reform of the bus market** is a key priority in the early plan period that could bring significant benefits for residents and passengers. This could include

improvements to routes, frequencies, timetables, fares and quality standards, and could also support the roll-out of smart, integrated ticketing.

TfGM is carrying out an assessment of options for reforming the bus market in Greater Manchester using powers available through the Bus Services Act 2017, with the aim of improving the quality, coverage and performance of the bus network. Options being explored include franchising and partnership-based approaches and, as part of this exercise, TfGM is engaging with bus operators. Following the completion of this assessment and subject to an independent audit of the assessment, the GMCA will decide whether to proceed with a public consultation. The findings will then enable the Greater Manchester Mayor to decide whether or not to proceed with reforming Greater Manchester's bus market.

Another priority in the early plan period will be to explore options for new **Bus Rapid Transit** links, including from the Airport to destinations to the east in Stockport and Cheshire East. An initial options study is currently being led by TfGM, and the proposals have gained further momentum through Stockport, Manchester and Cheshire East Councils' successful application to the Housing Infrastructure Fund (HIF) to develop them. There could also be potential to extend the Guided Busway from Atherton to Hindley and Wigan, if Wigan and Bolton councils succeed in securing funding from the HIF for new road infrastructure. Early phases of a new Bus Rapid Transit corridor linking the M62 North-East Corridor (Northern Gateway) and surrounding towns to the Regional Centre could also be delivered towards the end of the early plan period. An options study in this area is currently being led by TfGM.

There is also potential for a **Quality Bus Transit Corridor between MediaCityUK and Salford Crescent**, exploiting the position of Salford Crescent as a public transport interchange and a focal point for growth adjacent to the University of Salford campus. In the longer term this could include a new Metrolink connection (see 'Late plan period' below).

Major investments on the rail network are also due to be delivered in the early plan period. According to the Department for Transport (DfT), the new Northern and TransPennine Express **rail franchises** are contracted to deliver an additional 40,000 seats every day across the North by December 2019. The Department for Transport will also be renewing the West Coast Partnership, East Midlands and CrossCountry franchises, all of which could bring additional benefits for passengers.

In terms of infrastructure, the **electrification of the Bolton Line** is now nearly complete and plans for upgrading Salford Central station are well advanced. Most significantly, the **upgrade of the Trans-Pennine route to Leeds** is a national priority, with up to £3 billion of investment earmarked by the Secretary of State for short-term delivery. The upgrade of the Trans-Pennine route will deliver capacity, connectivity and journey time improvements. Improvements to the highly constrained **Castlefield corridor**, such as the reconfiguration of Manchester Oxford Road and additional east-west platforms at Manchester Piccadilly, will also need to be delivered to address critical capacity and reliability issues in central Manchester. A Transport and Works Act Order for the improvements to Manchester Oxford Road and Piccadilly is currently awaiting a decision from the Secretary of State.

Beyond this, TfGM are leading a number of studies to understand where further rail improvements are needed, and where Greater Manchester can work with Network Rail and train operators to provide more seats and more journeys. These include routes in Greater Manchester but also look at connections to Lancashire, Cheshire, Yorkshire and across the north. These studies will help inform investment and planning for the future and support economic and growth aspirations. So far, four studies are progressing (CLC; South East Manchester; South Manchester; and Chat Moss and West Coast), which cover all routes to the

south of the Regional Centre. Future studies are planned for North West and North East Manchester, with a final phase considering options to increase network capacity in the Regional Centre itself.

Further rail improvements in the early plan period could also include **increased frequencies on Saturdays and Sundays**, and longer operating hours on weekdays. Both of these could be delivered on the existing rail infrastructure.

There is recognition that there could be a need for a small number of new stations across Greater Manchester to serve the growing demand for travel. These stations will be identified in a **New Stations Study** for both rail and Metrolink, which is currently being led by TfGM. Detailed business cases for the prioritised stations can then be developed to confirm their viability.

TfGM will also continue to work with partners to improve **Park and Ride** facilities and **cycle parking** at stations. Further collaboration with Network Rail is also planned to improve accessibility at prioritised stations, including the introduction of additional lifts, disabled toilets, improved signage and designated help points.

3.1.2 Streets for All

Streets for All is a new way of thinking about the role of streets in creating sustainable, healthy and resilient places, which has been developed by TfGM and the ten local authorities. It focuses on the needs of people and place, rather than just vehicles. This includes the revitalising of town and local centres, tackling congestion and air pollution, increasing levels of walking and cycling, improving local bus services and enabling housing growth, while also addressing the needs of general traffic, including freight.

The **Greater Manchester Congestion Deal** has outlined a series of objectives and actions aimed at reducing congestion in the short term. The actions identified will be implemented over the next few years, including a new Mayor's Challenge Fund for walking and cycling and the purchase of additional trams and associated infrastructure through the Transforming Cities Fund.

Over the next few years, improvement packages for Greater Manchester's network of key local roads will be developed through a series of **Streets for All corridor studies**. These studies will identify a preferred strategy for each corridor, balancing the place and movement function of these key routes. The Streets for All corridor studies will consider a range of interventions, including junction improvements, bus priority, bus stop upgrades, and safe and attractive walking and cycling facilities.

Aside from the Streets for All corridor studies, a range of **capital bus investments** are already due to be delivered in the short term, including further phases of the Salford Bolton Network Improvements, bus stop upgrades on key corridors, and new interchanges in Ashton and Stockport. Bus routing and termination in the city centre will also need to be reviewed to minimise the impact of buses on pedestrian and cyclists, and better integrate the bus network with Metrolink and rail.

In the early plan period, there is also potential for the implementation of **Quality Bus Transit** on selected corridors. Quality Bus Transit involves route upgrades of high-volume, short-distance bus services, with an emphasis on quality and reliability. These routes will incorporate comprehensive bus priority (including segregated sections in congestion hotspots) and high-quality waiting environments.

Turning Greater Manchester into an exemplary **walking and cycling** city-region will also be a key priority, building on recent successes such as the transformation of the Oxford Road

corridor. The new £160 million **Mayor's Challenge Fund** has recently been launched to take forward the ambitions of the Cycling and Walking Commissioner's Made to Move report. A Local Cycling and Walking Infrastructure Plan (LCWIP) is also being prepared to set out a long-term walking and cycling network plan for Greater Manchester. A number of walking and cycling projects in the Study Area have already been allocated funding from the Mayor's Challenge Fund; these can be found on <https://mappinggm.org.uk/beelines>.

Significant investment in town centre access and public realm is also expected in the short term, with well-advanced proposals already identified in Stockport and Oldham town centres. Many of the districts within Greater Manchester have also applied to the Mayor's Town Centre Challenge to deliver town centre improvements, including Farnworth, Prestwich, Swinton, Stockport, Stretford, Leigh and Royton.

3.1.3 New major road infrastructure

The first **smart motorway** in Greater Manchester, between M60 J8 and M62 J20, has recently opened. Further phases of smart motorway to be delivered by Highways England in the short term include M62 J10-12 (underway), M6 J21a-26, M62 J20-25 and M56 J6-8. This period may also see the delivery of some of the interventions emerging from the **Manchester North West Quadrant Strategic Study**, such as improvements to junctions on the M60 and M62.

Further plans for new major road infrastructure that continue to be developed by partners include **new east-west connections in Wigan and Bolton** (potentially funded through the Housing Infrastructure Fund); further phases of the **Western Gateway Infrastructure Scheme** (WGIS) to facilitate major developments at Trafford Waters and Port Salford; and **new link roads at Mottram** to improve trans-Pennine connectivity.

3.1.4 Freight and logistics

Interventions to support the efficient movement of goods around the region continue to be studied, guided by the **Greater Manchester Freight and Logistics Strategy**. In the early plan period, there is the potential for a review of on-street loading and unloading bays and overnight HGV parking to increase the efficiency of freight operations. Collaboration with the freight and logistics industry will be required to develop sustainable distribution, including the consolidation of freight movements in urban areas. The opportunity to introduce rail freight into Port Salford could also be key in establishing it as a tri-modal logistics hub. Improvements to cycling infrastructure also have the potential to encourage the use of bicycles for deliveries in urban centres.

3.1.5 Air quality measures

Following the publication of the UK Air Quality Plan for tackling roadside nitrogen dioxide emissions, TfGM is now leading, on behalf of Greater Manchester's local authorities, a detailed feasibility study to assess options and bring forward a robust **Clean Air Plan** to assist Greater Manchester in meeting EU air quality levels. The Clean Air Plan will set out a package of measures designed not only to achieve EU compliance but to address air pollution as a contributor to ill health and reduce transport-related carbon emissions, protecting both people and the environment. For the latest information on Greater Manchester's Clean Air Plan, please see www.cleanairgm.com.

3.1.6 New transport technologies

TfGM's innovation programme will ensure that Greater Manchester stays at the forefront of transport innovation by delivering a continuing programme of pilots and research. In the early

plan period, this will include studies and trials to explore the benefits of **autonomous vehicles**, **flexible on-demand transport**, and the concept of **Mobility as a Service (MaaS)**. Ongoing trial projects are also exploring how transport infrastructure can be connected to the Internet of Things, including smart bus stops, lighting and air quality monitoring.

Mobility as a Service (MaaS)

Mobility as a Service (MaaS) brings together all the different ways people travel into one, easy-to-use app. It has the potential to make all journeys simpler, quicker and cheaper and make the transport network more efficient.

One of the reasons many people choose a car for trips is that it's seen as 'the easy option' and so MaaS seeks to make public transport the even easier alternative, combining modes and different operators into one seamless journey.

TfGM's plans also include supporting a new **public bike hire** scheme, expanding the **electric vehicle rapid charging network** and support for the consolidation and expansion of **car clubs**.

3.2 Late plan period - 2027-2037

In the late plan period, the focus will be on delivering further transport investments to enable the growth of the region, including those associated with high-speed rail. Major multi-modal improvements will also be delivered to address the most congested parts of the road network, and continue the investment in walking, cycling and public transport.

3.2.1 Public transport

The arrival of **High Speed 2** presents a transformational opportunity for Greater Manchester, particularly at Manchester Airport and Manchester Piccadilly where new high-speed stations will be delivered, and at Stockport and Wigan where HS2 trains will join the existing rail network. The arrival of HS2 trains at Manchester Piccadilly by 2026 and the eventual completion of HS2 infrastructure at Piccadilly and Manchester Airport by 2033 will significantly increase the catchment area of the city-region for businesses and individuals, alongside making the immediate area an attractive location for key growth sectors.

Greater Manchester's ambitions for the HS2 stations at Manchester Piccadilly and Manchester Airport are set out in the recently published Greater Manchester HS2 and NPR Growth Strategy. The prominence of Stockport and Wigan town centres as transport hubs will also increase because of HS2 – and the implications for station design, wider connectivity, and regeneration around the stations will be examined through HS2 Growth Strategies for Stockport and Wigan that will be completed in readiness for 2026.

Greater Manchester's status as a national high-speed rail hub will also be strengthened by the arrival of **Northern Powerhouse Rail (NPR)**, which will place Manchester Piccadilly and Manchester Airport at the heart of a new inter-city rail network for the North, with connections to Liverpool, Leeds, Sheffield and the South. The business case for NPR is currently being developed by Transport for the North, and Greater Manchester's NPR ambitions are set out in the recently published Greater Manchester HS2 and NPR Growth Strategy.

The demand for rapid transit in the Regional Centre is set to increase substantially in the late plan period. Work will therefore continue to deliver a major transformation in the capacity and reach of the rapid transit network, including the delivery of **metro/tram-train services** on existing rail lines to provide much greater frequency and capacity. This could include an **east-**

west city centre tunnel, or equivalent intervention to more than double capacity to and through the city centre.

The case for metro/tram-train services on specific corridors, including to Glossop, Marple, Hazel Grove, and Wigan via Atherton, is currently being studied by TfGM, with a view to implement some of these before a city centre tunnel. However, it is expected that to deliver metro/tram-train services on multiple corridors a city centre tunnel or equivalent capacity solution will be needed. For example, the introduction of metro/tram-train services on the CLC line to Warrington is likely to be deliverable only once a city centre metro tunnel or equivalent solution is delivered.

Whilst metro/tram-train services are potentially transformational solutions, there are significant hurdles to be overcome before tram-train technology can be implemented. Among other issues, there is a need to consider the integration with long-distance rail services, the impact on existing rail franchises, and financial and operational management of the new services. If tram-train solutions turn out to be unviable on certain corridors, capacity improvements to the existing rail network could be delivered in the short-to-medium term instead.

The arrival of HS2 at Manchester Airport will reinforce demand for orbital public transport connections to and from this new nationally significant high-speed rail hub. The HS2 hub is expected to connect to an **Airport Metrolink Western Leg**, which would open up Metrolink access to key growth sites around the Airport, and **metro/tram-train services to Stockport town centre**, potentially using the Mid-Cheshire Line. There is also potential for a new **Bus Rapid Transit** corridor from the Airport HS2 station to **Altrincham**.

There are also proposals for new public transport corridors in the north of Greater Manchester. The late plan period could see the full implementation of a **Bus Rapid Transit** network around the M62 North-East Corridor (Northern Gateway) allocation, connecting it and the surrounding key northern town centres to the Regional Centre. There is also potential to extend the Guided Busway from Leigh to the south of the town, and to Lowton and Golborne.

The late plan period could also see further investment in rapid transit connections to and from The Quays, such as a new **Metrolink connection between Salford Quays and Salford Crescent**; as well as further **extensions to Metrolink lines**, including to **Port Salford**, to **Middleton** and to **Stalybridge**.

Based on the recommendations from the ongoing **New Stations Study**, there is also potential for a number of new stations to be delivered during this period, including to support specific GMSF growth allocations.

3.2.2 Streets for All

In the late plan period, many of the recommendations of the **Streets for All corridor studies** will continue to be implemented, delivering a package of local network improvements that balance the competing needs of different road users and make the best use of the available highway capacity for all.

There will also be a need to build on the early plan period investments in new **walking and cycling** infrastructure by developing a long-term programme of local walking and cycling network improvements. In the Regional Centre, where demand for cycling is likely to be highest this may include further high-quality segregated cycleways. This will be considered in more detail in a new transport strategy for the city centre, which is currently being developed.

3.2.3 New major road infrastructure

On the motorway network, there is likely to be a focus on the **M56 and M56-M60 links**, as Manchester Airport continues to expand and the new HS2 hub is expected to attract new traffic. There is also likely to be a need for improvements to the **south-east quadrant of the M60**, which will require further study.

Transformational investments on the M60 North West Quadrant, the most congested motorway in the country outside of the M25, are the subject of the ongoing **Manchester North West Quadrant Strategic Study**. This study is currently considering interventions, both on and off the motorway network, to accommodate planned growth, improve resilience and reduce congestion. This is likely to include improvements to significantly enhance the capacity, performance and resilience of the motorway network, increased through capacity, and further multi-modal improvements such as rail and bus improvements and Park and Ride. TfGM is currently working with the DfT, Highways England and TfN to progress the Manchester North West Quadrant Study further and make the case for a preferred package of investments both on and off the motorway network.

Off the motorway network, proposals have been put forward for a **new link between the A6 and the M60** near Bredbury, which would connect with the recently completed A6 to Manchester Airport Relief Road. The feasibility and business case for an A6-M60 link is currently being studied by Stockport Council.

3.2.4 New transport technologies

New forms of smart mobility, such as **Mobility as a Service (MaaS)**, could become a part of everyday life for many Greater Manchester residents over the course of the GMSF plan period. As the market for MaaS develops further, the Greater Manchester transport authorities will have an important role to play in guiding the development of MaaS to ensure sustainable travel and deliver improved accessibility.

3.3 Post plan period - 2038 and beyond

In the post plan period, the focus will be on delivering transport investments that continue Greater Manchester's growth at the heart of the Northern Powerhouse. Investments from 2038 and beyond have already been identified by TfGM and the Greater Manchester partners and are currently being studied. Further studies will be undertaken on these over the next few years to understand their feasibility and affordability.

- **Rail:** It is expected that the full delivery of the NPR network will continue from the late plan period into the post plan period.
- **Rapid transit:** Proposals for new rapid transit links, including connections into and across the key town centres, have also been identified, and will continue to be considered in more detail by TfGM over the coming years. The conversion of suburban rail lines to metro/tram-train operations is also likely to continue beyond the GMSF plan period.
- **New major road infrastructure:** Options for a potential Trans-Pennine tunnel between Manchester and Sheffield are currently being studied by Highways England, Transport for the North and Department of Transport. To date, this work has found that the most promising option is a partially tunnelled route on the line of the existing A628, with a supporting package of wider road connectivity enhancements including on the M60, M67 and M1. The delivery of investments to address congestion on the M60 North West and South East quadrants is also likely to continue into the post plan period.

- **New transport technologies:** Fully or largely autonomous vehicles could emerge as a viable technology in the long term. Under the right conditions, these innovations could deliver major benefits, with potential to deliver new and more flexible public transport services in less densely populated areas. The impacts of greater automation are still highly uncertain at present, and the Greater Manchester authorities will need to continue to closely study the potential implications for the future transport system and land use planning.

4 What the future transport system could look like in the Regional Centre Study Area

The Regional Centre is Greater Manchester's primary economic centre, as defined in the 2040 Transport Strategy. It includes the City Centre, The Quays to the west, and the Etihad Campus to the east, among other key growth areas in the core of the city-region.

This section outlines what the transport system in the Regional Centre Study Area could look like in the future, shown by the following time periods:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.
- Post plan period – 2038 and beyond.

The 2040 Transport Strategy has set out the aim of delivering the desired economic growth in the city centre without any further growth in peak period car traffic. This is a major challenge given the level of growth expected through the GMSF.

Growth in the Regional Centre Study Area

The Regional Centre will be at the heart of the planned growth. Some of the largest areas identified for future housing developments include the Piccadilly/Mayfield development area, various locations in The Quays, and the Lower Irk Valley (Manchester Northern Gateway). Large office development locations include HS2 Piccadilly, the University Corridor, and The Quays.

A new transport strategy for the city centre is currently being developed by TfGM, Manchester City Council, Salford City Council and other stakeholders. This new strategy will provide further detail on a number of city centre transport interventions described below.

4.1 Early plan period - 2018-2026

4.1.1 Public transport

Capacity on the Metrolink network is set to expand significantly in the early plan period, with **27 additional trams** announced as part of the Transforming Cities Fund to make the most of the additional capacity provided by the Second City Crossing. The new **Trafford Park Line**, which is currently under construction, will not only provide a new connection into the Western Study Area, but will also provide quicker access into MediaCityUK.

In addition to the Trafford Park Line, there is potential for a **Quality Bus Transit corridor between MediaCityUK and Salford Crescent**, exploiting the position of Salford Crescent as a public transport interchange and a focal point for growth adjacent to the University of Salford campus. There is also potential in the long term for a new Metrolink connection (see Late plan period below).

The GMCA has an intention to provide **increased Metrolink capacity and frequency between Piccadilly and Victoria stations**. The HS2 and NPR Growth Strategy sets out a plan to reposition Metrolink in a new integrated Piccadilly Station which will allow for significant future growth. This would enable additional metro/tram-train service development and further the GMCA's intention to provide direct Metrolink services from Rochdale and Oldham to Piccadilly.

The early plan period could also see further investment in measures to **improve the resilience of the Metrolink network** on critical sections, for example between Cornbrook and Deansgate-Castlefield. There is also potential for a **new Metrolink stop** at Sandhills to serve the Manchester Northern Gateway development.

The rail network is extremely congested around central Manchester and the evidence is overwhelming that to address performance issues and provide greater reliability a number of infrastructure improvements are required. The case has been made and Greater Manchester continues to work with Government to expand and build **Manchester Piccadilly** so that it is fit for purpose for generations to come. A solution must also be found to the **Castlefield Corridor** (the line between Manchester Piccadilly, Oxford Road and Deansgate) ensuring it can carry the number of trains needed to operate in the future. A Transport and Works Act Order for new platforms 15 and 16 at Piccadilly was submitted for consideration by the Secretary of State in 2015, as part of the Northern Hub programme. This process has not yet reached a conclusion, pending further options analysis by Network Rail at the request of the Secretary of State.

A major infrastructure upgrade at **Salford Central** station is planned in the short term to provide additional capacity by re-opening disused platforms and accommodate longer trains.

A **review of bus services** in the city centre is also likely to be undertaken in the early plan period. This review will ensure the city centre has the right balance between terminating and through bus services, minimise the impacts of buses on pedestrian and cyclists, and better integrate the bus network with Metrolink and rail. It is expected that this review would be combined with the potential reform of the bus market across Greater Manchester, subject to a decision by the GMCA and Mayor whether or not to proceed.

4.1.2 Streets for All

Greater Manchester's Streets for All approach to creating sustainable, healthy and resilient places (see Section 3 for details) will be applied in the Regional Centre through a series of corridor studies. These studies will identify a preferred strategy for key roads in the Regional Centre, balancing the place and movement function of these routes. The **Streets for All corridor studies** will start with a review of Deansgate and Whitworth Street.

Prior to the Streets for All corridor studies, a number of committed **road network improvements** are already due to be delivered, including improvements to the A57 Regent Road, Trafford Road, Great Ancoats Street, New Bailey in Salford, and the Mancunian Way/Princess Parkway junction.

A hierarchy of movement through the Regional Centre will need to be established to ensure that walking and cycling is given adequate priority and to complement public realm initiatives. Proposals are currently being considered and assessed as part of the new transport strategy for the city centre, including further high quality segregated cycleways, like those on Chapel Street East. There will also be a need for **further wayfinding and public realm improvements** to create a better environment for pedestrians, particularly where footfall is high. These improvements could be funded by the new £160 million Mayor's Challenge Fund.

4.1.3 Greater Manchester-wide interventions

There are a number of other early plan period interventions, which will be implemented at the Greater Manchester wide scale, which will benefit the Regional Centre Study Area, including:

- Bus reform.
- The Clean Air Plan.

- Smart ticketing.
- The Congestion Deal.
- TfGM's innovation programme.

Please refer to Section 3 for more detail on these Greater Manchester wide interventions.

4.2 Late plan period - 2027-2037

4.2.1 Public transport

The arrival of **HS2** at Manchester Piccadilly by 2033 will have a transformational impact on the Regional Centre. Manchester Piccadilly is not only the largest station in the Regional Centre, but the wider Piccadilly area is also one of the largest commercially-led developments opportunities in the UK. The addition of high-speed services will significantly increase the catchment area of the city for businesses, making the area an attractive location for key growth sector industries that will in turn provide additional jobs. Regional Centre residents will also benefit from the increased and improved services operating from Piccadilly.

The arrival of HS2 and **Northern Powerhouse Rail (NPR)** at Piccadilly represents an opportunity to create a world-class integrated transport hub and to transform the eastern side of the city centre. Greater Manchester's ambitions for the long-term future of Piccadilly are set out in the recently published Greater Manchester HS2 and Northern Powerhouse Rail Growth Strategy. Options for NPR at Manchester Piccadilly continue to be studied by the various stakeholders. At present, pending the outcome of further analysis, it is the view of Greater Manchester that the capacity and connectivity objectives for NPR are best served by a tunnelled NPR station at Piccadilly.

The most transformational intervention within the Regional Centre that is currently being studied is a potential **east-west city centre metro tunnel**, which could be delivered towards the end of the GMSF plan period. This would provide much greater capacity and frequency, both within the tunnel and on existing lines; release capacity at Piccadilly station and at other critical locations such as Salford Quays, and enable the conversion of further suburban rail lines to metro/tram-train operation, which would greatly increase frequencies and improve financial performance.

Towards the end of the GMSF plan period, **metro/tram-train services** could also be delivered on existing rail lines into the city centre. It is expected that to deliver metro/tram-train services on multiple corridors a city centre metro tunnel would be needed. If tram-train solutions turn out to be unviable on certain corridors, capacity improvements to the existing rail network could be delivered instead.

Prior to these transformational investments, in the late 2020s **next generation Metrolink vehicles** could be introduced to increase capacity. Closely linked will be more specific improvements at individual stations such as Cornbrook, and at busy junctions such as the Irk Valley junction, to address capacity constraints and accommodate further growth.

There is also potential to provide a **new Metrolink connection between MediaCityUK and Salford Crescent**, to support the growth of Salford Quays and to encourage mode shift from car to public transport. This intervention could follow the completion of the Quality Bus Transit corridor between MediaCityUK and Salford Crescent discussed in the previous section.

The optimisation of bus routing and termination will continue in the medium term. This is likely to include a **new bus terminus near the HS2 Piccadilly station**. A review of the operation of Metroshuttle services will also need to be undertaken.

4.2.2 Streets for All

Walking and cycling will continue to be a focus in the Regional Centre between 2027 and 2037, with investment planned for key pedestrian and cycle routes in the city centre, Salford Quays and the Etihad area, as well as further investment in wayfinding and public realm. These pedestrian and cycle routes will be developed further through the new transport strategy for the city centre and through the Streets for All corridor studies. They will enable higher proportions of trips to be made by walking and cycling, improve air quality in the Regional Centre, and help to cater for employment and residential growth in the City Centre where car parking provision will be limited.

Important decisions will have to be made to determine the future function of the **Manchester and Salford Inner Relief Route**, including pedestrian and cycling crossing points. Within the city centre, further re-allocation of road space is likely to be required to accommodate the much higher levels of walking and cycling that will result from the levels of growth envisaged by the GMSF.

4.2.3 Greater Manchester-wide interventions

TfGM and the Greater Manchester local authorities will continue to support **smart mobility**, such as Mobility as a Service (MaaS), where this can support the overall vision for the future transport system across Greater Manchester. Please refer to Section 3 for further details.

4.3 Post plan period - 2038 and beyond

Further interventions which could be delivered in the post plan period include:

- **Rail:** It is expected that the full delivery of the NPR network will continue from the late plan period into the post plan period.
- **Streets for All:** At the local level, the implementation of the Streets for All corridor programme and the delivery of a high-quality regional cycle network will also continue beyond the end of the GMSF plan period.
- **New transport technologies:** TfGM and the Greater Manchester local authorities will continue to support smart mobility, such as Mobility as a Service (MaaS) and autonomous vehicle technology, where this can support the overall vision for the future transport system across Greater Manchester. Please refer to Section 3 for further details.

4.4 Regional Centre Study Area interventions summary

The table below summarises the key strategic transport interventions which will improve the network both during and beyond the GMSF plan period.

Regional Centre Study Area key strategic interventions (for illustrative purposes and subject to prioritisation, feasibility and funding)

Early plan period – 2018-2026

- Additional Metrolink trams and associated infrastructure
- Metrolink resilience package
- Completion of the Trafford Park Line to MediaCityUK and the Trafford Centre
- Quality Bus Transit corridor between MediaCityUK and Salford Crescent
- Piccadilly platforms 15-16 and Castlefield corridor rail capacity improvements
- Salford Central station upgrade

- Review of city centre bus routing and termination
- Streets for All corridor studies and improvements, including walking and cycling connections

Late plan period – 2027-2037

- HS2 and Northern Powerhouse Rail station at Piccadilly
- Further Metrolink network improvements, including next generation trams and capacity improvements
- Metrolink connection between Salford Quays and Salford Crescent
- East-west city centre metro tunnel
- Introduction of metro/tram-train services on suburban rail corridors into the city centre
- Further Streets for All improvements identified through the corridor studies, including walking and cycling connections

Post plan period – 2038 and beyond

- Continued implementation of the full Northern Powerhouse Rail network to and from Manchester Piccadilly

5 What the future transport system could look like in the Northern Study Area

The Northern Study Area includes the Boroughs of Rochdale and Bury, as well as parts of Oldham and Manchester. The Northern Study Area includes the principal town centres of Oldham, Rochdale and Bury, as well as local centres such as Prestwich, Middleton and Heywood.

This section outlines what the transport system in the Northern Study Area could look like in the future, shown by the following time periods:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.
- Post plan period – 2038 and beyond.

Growth in the Northern Study Area

A significant amount of land within the Northern Study Area has already been identified for future development. Within the existing land supply, major employment development locations include Central Park in North Manchester, Foxdenton in Oldham and Kingsway Business Park in Rochdale. The existing land supply for housing is dispersed throughout the urban area in Oldham, Rochdale and Bury.

In terms of new allocations, the Northern Study Area includes the M62 North-East Corridor, which contains three major new GMSF allocations identified in the first draft of the GMSF.

5.1 Early plan period - 2018-2026

5.1.1 Public transport

The heavily used Bury Metrolink line will benefit from the additional **Trafford Park-Crumpsall Metrolink service**, as well as the introduction of additional trams and associated infrastructure through the Transforming Cities Fund.

The GMCA has an intention to provide a **direct connection between Manchester Piccadilly and Oldham and Rochdale** to avoid the need to change at Victoria Station, which would require increased Metrolink capacity and frequency between Piccadilly and Victoria stations. The HS2 and NPR Growth Strategy sets out a plan to reposition Metrolink in a new integrated Piccadilly Station which would further the GMCA's intention to provide this connection.

There are also proposals for **additional Park and Ride** capacity along the Oldham, Rochdale and Bury lines to support residential growth allocations identified through the GMSF, for example at stations such as Radcliffe, Whitefield and Rochdale. There is also potential for **new Metrolink stations** on the Bury line to support the Elton Reservoir allocation, and at Cop Road on the Oldham/Rochdale line to support the Beal Valley and Broadbent Moss allocations.

There is potential for a new **Bus Rapid Transit** corridor linking the proposed North East Strategic Transformation and surrounding towns in the Northern Study Area such as Bury, Rochdale, Heywood, Middleton and Oldham to the Regional Centre. The feasibility of different public transport options is currently being investigated by TfGM. It is expected that the majority

of the Bus Rapid Transit network would be delivered in the late plan period as demand builds up, but there could be potential to deliver early phases of the network in the early plan period.

There are also proposals to extend Metrolink services as part of **Pathfinder trial projects to test the case of tram-train technology**. One of these proposals is in the Northern Study Area and considers journeys between Rochdale and Heywood. If a tram-train trial was implemented in this area, services would run on existing Metrolink lines into Rochdale station and then switch onto the rail line to Heywood via Castleton.

On the rail network there is a commitment to improve accessibility at Mills Hill station. There is potential for further upgrades to Rochdale station, including the underpass and platforms. Rochdale station is also set to benefit from **service improvements** delivered through the Northern franchise. According to DfT, additional services are due to be introduced between Bradford and Manchester, providing three trains per hour for most of the day, compared with two currently, served by brand-new diesel trains as part of the Northern Connect network. Moston will also see its half-hourly service restored.

Network Rail is also set to complete its programme of infrastructure improvements to the Calder Valley line shortly. TfGM will be assessing potential means of further improving capacity on the Calder Valley and Huddersfield rail lines through the North East Manchester Rail Study.

5.1.2 Streets for All

Greater Manchester's Streets for All approach to creating sustainable, healthy and resilient places (see Section 3 for details) will be applied in the Northern Study Area through a series of corridor studies. These studies will identify a preferred strategy for key roads in the Northern Study Area, balancing the place and movement function of these routes. It is currently expected that the Streets for All corridor studies will start with a review of the A56, A58 and A671.

The local authorities are currently developing **town centre regeneration proposals** for Oldham, Rochdale and other town centres. In Oldham, initial funding for early priorities has already been allocated through the Greater Manchester Growth Deal and other elements are being developed to secure additional funding. A connectivity and public realm package for Rochdale town centre is currently being developed. There is also potential for interchange and public realm improvements in Heywood town centre, enabled by the construction of the South Heywood link road. Bury and Oldham Councils have also recently submitted proposals for Prestwich and Royton respectively to the Mayor's Town Centre Challenge.

The Northern Study Area could also benefit from the implementation of **Quality Bus Transit** routes, which could include greater bus priority and high-quality waiting environments (see Section 3 for details). There is potential for Quality Bus Transit to be implemented on the Bolton – Bury – Rochdale corridor, as well as the Rochdale – Oldham – Ashton corridor. This will be studied in more detail by TfGM through the Streets for All corridor studies. There are also opportunities to redevelop and improve **Bury Interchange**.

The Northern Study Area is also set to benefit from a range of **walking and cycling** improvements through the new £160 million **Mayor's Challenge Fund**. A number of walking and cycling projects in the Study Area have already been allocated funding from the Mayor's Challenge Fund; these can be found on <https://mappinggm.org.uk/beelines>.

5.1.3 New major road infrastructure

The **smart motorway** on the M60 and M62 as far as Junction 20 has recently opened, and Highways England are planning to begin the extension of the smart motorway across the

Pennines to Junction 25 by 2020. There are also plans to improve the **A663 Broadway/M60 J21 junction**, which would also help to reduce congestion and improve safety.

5.1.4 New local road infrastructure

Already committed transport schemes include the **M62 J19 Link Road**, which will support development in the South Heywood area and kick-start the North East Strategic Transformation development, as well as address existing congestion. This new link road could then be extended onwards to the M66 as the M62 North-East Corridor (Northern Gateway) development comes forward.

Work is underway to identify improvements to **Bury Bridge** and the surrounding road network to address existing problems of congestion and air quality, and accommodate growth due to nearby development. Bury Council have identified a need for an **Elton Reservoir Link Road** to support the Elton Reservoir allocation and to improve wider network resilience in the district. The local highway impacts of other GMSF growth allocations will be considered in detail in the ongoing planning of those allocations at the local level.

5.1.5 Greater Manchester-wide interventions

There are a number of other short-term interventions, which will be implemented at the Greater Manchester-wide scale, which will benefit the Northern Study Area, including:

- Bus reform.
- The Clean Air Plan.
- Smart ticketing.
- The Congestion Deal.
- TfGM's innovation programme.

Please refer to Section 3 for more detail on these Greater Manchester-wide interventions.

5.2 Late plan period - 2027-2037

5.2.1 Public transport

Further capacity improvements on the **Calder Valley line** could be delivered in the medium term, which will be determined through the North East Rail Study. This would help to address existing capacity and frequency issues towards Lancashire and Yorkshire, as well as provide benefits for local commuters in the Northern Study Area. The future service pattern on the Calder Valley line will need to be carefully coordinated with the planned Trans-Pennine Route Upgrade on the Huddersfield Line, which is due to be delivered in the early plan period.

The late plan period could see the full delivery of a **Bus Rapid Transit** network linking the proposed North East Strategic Transformation and surrounding towns in the Northern Study Area such as Bury, Rochdale, Heywood, Middleton and Oldham to the Regional Centre. The feasibility of different public transport options is currently being studied by TfGM.

There is also potential to **extend the rapid transit network from the Regional Centre to Middleton**, which could connect with either the existing Metrolink network, or with the potential North East Strategic Transformation Bus Rapid Transit corridor.

5.2.2 Streets for All

Many of the recommendations of the **Streets for All corridor studies** will continue to be implemented in the medium term, delivering improvements that make the best use of the available highway capacity. This will include further Quality Bus Transit measures on selected high-frequency bus routes.

There will also be a need to build on the short-term investments in **new walking and cycling infrastructure**, by developing a long-term programme of network improvements in the Northern Study Area.

5.2.3 New major road infrastructure

Late plan period investments on the road network are currently being studied by the **Manchester North West Quadrant study** with the aim of addressing severe and long-standing congestion on the M60 and surrounding roads. Within the Northern Study Area this is likely to include improvements to significantly enhance motorway capacity, and further multi-modal improvements, including Park and Ride provision. TfGM is currently working with DfT, Highways England and TfN to progress the Manchester North West Quadrant Study further and make the case for a preferred package of multi-modal investments.

In addition to the local road infrastructure around the M62 North-East Corridor (Northern Gateway) allocation, the local authorities in the Northern Study Area are studying the potential for a **new motorway junction near Birch** to provide direct access to the M62. It is expected that part of M62 North-East Corridor (Northern Gateway) could be delivered without this, but the development of the entire site will require a new junction. Highways England are also considering options for improving **Simister Island**.

There is also the potential for **improvements to the M66**, which could include enhancements to Junctions 2 and 3, a collector-distributor system, an upgrade to smart motorway, or bus priority measures to improve public transport connections, journey times and journey time reliability between Greater Manchester and Lancashire.

5.2.4 Greater Manchester wide interventions

TfGM and the Greater Manchester local authorities will continue to support **smart mobility** solutions, such as Mobility as a Service (MaaS), where this can support the overall vision for the future transport system across Greater Manchester. Please refer to Section 3 for further details.

5.3 Post plan period - 2038 and beyond

Further interventions which could be delivered in the post plan period include:

- **Rapid transit:** There could be potential to upgrade public transport connections between Rochdale, Bury and Bolton further to rapid transit. This would depend on growth in demand making it more financially viable. There is also potential to extend a tram-train trial connection between Rochdale and Heywood, if delivered, further to Bury.
- **Streets for All:** At the local level, the implementation of the Streets for All corridor programme and the delivery of a high-quality regional cycle network will also continue beyond the end of the GMSF plan period.
- **New major road infrastructure:** The implementation of the preferred package of improvements from the Manchester North West Quadrant Study is likely to extend into the long term, particularly if this involves major upgrades to motorway capacity.

- **New transport technologies:** TfGM and the Greater Manchester local authorities will continue to support smart mobility, such as Mobility as a Service (MaaS) and autonomous vehicle technology, where this can support the overall vision for the future transport system. Please refer to Section 3 for further details.

5.4 Northern Study Area interventions summary

The table below summarises the key strategic transport interventions which will improve the network both during and beyond the GMSF plan period.

Northern Study Area key strategic interventions (for illustrative purposes and subject to prioritisation, feasibility and funding)

Early plan period – 2018-2026

- Metrolink improvements, including additional trams and associated infrastructure, increased Park and Ride capacity and potential new stops to support new GMSF developments
- Deliver early phases of a M62 North-East Corridor Bus Rapid Transit
- Streets for All corridor studies and improvements, including Quality Bus Transit on selected high-frequency bus routes and walking and cycling upgrades
- M62 J20-25 Smart Motorway
- M62 J19 Link Road
- Elton Reservoir Link Road
- Redevelopment and/or improvements to Bury Interchange
- Calder Valley Line speed improvements

Late plan period – 2027-2037

- Bus Rapid Transit corridor connecting the North East Strategic Transformation and surrounding towns to the Regional Centre
- Rapid transit extension to Middleton
- Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements
- Highway improvements associated with North East Strategic Transformation development sites
- North East Manchester Rail Study improvements

Post plan period – 2038 and beyond

- Rapid transit corridor between Rochdale, Bury and Bolton
- Continued implementation of the Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements

GMSF allocations summary (as identified in the first draft of the GMSF)

- **Existing urban area:** Rail and Metrolink improvements, introduction of Bus Rapid Transit corridors, extensive road network improvements including motorways
- **M62 North-East Corridor (Northern Gateway):** Rapid transit corridor connecting to the Regional Centre and surrounding towns, connections to the motorway network, upgrading of Simister Island, walking and cycling routes, exploration of a potential rail freight spur

- **M62 North-East Corridor (Stakehill):** Improved public transport connections, new walking and cycling routes
- **M62 North-East Corridor (Kingsway South):** Access to the M62 and Kingsway Business Park, improved Metrolink and bus connections, new walking and cycling routes
- **OA2 Elton Reservoir:** New Metrolink stop, new link road, new walking and cycling routes
- **OA3 Walshaw:** New walking and cycling routes, new highway access, enhancements to public transport
- **OA4 Holcombe Brook:** Enhancements to public transport, walking and cycling
- **OA5 Seedfield:** Enhancements to public transport, walking and cycling
- **OA8 Broadbent Moss:** New Metrolink stop at Cop Road, potential highway improvements, walking and cycling
- **OA9 Cowlshaw:** Enhancements to public transport, walking and cycling
- **OA10 Hanging Chadder:** Enhancements to public transport, walking and cycling
- **OA11 Beal Valley:** New Metrolink stop at Cop Road, potential highway improvements, walking and cycling
- **OA13 Bamford/Norden:** Enhancements to public transport, walking and cycling
- **OA14 Land in Roch Valley:** Enhancements to public transport, walking and cycling routes to Smithy Bridge station
- **OA15 Trows Farm, Castleton:** Enhancements to public transport, walking and cycling routes to Castleton station
- **OA16 Land to the North East of Smithy Bridge:** Enhancements to public transport, walking and cycling routes to Littleborough and Smithy Bridge stations
- **OA17 Land at Lane End, East of Heywood:** Enhancements to public transport, walking and cycling

6 What the future transport system could look like in the Eastern Study Area

The Eastern Study Area includes the Borough of Tameside, as well as parts of Stockport, Oldham and Manchester. The Eastern Study Area includes the principal town centre of Ashton-under-Lyne, as well as local centres such as Hyde, Stalybridge and Denton.

This section outlines what the transport system in the Eastern Study Area could look like in the future, shown by the following time periods:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.
- Post plan period – 2038 and beyond.

Growth in the Eastern Study Area

The Eastern Study Area has a range of already identified development sites within the existing land supply for housing, office and industrial/warehousing use. There are significant concentrations of small to medium-size development sites in Ashton, Droylsden, Hyde and Mossley.

In terms of new allocations, the Eastern Study Area includes the Eastern Gateway, which consists of a number of new allocations identified in the first draft of the GMSF. The largest of these is the Ashton Moss / Little Moss allocation in Tameside.

6.1 Early plan period - 2018-2026

6.1.1 Public transport

Work is already underway to redevelop the **Tameside Interchange** in Ashton-under-Lyne. The new interchange will be built on the existing Ashton Bus Station site and have direct links to Metrolink, making it much easier to change between Metrolink and bus, as well as offering an attractive gateway to the town.

The GMCA has an intention to provide a **direct connection between Manchester Piccadilly and Oldham and Rochdale** to avoid the need to change at Victoria Station, which would require increased Metrolink capacity and frequency between Piccadilly and Victoria stations. The HS2 and NPR Growth Strategy sets out a plan to reposition Metrolink in a new integrated Piccadilly Station which would further the GMCA's intention to provide this connection.

According to DfT, the Northern Franchise is due to deliver major benefits to passengers in the short term. On the Hadfield and Glossop line, the current trains are due to be replaced by brand **new electric trains** by 2020, increasing capacity. On the Manchester to Sheffield line, a full hourly Northern stopping service is due to be provided, giving 17 trains per day in each direction (six more than today) while all intermediate stations will continue to receive a minimum of 11 trains per day each way. TfGM will be assessing ways to further improve capacity on rail lines in the Eastern Study Area through the South East Manchester Rail Study.

The **TransPennine Route Upgrade**, a national priority for the Secretary of State, will provide major journey time, capacity and frequency improvements on the TransPennine line to Leeds, although it is expected that the additional capacity will mainly benefit inter-city services between

Leeds, Huddersfield and Manchester, rather than local services in the Eastern Study Area. Electrification between Manchester and Stalybridge could be delivered as part of this upgrade, or could be delivered separately to provide additional capacity on this key commuter corridor.

Improving the **accessibility of existing stations** such as Hattersley is also proposed to provide access to the Godley Green allocation identified in the first draft of the GMSF.

6.1.2 Streets for All

Greater Manchester's Streets for All approach to creating sustainable, healthy and resilient places (see Section 3 for details) will be applied in the Eastern Study Area through a series of corridor studies. These studies will identify a preferred strategy for key roads balancing the place and movement function of these routes. It is currently expected that the **Streets for All corridor studies** will start with a review of the A57 and the A627.

The Eastern Study Area could also benefit from the implementation of **Quality Bus Transit** routes, including greater bus priority and high-quality waiting environments (see Section 3 for details). There is potential for Quality Bus Transit to be implemented on the Rochdale – Oldham – Ashton corridor, as well as the Ashton – Hyde – Stockport corridor. This will be studied in more detail by TfGM through the Streets for All corridor studies.

Aside from the Streets for All corridor studies, there is already a commitment to deliver localised widening to **address a pinch point on the A57 Hyde Road** in Manchester. Tameside Council has also recently submitted a proposal for Stalybridge to the Mayor's Town Centre Challenge.

The Eastern Study Area is also set to benefit from a range of **walking and cycling** improvements through the new £160 million **Mayor's Challenge Fund**. A number of walking and cycling projects in the Study Area have already been allocated funding from the Mayor's Challenge Fund; these can be found on <https://mappinggm.org.uk/beelines>.

6.1.3 New major road infrastructure

On the road network, the Eastern Study Area is set to benefit from the delivery of Highways England's **Mottram Moor and A57(T) link roads** and other interventions within the A57/A628 Trans-Pennine Upgrade package, which will reduce journey times between Manchester and Sheffield, provide more reliable journey times and improve safety.

6.1.4 Greater Manchester wide interventions

There are a number of other early plan period interventions, which will be implemented at the Greater Manchester-wide scale, which will benefit the Eastern Study Area, including:

- Bus reform.
- The Clean Air Plan.
- Smart ticketing.
- The Congestion Deal.
- TfGM's innovation programme.

Please refer to Section 3 for more detail on these Greater Manchester-wide interventions.

6.2 Late plan period - 2027-2037

6.2.1 Public transport

Towards the end of the GMSF plan period, **metro/tram-train services** could be delivered on existing rail lines into the city centre, potentially including the Glossop or Marple lines. Metro/tram-train services could provide much greater capacity and frequency and could also improve the financial performance of the network. It is expected that to deliver metro/tram-train services on multiple corridors, a more radical long-term capacity solution in the city centre, such as a city centre metro tunnel, will be needed. If tram-train solutions turn out to be unviable on certain corridors, capacity improvements to the existing rail network could be delivered instead. Separately, there is also potential to extend the Ashton **Metrolink line to Stalybridge**.

The rail network in the Eastern Study Area will also benefit from the delivery of the **Northern Powerhouse Rail** network towards the end of the late plan period. Although the NPR network will not have any stations in the Eastern Study Area, the new network could provide opportunities for released local rail capacity for local commuters through a new line via Bradford, potentially freeing up capacity for more trains to destinations such as Ashton and Stalybridge.

6.2.2 Streets for All

Many of the recommendations of the **Streets for All corridor studies** will continue to be implemented in the medium term, delivering improvements that make the best use of the available highway capacity. This will include further Quality Bus Transit measures on selected high-frequency bus routes.

There will also be a need to build on the early plan period investments in **new walking and cycling infrastructure**, by developing a long-term programme of local walking and cycling network improvements in the Eastern Study Area.

6.2.3 Investment in new major road infrastructure

Following the completion of the Mottram Moor and A57(T) link roads in the early plan period, it is expected that there could still be a need for **further measures to tackle congestion in the Longdendale area** and improve **Denton Island**, to accommodate additional traffic generated by new development within the M67/A57 corridor. The need for further interventions can be studied in more detail once Highways England's short-term plans for the Mottram Moor and A57(T) link roads are delivered.

There is also likely to be a need for further **improvements to the south-east quadrant of the M60**, which will require further study.

6.2.4 Greater Manchester-wide interventions

TfGM and the Greater Manchester local authorities will continue to support **smart mobility**, such as Mobility as a Service (MaaS), where this can support the overall vision for the future transport system. Please refer to Section 3 for further details.

6.3 Post plan period - 2038 and beyond

Further interventions which could be delivered in the post plan period include:

- **Rapid transit:** There could be potential to upgrade public transport connections between Stockport, Ashton and Oldham further to rapid transit, depending on future growth increasing ridership making it more financially viable.
- **Northern Powerhouse Rail:** It is expected that the full delivery of the NPR network will continue from the late plan period into the post plan period.
- **Trans-Pennine Tunnel:** Highways England, the Department of Transport and Transport for the North are currently developing proposals for a Trans-Pennine Tunnel between Manchester and Sheffield. To date, this work has found that the most promising option is a partially tunnelled route on the line of the existing A628, with a supporting package of wider road enhancements, including on the M60, M67 and M1.
- **Streets for All:** The implementation of the Streets for All corridor programme and the delivery of a high-quality regional cycle network will also continue beyond the end of the GMSF plan period. Improvements to local highways will also be needed to support the proposed Trans-Pennine Tunnel or alternative strategic highway upgrade.
- **New transport technologies:** TfGM and the Greater Manchester local authorities will continue to support smart mobility, such as Mobility as a Service (MaaS) and autonomous vehicle technology, where this can support the overall vision for the future transport system. Please refer to Section 3 for further details.

6.4 Eastern Study Area interventions summary

The table below summarises the key strategic transport interventions which will improve the network both during and beyond the GMSF plan period.

Eastern Study Area key strategic interventions (for illustrative purposes and subject to prioritisation, feasibility and funding)

Early plan period – 2018-2026

- Tameside Interchange
- Rail improvements through the Northern franchise, e.g. new trains on the Glossop Line
- Trans-Pennine rail upgrade to Leeds
- Streets for All corridor studies and improvements, including Quality Bus Transit on selected high-frequency bus routes and walking and cycling upgrades
- Mottram Moor and A57 Link Roads
- South East Manchester Rail Study improvements

Late plan period – 2027-2037

- Further measures to address congestion in the Longdendale area
- Measures to address congestion on the south-east quadrant of the M60 through Stockport
- Introduction of metro/tram-train services on suburban rail corridors into the city centre, including on the Glossop and Marple lines
- Metrolink extension to Stalybridge

Post plan period – 2038 and beyond

- Rapid transit corridor between Stockport, Ashton and Oldham
- Trans-Pennine Tunnel to Sheffield and wider connectivity enhancements

GMSF allocations summary (as identified in the first draft of the GMSF)

- **Existing urban area:** Metrolink network improvements, Streets for All corridor upgrades including Quality Bus Transit and walking and cycling improvements, upgrades to M67/A57(T) corridor
- **EG1 Little Moss/Ashton Moss:** New station at Droylsden, connections to the Ashton Metrolink line, new walking and cycling connections
- **EG2 Bredbury Park Extension:** Improved access for HGVs, network improvements on the A560, improved walking and cycling connections
- **EG3 Godley Green:** Hattersley station south facing access, walking and cycling connections to Hattersley and Godley stations
- **OA12 Robert Fletchers:** New highways and public transport infrastructure, enhanced walking and cycling infrastructure
- **OA25 South Tameside:** Enhanced walking and cycling infrastructure
- **OA26 Mottram M67 North and South:** Mottram Moor and A57 Link Roads, enhanced walking and cycling infrastructure
- **OA27 North Ashton-under-Lyne:** Enhanced walking and cycling infrastructure

7 What the future transport system could look like in the Southern Study Area

The Southern Study Area includes the majority of the Borough of Stockport, the eastern part of Trafford, and southern sections of Manchester. The Southern Study Area includes Manchester Airport and the principal town centre of Stockport and Altrincham, as well as local centres such as Wythenshawe, Cheadle and Hazel Grove.

This section outlines what the future transport system in the Southern Study Area could look like in the future, shown by the following time periods:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.
- Post plan period – 2038 and beyond.

In parallel with the GMSF Transport Study, the South East Manchester Multi-Modal Strategy (SEMMMS) is currently being refreshed, led by Stockport and Cheshire East councils. The refreshed SEMMMS will be a 20-year, multi-modal strategy, covering the south east of Greater Manchester as well as parts of Cheshire and Derbyshire. A draft of the new SEMMMS has recently been published for public consultation, and the final Strategy is due to be adopted by Cheshire East and Stockport Councils by the end of the year.

Growth in the Southern Study Area

The Southern Study Area includes a range of major development sites that are already part of Greater Manchester's existing land supply. Examples of key existing housing development locations include Stockport town centre and the former Woodford Aerodrome. The area surrounding Manchester Airport is a key location for employment development in the Southern Study Area.

In terms of new allocations, the first draft of the GMSF proposed an Airport Gateway in the Southern Area, as well as various other growth allocations in Stockport.

7.1 Early plan period - 2018-2026

7.1.1 Public transport

On the Metrolink network, there are plans for **extending the Manchester Airport line to an upgraded and expanded Terminal 2**. These plans continue to be developed further by TfGM to secure funding from central Government. There is also potential to **extend the Airport line from Roundthorn to Davenport Green**, in advance of a complete Metrolink Airport Western Leg in the late plan period to connect to the Airport HS2 station.

There are also proposals to extend Metrolink services as part of **Pathfinder trial projects to test the case of tram-train technology**. In the Southern Study Area options for a tram-train trial include between Altrincham and Hale, and between Manchester Airport and Wilmslow. Work is also underway to develop early route alignments for potential metro/tram-train services into Stockport town centre and Hazel Grove, which could potentially be delivered towards the late 2020s (see 'Late plan period' below).

Another early plan period priority will be to explore options for new **Bus Rapid Transit links from the Airport to the east**, including major housing developments in Stockport Borough and Cheshire East. An initial options study is currently being led by TfGM, and the proposals have recently gained further momentum through Stockport, Manchester and Cheshire East Council's successful application to the Housing Infrastructure Fund to develop them further. There is also potential to introduce a new bus corridor between Altrincham and Carrington.

The Northern **franchise improvements**, as announced previously by DfT, include more frequent services to and from New Mills New Town (two trains per hour), Hazel Grove (four trains per hour), and Northwich via Altrincham (two trains per hour), as well as faster journeys between Buxton and Manchester. As part of the TransPennine Express franchise, Manchester Airport is set to benefit from two additional services per day to Middlesbrough, and a reinstated direct link to Newcastle.

Beyond these commitments, TfGM will also assess the potential to improve **rail capacity** on lines in the Southern Study Area through both the South Manchester and the South East Manchester Rail Studies. The South Manchester Rail Study will also assess the requirements and impacts for ensuring the rail network in this area of Greater Manchester is ready for the arrival of HS2 services.

The **Stockport Station Masterplan**, recently published by Stockport Council, has identified further proposals for the redevelopment of the station and surrounding area. There are also plans for an improved cycling and walking link between the Interchange and the Station.

The **Stockport HS2 Growth Strategy** will prepare the area for HS2 and seek to address medium-term capacity constraints on the West Coast Main Line. These constraints will become more pressing between 2027 and 2033, when HS2 trains will arrive from Crewe, but new infrastructure to Piccadilly will not yet be complete. An early priority will be to **address rail capacity constraints south of Stockport station** (including Greek Street bridge), to deliver improvements for national rail, HS2, and potential future metro/tram-train services.

There is also likely to be a need to **re-model Manchester Airport station** in order to preserve Manchester Airport's excellent rail connectivity, particularly to accommodate longer trains which will be required to meet increasing demand in the Regional Centre, and to future-proof Manchester Airport for increased passenger numbers.

7.1.2 Streets for All

Greater Manchester's Streets for All approach to creating sustainable, healthy and resilient places (see Section 3 for details) will be applied in the Southern Study Area through a series of corridor studies. These studies will identify a preferred strategy for key roads in the Southern Study Area, balancing the place and movement function of these routes. It is currently expected that the **Streets for All corridor studies** will start with a review of the A6 between Manchester, Stockport town centre and Hazel Grove.

The Southern Study Area could also benefit from the implementation of **Quality Bus Transit** routes, including greater bus priority and high-quality waiting environments (see Section 3 for details). There is potential for Quality Bus Transit to be implemented between Stockport town centre and Ashton. This will be studied in more detail by TfGM through the Streets for All corridor studies.

In Stockport, there are already well-advanced proposals to transform and regenerate the town centre. The redevelopment of the **Stockport Interchange** is due to commence shortly. The benefits from the new interchange will be supported by the **Stockport Town Centre Access**

Plan, a £73 million project which will improve access to the town centre, the M60 and the rail station.

Outside of the town centre, Stockport Council are examining **options for improving the local road network through the SEMMMS refresh**, including potential improvements to the A34 corridor. Once the SEMMMS refresh is complete, the preferred package of interventions can be implemented using the Streets for All approach.

The Southern Study Area is also set to benefit from a range of **walking and cycling** improvements through the new £160 million **Mayor's Challenge Fund**. A number of walking and cycling projects in the Study Area have already been allocated funding from the Mayor's Challenge Fund; these can be found on <https://mappinggm.org.uk/beelines>.

7.1.3 Investment in new major road infrastructure

The A6 to Manchester Airport Relief Road (A6MARR) has recently opened, provide much-needed connectivity for key strategic routes into the North West and to Manchester Airport.

Highways England are planning to upgrade the M56 between Junctions 6 and 8 to **smart motorway**, with construction due to start in early 2019.

7.1.4 Greater Manchester-wide interventions

There are a number of early plan period other interventions, which will be implemented at the Greater Manchester-wide scale, which will benefit the Southern Study Area, including:

- Bus reform.
- The Clean Air Plan.
- Smart ticketing.
- The Congestion Deal.
- TfGM's innovation programme. As part of this an autonomous vehicle pilot between Stockport station and the Airport is due to commence shortly.

Please refer to Section 3 for more detail on these Greater Manchester-wide interventions.

7.2 Late plan period - 2027-2037

7.2.1 Public transport

The arrival of **HS2** at Manchester Airport by 2033 will have a transformational impact on the rail network in the Southern Study Area. Manchester Airport is already the UK's principal international gateway outside of London and the addition of high-speed services will significantly increase its catchment area. This increased accessibility will bring more people and businesses within commuting distance of the Airport, therefore increasing its importance as a key transport hub, including for Metrolink, buses and coaches.

There will be an urgent need to address medium-term capacity constraints on the **West Coast Main Line** between 2026 and 2033, when HS2 trains will arrive from Crewe, but new infrastructure to Manchester Airport and Piccadilly will not yet be complete. TfGM's South Manchester Rail Study (see early plan period above) will determine a preferred package of improvements to enable the arrival of HS2, balancing the needs of local and long-distance services. After 2033, Stockport's aspiration is to retain HS2 services to the south alongside Manchester Airport, with Stockport Station retaining its status as a National Hub.

The high-speed hub at Manchester Airport is also expected to become part of the **Northern Powerhouse Rail** network, making it an even more important interchange. HS2 will not provide local services between Piccadilly and the Manchester Airport high-speed station, but NPR is likely to provide these. Further detail on Greater Manchester's aspirations for HS2 and NPR connectivity at Manchester Airport can be found in the Greater Manchester HS2 and NPR Growth Strategy.

Building on the Manchester Airport HS2 hub, further expansion of the Metrolink network can be pursued in the late plan period, including the completion of an **Airport Metrolink Western Leg**. This Metrolink extension would enable the development of the Airport Gateway and provide sustainable transport connections to key growth sites.

There is also potential for a **new Metrolink station near Stockport station**. This would provide new rapid transit connections from Stockport town centre to the wider Greater Manchester area, including **to Manchester Airport** (potentially along the Mid-Cheshire Line by using tram-train technology). Proposals for extending the Metrolink network to Stockport town centre continue to be studied by TfGM.

Future phases of **Bus Rapid Transit from Manchester Airport to the east** are likely to be delivered during the late plan period to support growth in Stockport and Cheshire East, building on those being delivered in the early plan period. A **rapid transit corridor between Manchester Airport and Altrincham** could also be developed to provide a more attractive alternative to the car for orbital journeys between these key centres. There is also potential to upgrade the bus corridor between Altrincham and Carrington outlined in the early plan period to Quality Bus Transit.

Towards the end of the GMSF plan period, **metro/tram-train services** could be delivered on existing rail lines into the city centre, potentially including to **Marple and Hazel Grove / Stockport**. Metro/tram-train services could provide much greater capacity and frequency, and could also improve the financial performance of the network. It is expected that in order to deliver metro/tram-train services on multiple corridors, a more radical long-term capacity solution in the city centre, such as a city centre metro tunnel, will be needed. If tram-train solutions turn out to be unviable on certain corridors, capacity improvements to the existing rail network could be delivered instead.

7.2.2 Streets for All

Many of the recommendations of the **Streets for All corridor studies** will continue to be implemented in the medium term, delivering improvements that make the best use of the available highway capacity. This will include further Quality Bus Transit measures on selected high-frequency bus routes.

There will also be a need to build on the early plan period investments in **new walking and cycling infrastructure**, by developing a long-term programme of local walking and cycling network improvements in the Southern Study Area.

7.2.3 New major road infrastructure

The high-speed station at Manchester Airport will need to be appropriately connected to the road network, which will require new and upgraded infrastructure along the **M56**, as well as the **M56-M60 links** and the surrounding road network.

Significant surface access improvements will be required to facilitate the future growth of Manchester Airport. Manchester Airport are committed to delivering improvements to junctions

and local roads around the Airport. The timing of these works is dependent on passenger growth and the works would need to be integrated with the plans for the HS2 Airport station.

As part of the SEMMMS refresh, there are also proposals for a **new link between the A6 and the M60** near Bredbury, which would connect with the recently completed A6 to Manchester Airport Relief Road. The feasibility and business case for the link is currently being prepared by Stockport Council. A new link between the A6 and the M60 could in turn enable a radical redesign of the existing A6 corridor, with much greater priority for pedestrians, cyclists and bus passengers than is currently feasible.

There is also likely to be a need for further **improvements to the south-east quadrant of the M60**, which will require further study.

7.2.4 New local road infrastructure

Stockport Council are currently also considering options to address the **Bredbury rail bridge** height restriction, which makes it difficult for HGVs to access the Bredbury Industrial Estate.

7.2.5 Greater Manchester-wide interventions

TfGM and the Greater Manchester local authorities will continue to support **smart mobility** solutions, such as Mobility as a Service (MaaS), where this can support the overall vision for the future transport system across Greater Manchester. Please refer to Section 3 for further details.

7.3 Post plan period - 2038 and beyond

Further interventions which could be delivered in the post plan period include:

- **Rail:** It is expected that the full delivery of the NPR network will continue from the late plan period into the post plan period. Beyond the plan period, there is also potential for a new western link to connect Manchester Piccadilly and the Airport to North Cheshire and North Wales.
- **Rapid transit:** There could be potential to provide new rapid transit connections from Stockport to Ashton, and from the Airport to Carrington (and onwards to Irlam), depending on growth in demand making it more financially viable.
- **Investment in new road infrastructure:** Further long-term highway measures to be delivered in the post plan period will be identified through the refreshed SEMMMS Strategy. This could include additional capacity on key roads into Derbyshire and Cheshire, subject to feasibility and environmental constraints.
- **Streets for All:** At the local level, the implementation of the Streets for All corridor programme and the delivery of a high-quality regional cycle network will also continue beyond the end of the GMSF plan period.
- **New transport technologies:** TfGM and the Greater Manchester local authorities will continue to support smart mobility solutions, such as Mobility as a Service (MaaS) and autonomous vehicle technology, where this can support the overall vision for the future transport system across Greater Manchester. Please refer to Section 3 for further details.

7.4 Southern Study Area interventions summary

The table below summarises the key strategic transport interventions which will improve the network both during and beyond the GMSF plan period.

Southern Study Area key strategic interventions (for illustrative purposes and subject to prioritisation, feasibility and funding)

Early plan period – 2018-2026

- Manchester Airport Metrolink extension to Terminal 2 and rail station remodelling
- Manchester Airport Metrolink extension from Roundthorn to Davenport Green
- Manchester Airport Eastern Bus Rapid Transit
- Stockport Interchange and Town Centre Access Plan
- Delivery of the Stockport Station Masterplan
- Streets for All corridor studies and improvements, including Quality Bus Transit on selected high-frequency bus routes and walking and cycling upgrades
- M56 J6-8 smart motorway
- Priorities identified in the South East Manchester Multi-Modal Study (SEMMMS) refresh
- New bus corridor between Altrincham and Carrington
- South Manchester Rail Study improvements
- South East Manchester Rail Study improvements

Late plan period – 2027-2037

- HS2 at Stockport station
- New HS2 and NPR station at Manchester Airport
- New rapid transit connections to the Manchester Airport HS2 hub, including the completion of an Airport Metrolink Western Leg, and further orbital rapid transit connections including to Stockport town centre and Altrincham
- A6 to M60 Link Road
- Measures to address congestion on the south-east quadrant of the M60 through Stockport
- Manchester Airport expansion highway improvements
- Introduction of metro/tram-train services on suburban rail corridors into the city centre, e.g. to Marple and Hazel Grove

Post plan period – 2038 and beyond

- Rapid transit corridors from Stockport to Ashton, and from the Airport to Carrington (and potentially onwards to Irlam)
- Airport Western link
- Further long-term interventions emerging from the SEMMMS refresh

GMSF allocations summary (as identified in the first draft of the GMSF)

- **Existing urban area:** Metrolink network improvements, multi-modal improvements identified through the SEMMMS refresh, improved connections with the HS2 hubs at Manchester Airport and Stockport
- **AG1 Airport City South:** Manchester Airport expansion highway improvements, M56 smart motorway and capacity improvements
- **AG2 Roundthorn Medipark Extension:** Airport Metrolink Western Leg, enhanced walking and cycling connections
- **AG3: Timperley Wedge, Davenport Green:** Airport Metrolink Western Leg, Altrincham-Airport Bus Rapid Transit, enhanced walking and cycling connections, new road infrastructure

- **OA7 Southwick Park:** Enhanced walking and cycling connections
- **OA20 Woodford:** Airport Eastern Bus Rapid Transit, enhanced walking and cycling connections
- **OA21 High Lane:** A6 improvements, enhanced walking and cycling connections
- **OA22 Land off A34:** Airport Eastern Bus Rapid Transit, enhanced walking and cycling connections, new access onto the A34
- **OA23 Heald Green:** Airport Eastern Bus Rapid Transit, enhanced walking and cycling connections

8 What the future transport system could look like in the Western Study Area

The Western Study Area includes the western half of the Borough of Trafford and the southern half of the City of Salford. The Western Study Area includes local centres such as Eccles, Irlam, Urmston and Partington.

This section outlines what the transport system in the Western Study Area could look like in the future, shown by the following time periods:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.
- Post plan period – 2038 and beyond.

Growth in the Western Study Area

The Western Study Area is the location of several key strategic sites already identified in Greater Manchester. For example, the existing employment land supply includes major industrial/warehousing development at Port Salford and the former Shell Chemical Works at Carrington. Major existing housing land includes the Carrington Strategic Site, Trafford Waters, and Wharfside (Trafford Park).

In terms of new allocations, the most important development sites in the Western Study Area will be found in the Western Gateway, which consists of four sites identified in the first draft of the GMSF. The largest of these is New Carrington in Trafford.

8.1 Early plan period - 2018-2026

8.1.1 Public transport

Major public transport investment in the Western Study Area is already underway with the construction of the **Trafford Park Line**, which is scheduled for completion by 2020. The £350m new line will have six new tram stops, offering fast, frequent connections to jobs, leisure, shopping and cultural destinations. Importantly, the service will also offer faster journey times from the city centre to MediaCityUK compared to the Eccles line, and additional capacity.

There is potential for the creation of a **rail connection into Port Salford**, creating an inland tri-modal port. TfGM will also investigate potential opportunities to improve capacity on the Chat Moss and West Coast Mainline rail lines in the Western Study Area through the Chat Moss and West Coast Rail Study.

There is also potential to introduce a new **priority bus corridor** to support the New Carrington growth allocation, subject to further study to investigate future demand in the Carrington area.

8.1.2 Streets for All

Greater Manchester's Streets for All approach to creating sustainable, healthy and resilient places (see Section 3 for details) will be applied in the Western Study Area through a series of corridor studies. These studies will identify a preferred strategy for key roads in the Western Study Area, balancing the place and movement function of these routes. It is currently expected

that the **Streets for All corridor studies** will start with a review of the A56 from Manchester to Altrincham.

Trafford Council has also recently submitted a proposal for Stretford to the Mayor's Town Centre Challenge.

The Western Study Area is also set to benefit from a range of **walking and cycling** improvements through the new £160 million **Mayor's Challenge Fund**. A number of walking and cycling projects in the Study Area have already been allocated funding from the Mayor's Challenge Fund; these can be found on <https://mappinggm.org.uk/beelines>.

8.1.3 New major road infrastructure

Various road schemes in the Western Study Area are already in advanced stages of planning and are expected to commence delivery in the early plan period. Further phases of the **Western Gateway Infrastructure Scheme (WGIS)** will be key to facilitating the growth of Port Salford as a key part of the city-region's Western Gateway. Phase 1 of WGIS has already been completed, and further phases are being planned to provide additional capacity and connectivity for major development at Trafford Waters and Port Salford.

The conversion of the M62 between Junctions 10 and 12 to **smart motorway** has also commenced. This will provide capacity for growth and reduce congestion.

The early plan period may also see delivery of smaller-scale interventions emerging from the **Manchester North West Quadrant Strategic Study**, which aims to address severe and long-standing congestion on the M60 and surrounding roads. The study is currently considering a package of interventions, both on and off the motorway network, to accommodate planned growth, improve resilience and reduce congestion. Interventions in the early plan period may include changes to M60 Junctions 12 to 14.

8.1.4 New local road infrastructure

Alongside those strategic road investments discussed above there are numerous local road investments that will benefit communities in the Western Study Area. Improvements to the bus network are being considered in the context of planned development, including the potential for a **priority bus corridor** to New Carrington (see above). Partial funding has also been identified for a **Carrington Relief Road**, to support the New Carrington allocation by improving access to the site.

8.1.5 Greater Manchester-wide interventions

There are a number of other early plan period interventions, which will be implemented at the Greater Manchester-wide scale, which will benefit the Western Study Area, including:

- Bus reform.
- The Clean Air Plan.
- Smart ticketing.
- The Congestion Deal.
- TfGM's innovation programme.

Please refer to Section 3 for more detail on these Greater Manchester-wide interventions.

8.2 Late plan period - 2027-2037

8.2.1 Public Transport

Delivering capacity improvements on the **CLC Line** to Warrington Central – one of the most crowded at present – would provide existing and future communities in Irlam, Flixton and Urmston with a high-quality public transport option, thereby relieving pressure on congested roads such as the A57 and M60. TfGM are currently leading a study to investigate options for delivering this. There is also potential for improvements on the **Chat Moss Line**, which would benefit local commuters at Eccles and Patricroft.

Depending on growth, the new Trafford Park line could be **extended to Salford Stadium and/or Port Salford** in the late plan period. This extension could include a strategic Park and Ride site close to the M62. This will be studied in more detailed as part of the ongoing Manchester North West Quadrant Study.

The proposed **Northern Powerhouse Rail** network is expected to transform city-to-city rail towards the end of the late plan period. The vision for the NPR network set out in Transport for the North's Strategic Transport Plan includes a dedicated new high-speed line to Liverpool via Manchester Airport and Warrington. If this is delivered, this could in turn pave the way for more frequent local services on the CLC and Chat Moss lines.

8.2.2 Streets for All

Many of the recommendations of the **Streets for All corridor studies** will continue to be implemented in the medium term, delivering improvements that make the best use of the available highway capacity.

There will also be a need to build on the early plan period investments in **new walking and cycling infrastructure**, by developing a long-term programme of local walking and cycling network improvements in the Western Study Area.

8.2.3 New major road infrastructure

Late plan period transformational investments on the road network are currently being studied by the **Manchester North West Quadrant study**. In the late plan period, interventions could include improvements to significantly enhance the capacity of the motorway network, along with further multi-modal improvements such as Park and Ride. There is also potential for a **new M62 junction** to support the growth of Port Salford. TfGM is currently working with the Department for Transport, Highways England and Transport for the North to progress the study further and make the case for a preferred package of multi-modal investments.

8.2.4 Greater Manchester-wide interventions

TfGM and the Greater Manchester local authorities will continue to support **smart mobility**, such as Mobility as a Service (MaaS), where this can support the overall vision for the future transport system across Greater Manchester. Please refer to Section 3 for further details.

8.3 Post plan period - 2038 and beyond

Further interventions which could be delivered in the post plan period include:

- **Northern Powerhouse Rail:** It is expected that the full delivery of the NPR network will continue from the late plan period into the post plan period.

- **Rapid transit:** In the long term, metro/tram-train services could be delivered on the CLC line to Warrington, which would provide much greater capacity and frequency, and could also improve the financial performance of the network. It is expected that a more radical long-term capacity solution in the city centre, such as a metro tunnel, will need to be delivered before tram-train services could be introduced on the CLC line. If tram-train solutions turn out to be unviable, capacity improvements to the existing rail network could be delivered instead. There could also be potential to extend the reach of the rapid transit network further, including between Irlam, Carrington and the Airport, depending on growth creating the demand that would make rapid transit more financially viable.
- **New major road infrastructure:** The implementation of the preferred package of improvements from the Manchester North West Quadrant Study is likely to extend into the post plan period, particularly if this involves major upgrades to motorway capacity. TfN are also studying the potential for a highway link between Carrington, Cadishead and the M62.
- **Streets for All:** The implementation of the Streets for All corridor programme and the delivery of a high-quality regional cycle network will also continue beyond the end of the GMSF plan period.
- **New transport technologies:** TfGM and the Greater Manchester local authorities will continue to support smart mobility, such as Mobility as a Service (MaaS) and autonomous vehicle technology, where this can support the overall vision for the future transport system across Greater Manchester. Please refer to Section 3 for further details.

8.4 Western Study Area interventions summary

The table below summarises the key strategic transport interventions which will improve the network both during and beyond the GMSF plan period.

Western Study Area key strategic interventions (for illustrative purposes and subject to prioritisation, feasibility and funding)

Early plan period – 2018-2026

- Trafford Park Metrolink Line
- Streets for All corridor studies and improvements, including Quality Bus Transit on selected high-frequency bus routes and walking and cycling upgrades
- Full Western Gateway Infrastructure Scheme (WGIS)
- Port Salford rail link
- New road and bus infrastructure into New Carrington
- Chat Moss and West Coast Rail Study improvements

Late plan period – 2027-2037

- Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements
- Further capacity and reliability improvements on the CLC and Chat Moss Lines
- New motorway connection into Port Salford
- Metrolink extension to Salford Stadium and/or Port Salford

Post plan period – 2038 and beyond

- Further roll-out of metro/tram-train services on suburban rail corridors into the city centre, including on the CLC Line

- Further expansion of the rapid transit network, e.g. to Carrington
- Continued implementation of the Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements
- Carrington-Cadishead-M62 highway link

GMSF allocations summary (as identified in the first draft of the GMSF)

- **Existing urban area:** Trafford Park Line, extended rail and motorway connections to Port Salford, capacity improvements from the Manchester North West Quadrant Study
- **WG1 New Carrington:** Carrington Relief Road and further highway access infrastructure, new bus connections, rapid transit corridor to Manchester Airport, multi-modal crossing over the Manchester Ship Canal, new walking and cycling connections
- **WG2 Western Cadishead and Irlam:** New walking and cycling connections, new access onto the M62 (new junction or link to existing junction)
- **WG3 Port Salford Extension:** Port Salford rail link, new wharves on the Manchester Ship Canal, full WGIS, new junction off the M62, extension of the Trafford Park Metrolink line
- **WG4 Land at Flixton Station:** CLC line capacity improvements, enhanced walking and cycling connections

9 What the future transport system could look like in the North Western Study Area

The North Western Study Area includes the Boroughs of Bolton and Wigan, as well as parts of Salford. The North Western Study Area includes the principal town centres of Bolton and Wigan, as well as local centres such as Farnworth, Leigh, Atherton and Swinton.

This section outlines what the transport system in the North Western Study Area could look like in the future, shown by the following time periods:

- Early plan period – 2018-2026.
- Late plan period – 2027-2037.
- Post plan period – 2038 and beyond.

Growth in the North Western Study Area

The North Western Study Area has a significant number of development sites identified within the existing land supply. Key sites already identified for housing include South of Hindley, South and East of Atherton, and Horwich Locoworks (Rivington Chase). The existing employment land supply includes land at Logistics North along the M61, which continues to be built out.

In terms of new allocations, the North Western Study Area includes three key Corridors that consist of a number of significant development sites identified in the first draft of the GMSF: the East Lancashire Road Corridor, the M61 Corridor and the M6 Corridor.

9.1 Early plan period - 2018-2026

9.1.1 Public transport

The **electrification of the Manchester-Preston rail line** is nearing completion, and will provide additional capacity and frequency on this key commuter corridor where overcrowding is common at peak times.

According to DfT, the Northern Franchise is due to deliver major improvements to commuters in the North Western Study Area. On the **Atherton line**, service frequency will increase to four trains per hour, up from two off-peak and three to four in the peak. On Sundays, the frequency on the Atherton line is set to increase from one to two trains per hour. A new lift at Swinton station is also set to be delivered by 2021.

The rail network in the North Western Study Area will also benefit from the introduction of the **West Coast Partnership** franchise that will combine the current inter-city services with the introduction of High Speed 2 services. This franchise will be responsible for services on both the West Coast Main Line from 2019 and designing and running the initial high-speed services from 2026. In addition, TfGM will conduct a North West Rail Study that will assess potential improvements into the long-term future on both the Atherton and Bolton rail lines beyond those already committed.

There could be potential in the early plan period for an extension of the **Bus Rapid Transit line from Atherton to Hindley, Ince and Wigan**, if Wigan Council are successful in securing funding for new east-west link roads in Wigan (see below). Depending on the delivery of the new road infrastructure, this may extend into the late plan period.

9.1.2 Streets for All

Greater Manchester's Streets for All approach to creating sustainable, healthy and resilient places (see Section 3 for details) will be applied in the North Western Study Area through a series of corridor studies. These studies will identify a preferred strategy for key roads in the North Western Study Area, balancing the place and movement function of these routes. It is currently expected that the **Streets for All corridor studies** will start with a review of the A6, A577 and A58. In particular, there could be significant opportunities to deliver walking, cycling and bus improvements along these corridors if parallel new east-west road infrastructure between Wigan and Bolton is also delivered (see below).

In advance of the Streets for All corridor studies, the ongoing **Salford Bolton Bus Network Improvements** programme is already set to make travel easier for road users and pedestrians.

The North Western Study Area could also benefit from the implementation of **Quality Bus Transit** routes, including greater bus priority and high-quality waiting environments (see Section 3 for details). There is potential for Quality Bus Transit to be implemented between the key town centres of Bolton and Bury, and between Bolton and Wigan. Salford Council are also undertaking a short-term Bus Network Review for local services in the City.

Bolton and Wigan councils are developing **regeneration and connectivity proposals for Bolton and Wigan town centres**. Bolton, Salford and Wigan Councils has also recently submitted proposals for Farnworth, Swinton and Leigh respectively to the Mayor's Town Centre Challenge.

The North Western Study Area is also set to benefit from a range of **walking and cycling** improvements through the new £160 million **Mayor's Challenge Fund**. A number of walking and cycling projects in the Study Area have already been allocated funding from the Mayor's Challenge Fund; these can be found on <https://mappinggm.org.uk/beelines>. Highways England are also planning to deliver cycling improvements at Junction 27 of the M6.

9.1.3 Investment in new major road infrastructure

The North Western Study Area will benefit from a number of early plan period interventions for which funding has been either provisionally identified or now fully secured. These interventions include the **M58 Link Road, A49 Link Road, and M58/M6 interchange upgrade**.

Bolton and Wigan Councils have recently successfully applied for the first stage of the Government's Housing Infrastructure Forward Fund to develop proposals for **further east-west highway infrastructure connecting the M6 and M61**. If successful, this could directly support key allocations for housing growth and enable improved connections to Wigan. There is potential for this infrastructure to incorporate sections of Bus Rapid Transit or bus priority (see above).

The North Western Study Area is also set to benefit from Highways England's planned scheme to upgrade the M6 between Junctions 21a and 26 to **smart motorway**, and to upgrade **M6 Junction 23** (outside the Greater Manchester boundary in St Helens).

9.1.4 Greater Manchester-wide interventions

There are a number of other early plan period interventions, which will be implemented at the Greater Manchester-wide scale, which will benefit the North Western Study Area, including:

- Bus reform.
- The Clean Air Plan.

- Smart ticketing.
- The Congestion Deal.
- TfGM's innovation programme.

Please refer to Section 3 for more detail on these Greater Manchester-wide interventions.

9.2 Late plan period - 2027-2037

9.2.1 Public transport

The rail network in the North Western Study Area will see significant investment in the late plan period, particularly to enable **HS2** to arrive into Wigan. With better integration between Wigan's two stations, the town will be an important gateway to high-speed rail. The connectivity improvements that will accompany HS2 Phase 1 by 2026 and HS2 Phase 2b by 2033 will be studied in more detail in an **HS2 Growth Strategy for Wigan**.

There is also potential for further improvements on the electrified Bolton Line, which may include additional **electrification from Bolton to Wigan**, and new platforms at Bolton and Lostock stations to accommodate additional services.

There is also potential for further **Bus Rapid Transit** connections between 2027 and 2036. Some of these potential interventions include an extension of the Leigh-Salford-Manchester Guided Busway to Lowton and Golborne (either via the existing terminus at Leigh, or via the A580), and the completion of an extension of the Bus Rapid Transit line from Atherton to Hindley, Ince and Wigan (potentially via new east-west link roads in Wigan, as discussed above). The existing Guided Busway could also be enhanced with a new stop along the route to serve the North of Mosley Common GMSF allocation.

Towards the end of the GMSF plan period, **metro/tram-train services** could be delivered on existing rail lines into the city centre, potentially including the Atherton line. Metro/tram-train services could provide much greater capacity and frequency, and could also improve the financial performance of the network. It is expected that in order to deliver metro/tram-train services on multiple corridors, a more radical long-term capacity solution in the city centre, such as a metro tunnel, will be needed. If tram-train solutions turn out to be unviable, capacity improvements to the existing rail network could be delivered instead.

9.2.2 Streets for All

Many of the recommendations of the **Streets for All corridor studies** will continue to be implemented in the medium term, delivering improvements that make the best use of the available highway capacity. This will include the further roll-out of new bus corridors to make use of the new east-west road infrastructure that is currently being studied by Wigan and Bolton Councils.

There will also be a need to build on the early plan period investments in **new walking and cycling infrastructure**, by delivering a programme of local walking and cycling network improvements in the North Western Study Area.

9.2.3 Investment in new major road infrastructure

Transformational investments on the road network are currently being studied by the **Manchester North West Quadrant Study**, sponsored by the Department for Transport, with the aim of addressing severe and long-standing congestion on the M60 and surrounding roads. The study is currently considering a package of interventions, both on and off the motorway

network, to accommodate planned growth, improve resilience and tackle congestion. This is likely to include improvements to significantly enhance the capacity, performance and resilience of the motorway network, increased through capacity, and further multi-modal improvements such as additional Park and Ride. TfGM is currently working with the Department for Transport, Highways England and Transport for the North to progress the Manchester North West Quadrant Study further and make the case for a preferred package of multi-modal investments.

There may also be a need for a **new link road to M61 Junction 6**, to support the West of Wingates employment allocation in Bolton.

9.2.4 Greater Manchester-wide interventions

TfGM and the Greater Manchester local authorities will continue to support **smart mobility**, such as Mobility as a Service (MaaS), where this can support the overall vision for the future transport system. Please refer to Section 3 for further details.

9.3 Post plan period - 2038 and beyond

Further interventions which could be delivered in the post plan period include:

- **New major road infrastructure:** The implementation of the preferred package of improvements from the Manchester North West Quadrant Study is likely to extend into the post plan period, particularly if this involves major upgrades to motorway capacity.
- **Streets for All:** The implementation of the Streets for All corridor programme and the delivery of a high-quality regional cycle network will also continue beyond the end of the GMSF plan period.
- **New transport technologies:** TfGM and the Greater Manchester local authorities will continue to support smart mobility, such as Mobility as a Service (MaaS) and autonomous vehicle technology, where this can support the overall vision for the future transport system. Please refer to Section 3 for further details.

9.4 North Western Study Area interventions summary

The table below summarises the key strategic transport interventions which will improve the network both during and beyond the GMSF plan period.

North Western Study Area key strategic interventions (for illustrative purposes and subject to prioritisation, feasibility and funding)

Early plan period – 2018-2026

- Bolton Line electrification
- Salford Bolton Network Improvements
- Wigan-Bolton east-west road links (M58 Link Road, A49 Link Road, and further new links, potentially including new Bus Rapid Transit infrastructure to Wigan)
- Streets for All corridor studies and improvements, including Quality Bus Transit on selected high-frequency bus routes walking and cycling upgrades
- M6 smart motorway
- North West Rail Study improvements

Late plan period – 2027-2037

- Wigan HS2: masterplanning and integration between North Western and Wallgate

- Further implementation of Bus Rapid Transit corridors, e.g. to Golborne
- Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements
- New link road to M61 Junction 6
- Introduction of metro/tram-train services on suburban rail corridors into the city centre, e.g. on the Atherton line

Post plan period – 2038 and beyond

- Continued implementation of the Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements

GMSF allocations summary (as identified in the first draft of the GMSF)

- **Existing urban area:** Improvements to the bus network, improvements to Wigan stations for HS2, capacity improvements from the Manchester North West Quadrant Study
- **ELR1 North of Mosley Common:** Additional stop on the Guided Busway, enhanced walking and cycling connections
- **ELR4 South Pennington:** Public transport improvements (including potential connection to the Guided Busway), enhanced walking and cycling connections
- **ELR5 Astley and Boothstown:** Public transport improvements along the A580, enhanced walking and cycling connections
- **M61C1 Junction 6:** Wigan-Bolton east-west road infrastructure, Manchester North West Quadrant Study package
- **M61C2 Hulton Park and Chequerbent:** Wigan-Bolton east-west road infrastructure, Manchester North West Quadrant Study package, enhanced public transport, walking and cycling connections
- **M61C3 West of Westhoughton:** Wigan-Bolton east-west road infrastructure, Manchester North West Quadrant Study package, enhanced public transport, walking and cycling connections
- **M61C4 West of Gibfield, Atherton:** Wigan-Bolton east-west road infrastructure, Atherton line improvements, enhanced public transport, walking and cycling connections
- **M6C1 Junction 25:** Road access improvements
- **OA1 North Bolton Area of Search:** To be determined depending on locations
- **OA18 East Boothstown:** M60 Junction 13-14 improvements, enhanced walking and cycling connections
- **OA19 Hazelhurst Farm:** New links to stops on the Guided Busway
- **OA28 Liverpool Road, Hindley:** Extension of the Guided Busway from Atherton to Wigan, enhanced walking and cycling connections.

10 Funding, governance, scheme development and delivery

10.1 Funding and financing

10.1.1 Greater Manchester's emerging transport investment programme

Delivering the future transport system for Greater Manchester outlined in this report can only be achieved through a sustained, long-term programme of investment. This will require significant amounts of new funding to be raised, which is likely to be significantly above and beyond the level which Greater Manchester has received in the recent past. Funding and delivering the investment programme will therefore be a major challenge for all Greater Manchester's transport partners, and the expectation is that developers will be required to make a major contribution to interventions they benefit from.

The National Infrastructure Assessment (NIA) published in 2018 by the National Infrastructure Commission recommended that in the longer term, Government must prioritise investment in urban transport. The NIA also recommends that large road and rail projects should compete for the same funding to ensure that, regardless of mode, the most beneficial projects go ahead.

TfGM is currently in the process of developing a detailed future investment programme to support the growth in population and employment envisaged by the GMSF and the 2040 Transport Strategy. The investment programme will form the basis for the *2040 Transport Strategy Delivery Plan: 2020-2025*, which TfGM intend to publish alongside the new draft of the GMSF for public consultation.

10.1.2 Potential funding sources

Funding the emerging transport investment programme for Greater Manchester will be a significant challenge, given the fiscal pressures faced by all levels of Government. Although Greater Manchester has access to some devolved transport funding through its devolution deal, current fiscal arrangements in the UK mean that the majority of funding from transport continues to flow from central Government.

The investment programme will be reliant on a range of different funding sources. Some of the most important are discussed in more detail below:

- Greater Manchester has access to **devolved transport funding**. Outside of London, Greater Manchester has historically been at the forefront of the devolution of transport funding to the city-region level. For example, the historic deal with Government in 2009 to create the £1.5 billion Greater Manchester Transport Fund facilitated the rapid expansion of the Metrolink network and other transport schemes. More recently, this devolved funding has been supplemented by other short-term funding sources from central Government, including the Local Growth Fund and the Transforming Cities Fund. With the election of the Greater Manchester Mayor in 2017, the city-region is now in an even stronger position to secure long-term funding certainty for major investments. Conversations with central Government about long-term transport funding arrangements for the region are currently ongoing, and this will continue to be a priority for Greater Manchester given the need to deliver major transport improvements to support the GMSF.

- Greater Manchester and its constituent councils have access to specific **competitive transport funds**, which are open to transport authorities across England. These competitive funds tend to be short-term and created for specific types of transport investment. Recent examples include the Large Local Major Schemes Fund and the Housing Infrastructure Fund. Generally, these funds are heavily oversubscribed and securing funding is dependent on being able to articulate a compelling case for investment to ministers.
- Many of the emerging priorities for transport investment lie on national networks that are not directly managed by TfGM or the Greater Manchester local authorities. Most significantly, these include the rail network and the Strategic Road Network, owned and managed by Network Rail and Highways England respectively. Funding for investments on these national networks is allocated directly from central Government through long-term funding settlements, including Network Rail's **Control Periods** and Highways England's **Road Investment Strategies**.

Although the Greater Manchester transport authorities have no direct control over the rail network or motorway network, they nonetheless have a crucial role to play by influencing and shaping priorities, lobbying for investment, and working with Highways England, Network Rail and other organisations to improve Greater Manchester's transport network. This dialogue with other partners will need to continue and intensify as major decisions need to be made over the next few years, including on the planned Trans-Pennine rail upgrade and the future of the congested M60 North West Quadrant.

- In addition to these funding sources from Government, **private sector contributions** will also need to form an important component of the overall funding mix. The planning system already enables the Greater Manchester authorities to secure financial contributions from developers for transport infrastructure that mitigates the impact of new development, and this is set to continue. In addition, Greater Manchester could explore potential new ways of raising revenue from new development in high-value areas, such as Land Value Capture (as is used by Transport for London, for example).
- Finally, for the most transformational and costly investments, it is likely that one-off, **bespoke funding deals** will be required, involving a large number of parties. For example, the delivery of high-speed rail stations at Piccadilly and Manchester Airport is likely to be highly complex and involve contributions from central Government, local Government, and the private sector. Significant work will be required to ensure a funding strategy that is sustainable, equitable and that fits with both local and central Government policy.

The National Infrastructure Commission has recommended several additional mechanisms for better infrastructure planning and funding, which national Government could act upon in future. For example, the Commission has developed proposals for the creation of a UK infrastructure finance institution, if access to the European Investment Bank ceases after Brexit.

10.2 Governance

The Greater Manchester authorities have a long history of effective joint working. Following the election of the city-region's Mayor in 2017, this governance is continuing to evolve so that Greater Manchester can address the complex challenges and major opportunities ahead. The city-region's long-term transport investment programme will need to evolve alongside this to ensure transport can effectively support the city-region's growth.

This governance must not only be able to identify upcoming critical transport challenges, but also be capable of responding to and embracing ongoing innovation, experimentation and wider changes in technology, business and services.

It must also be able to work effectively with the wide range of stakeholders in the transport sector, including residents, businesses, visitors and local communities, through to wider northern, national and international organisations including DfT, TfN, HS2, Highways England, Network Rail and a range of private sector organisations and international agencies.

Greater Manchester's evolving transport governance structure is reflected by the National Infrastructure Assessment (NIA) published in 2018 by the National Infrastructure Commission. This assessment recommends that:

- City leaders and metro mayors develop integrated plans for transport, employment and housing.
- Public authorities should be able to demonstrate that they can provide a local contribution to project costs, before funding commitments are made.

The commission then concludes that:

“The appropriate authority to make decisions on how to invest devolved urban infrastructure funding will usually be one that already exists: a mayoral combined authority, combined authority or unitary authority... Once funding is devolved to local authorities, central government should not have powers over how it is spent.”

Governance of the long-term transport investment programme must therefore ensure that:

- Funding from multiple sources is secured, financed and managed.
- Further planning and prioritisation is a continuous process in the context of both the overall vision and changing circumstances.
- Development and delivery is successfully coordinated across multiple parties.
- The impacts of investments are monitored and evaluated.
- Statutory and regulatory obligations are complied with.

10.3 Scheme development, prioritisation and delivery

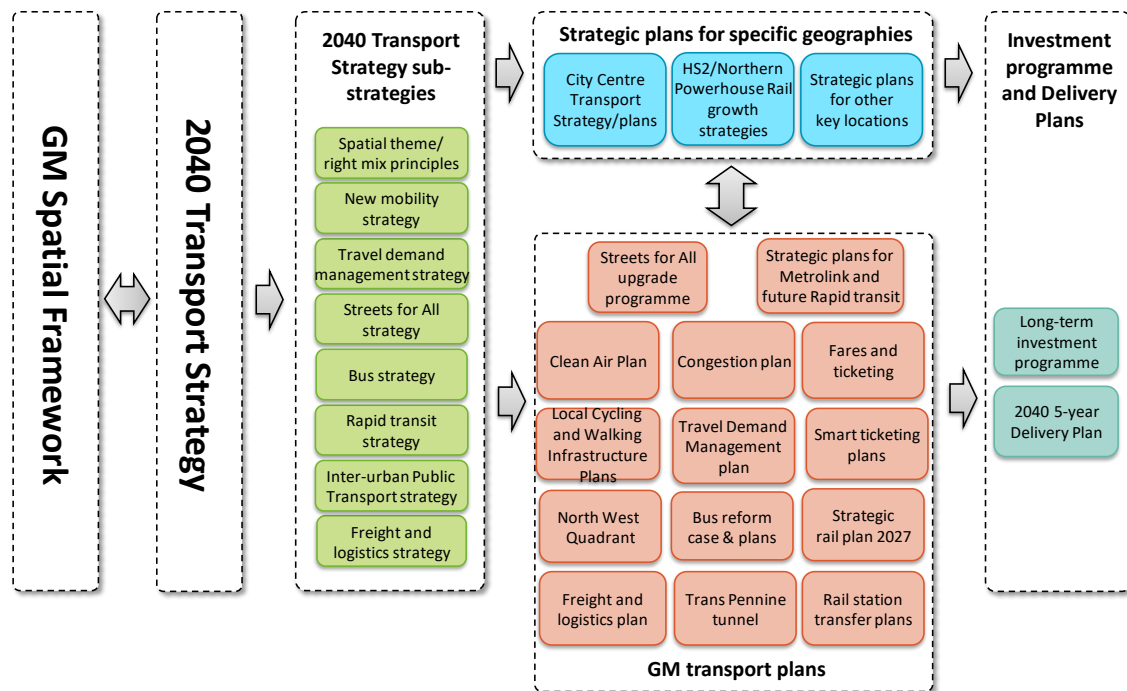
10.3.1 Shaping the emerging investment programme

The emerging transport programme for Greater Manchester includes a wide range of potential investments, from initial ideas and concepts to projects already being delivered. This means that a large amount of work is still required to appraise, prioritise and develop them, in other words, to make tough choices about where the limited funds available can make the biggest difference.

The further work to develop the emerging investment programme will be guided, at the highest level, by Greater Manchester's 2040 Transport Strategy. The 2040 Transport Strategy is Greater Manchester's strategy for delivering, in transport terms, the growth aspirations of the region as set out in the GMSF. The GMSF and the 2040 Transport Strategy share the same aims, a common vision for the future of transport in Greater Manchester, and a common set of emerging priorities for future interventions on the transport network to achieve this vision.

Although the 2040 Transport Strategy provides the guiding principles to help Greater Manchester develop, appraise and prioritise transport investment, it is necessarily high-level. More detailed sub-strategies are therefore being prepared by TfGM, the Greater Manchester local authorities and other key stakeholders to develop more detailed plans for specific modes or geographical areas. An overview of the sub-strategies which are intended to support the delivery of the overarching 2040 Transport Strategy over the coming years is shown below.

Figure 5: Sub-strategies to support the delivery of the 2040 Transport Strategy



Source: Transport for Greater Manchester

Significant progress has already been made on many of these sub-strategies. For example, the Airport and Piccadilly HS2 Growth Strategy has recently been published. Other sub-strategies, such as the Rapid Transit Strategy, continue to be developed.

Each sub-strategy will identify specific ambitions that support the delivery of the 2040 Transport Strategy. Prioritisation of these options will require further study, most of which will be of a light-touch nature.

It will also be important to ensure that the development, appraisal and prioritisation process for the investment programme runs in parallel with the planning processes and ongoing studies of Greater Manchester's partners, including Highways England's Road Investment Strategy (RIS) periods, Network Rail's rail improvements pipeline, and the Strategic Development Corridor (SDC) studies currently being led by Transport for the North.

10.3.2 Making the case for individual investments

The interventions included in this report form part of an integrated programme of investment. However, each individual intervention within the programme will still need to justify its inclusion, based on a robust business case.

In the UK, major transport investment decisions are made based on detailed business cases. These are created on the basis of the Treasury's Green Book, which states that proposals should be:

- supported by a robust case for change that fits with wider public policy objectives.
- demonstrate value for money.
- be financially affordable.

- be commercially viable.
- be achievable.

All major interventions in Greater Manchester's emerging transport investment programme, irrespective of whether they are funded locally or by central Government, will continue to be assessed according to these standards in order to maximise value for taxpayers. Where a suitable business case for investment cannot be made, the investment programme may be revisited to develop alternative solutions, guided by the principles of the 2040 Transport Strategy and its sub-strategies.

Developing a robust business case for a major transport investment can be a major undertaking, involving significant levels of financial resource. Typically, the work required to establish a business case includes activities such as:

- Assessing different options to identify which perform better in line with the scheme objectives.
- Development of scheme designs and cost estimates.
- Modelling and analysis to assess the impacts on the transport network.
- Stakeholder engagement and public consultation to gauge the level of support.

The development of the emerging transport investment programme will therefore be a continuous process, undertaken by all Greater Manchester's transport partners, across the whole GMSF plan period. This development work will need to be carefully managed to ensure resources are used effectively.

In many cases, there will be a need to prioritise the development of some potential interventions over others, for example if they are directly linked to developments sites expected to come forward in the early plan period, or because they are expected to make a major contribution to the aims of the 2040 sub-strategies. The overall aim will be to maintain a balanced pipeline of future investments that together deliver a future transport system that delivers the 2040 Transport Strategy, and supports the level of housing and employment growth defined by the GMSF.

11 Conclusions

11.1 Delivering a world-class transport system

Building on the 2040 vision for the transport network, this *GMSF Transport Study: Addressing the Issues* report has provided a detailed outlook of what Greater Manchester's transport system could look like in the future. This outlook has been developed in the context of the planned GMSF housing and employment growth, which could lead to a range of critical challenges for the current network. It is intended to form the basis of a future investment programme which is detailed as well as flexible, with the ability to adapt to changes in technology and travel behaviour over the next two decades.

The purpose of these investments will not just be to make sure that Greater Manchester is able to cope with the planned housing and employment growth defined by the GMSF, but to go beyond this and deliver a world-class transport system which delivers on the aims of the 2040 Transport Strategy. This world-class transport system will not only enable Greater Manchester to compete on the global stage for investment and acquiring and retaining talent, but also help to spread the benefits of this growth to all residents, giving them easier access to a wide range of high value jobs and services.

The emerging investment programme that supports this future transport system is intended to be realistic and deliverable. Nevertheless, delivering this investment programme will be a major challenge. All Greater Manchester transport authorities will need to continue to work collaboratively to develop and deliver a balanced pipeline of future investments over the course of the GMSF plan period and beyond. To truly place Greater Manchester at the centre of the Northern Powerhouse and rebalance the national economy, the levels of transport funding required will be significant. The total level of investment that is envisaged by this study therefore deliberately goes beyond levels of transport investment seen in Greater Manchester in recent years.

11.2 Key early plan period priorities

Over the next few years, the first priority will be to complete the significant investments that are already underway, such as the new Trafford Park Line, the electrification of the Manchester-Preston line, and the completion of the Salford Bolton Network Improvements. In addition, a range of other investments now have funding provisionally identified, and these investments will need to be delivered as a priority. Examples include further smart motorway upgrades, multiple public transport interchange upgrades in key town centres, walking and cycling improvements through the Mayor's Challenge Fund, and the TransPennine rail upgrade.

Bus remains by far the most used form of public transport in Greater Manchester. Assessing options for reform of the bus market is therefore a key priority in the early plan period; subject to a viable business case, an independent audit and consultation as required by the Bus Services Act 2017, and subject to a decision by the GMCA and the Mayor whether to proceed, this could bring significant benefits for residents and passengers. This could include improvements to routes, frequencies, timetables, fares and quality standards, and could also support the roll-out of smart, integrated ticketing.

Significant investment will be focused in the early plan period on creating Streets for All on Greater Manchester's key road network. Streets for All is a new way of thinking about the role of streets in creating sustainable, healthy and resilient places, with a focus on the needs of people

and place, rather than just vehicles. Typical short-term Streets for All improvements will include junction improvements, bus infrastructure improvements (including Quality Bus Transit on selected high-frequency bus corridors), public realm and placemaking improvements and cycling infrastructure.

Equally important will be to continue the planning and development for the late and post plan period investments set out in this report. For example, the HS2 and Northern Powerhouse Rail Growth Strategy has recently been published, and the Rapid Transit Strategy is currently under development. In many cases, such as on the Manchester North West Quadrant Study, Greater Manchester is working in partnership with other organisations including Transport for the North and the Department of Transport to determine the preferred solutions. Each of these important ongoing workstreams will help to further shape and refine the emerging transport investment programme that will support the GMSF and 2040 Transport Strategy.

Greater Manchester will also need to stay at the forefront of transport innovation in the early plan period. TfGM's innovation programme will include studies and trials to explore the benefits of autonomous vehicles, flexible on-demand transport, and the concept of Mobility as a Service (MaaS); as well as accelerating the further roll-out of electric vehicle charging points and supporting a new bike hire scheme.

Finally, gaining greater long-term certainty over transport funding in Greater Manchester will be vital to successfully delivering the vision for a world-class transport system set out in the 2040 Transport Strategy. Although Greater Manchester has access to some devolved transport funding through its devolution deal, current fiscal arrangements in the UK mean that the vast majority of funding from transport continues to flow from central Government. Conversations with central Government about long-term transport funding certainty for the region will therefore continue to be a priority.

11.3 Key late plan period priorities

Between 2026 and 2033, the Greater Manchester transport network will be transformed by the arrival of HS2 at Manchester Piccadilly, Manchester Airport, Stockport and Wigan. HS2 will transform the capacity and connectivity of Britain's rail network, and act as a catalyst for the long-term growth ambitions of the North of England and Greater Manchester. However, in order for HS2 to have the transformational impact expected a significant amount of work is required to develop and implement the supporting infrastructure to enable its arrival.

After 2033, the greatest challenges and priorities for Greater Manchester's transport system are likely to focus on a radical transformation in inter-city and intra-city public transport capacity. Two key long-term interventions that are currently being studied include Northern Powerhouse Rail, which will place Greater Manchester at the heart of a new inter-city rail network for the North; and a city centre tunnel, which would provide a more radical solution for the Regional Centre once the limits of the existing network are reached.

Another key late plan period priority for Greater Manchester will be to significantly expand the capacity and reach of the rapid transit network. Towards the end of the GMSF plan period, this could include the conversion of existing suburban rail lines to metro/tram-train operation to provide much greater capacity and frequency, and improve the financial performance of these lines. There are a range of proposals for further new rapid transit connections, as discussed in this report, and these will be considered further in the forthcoming Rapid Transit Strategy for Greater Manchester. In each case, significant scheme development work will be required to find the optimum solution, make the case for funding, and move into delivery.

Improvements will also need to be made on the road network, for example in the form of a package of multi-modal interventions to improve the efficiency and reliability on the M60 North West Quadrant. This is currently the subject of the Manchester North West Quadrant Strategic Study.

The late plan period will also see Greater Manchester continue to invest in other interventions, such as the continued implementation of the Streets for All corridor upgrade programme, and capacity and frequency improvements on a range of existing rail lines.

The Greater Manchester transport authorities will also continue to have an important role in guiding the development and market penetration of emerging smart mobility, such as Mobility as a Service (MaaS).

11.4 Key post plan period priorities

The full delivery of Northern Powerhouse Rail, a city centre metro tunnel, and the conversion of suburban rail lines to metro/tram-train operation is likely to extend into the post plan period. The case for these highly complex transformational interventions continues to be the subject of current studies by TfGM, Transport for the North and other partners.

On the road network, long-term transformational investments could include a Trans-Pennine Tunnel between Manchester and Sheffield. Options for this are currently being developed by Highways England, Transport for the North and the Department for Transport. The implementation of the preferred package of improvements from the Manchester North West Quadrant Study is also likely to extend into the post plan period.

Fully or largely automated vehicles could also become part of everyday life for many residents. Under the right conditions, these innovations could deliver major benefits, although their impacts are still highly uncertain. The Greater Manchester authorities will continue to have a vital role to ensure sustainable travel outcomes and deliver improved accessibility for all.

11.5 Next steps for the GMSF Transport Study

This *GMSF Transport Study: Addressing the Issues* report, has been prepared together with the accompanying *Understanding the Issues* report to support the second draft of the GMSF for public consultation. It has presented a detailed outlook of what Greater Manchester's future transport system could look like, supported by an investment programme that continues to be further refined and developed. This work contributes to the evidence base that is required to demonstrate that the GMSF is deliverable and sustainable in transport terms, and plans are in place to fully address the transport issues identified.

Public consultation on the new draft of the GMSF is anticipated to take place in early 2019. Following this, work will continue on the GMSF Transport Study in anticipation of Examination of the final GMSF. At Examination, the findings from the GMSF Transport Study will be required to demonstrate the soundness and deliverability of the GMSF to a planning inspector. To prepare for this, further work will be required to:

- **Model the impacts of the planned housing and employment growth on Greater Manchester's transport networks**, using transport modelling tools. The purpose of this work will be to test a range of different future transport scenarios, including different ways by which the outline vision can be achieved. This will in turn help to further shape and refine the emerging investment programme.
- Continue to progress the **planning of the key growth locations** included in the GMSF, to determine site-specific or area-specific transport access plans. This work is being

undertaken mainly by the Greater Manchester local authorities. To ensure a consistent approach across Greater Manchester, TfGM's *Transport for Sustainable Communities* guidance will be updated to help planners maximise development around strategic transport hubs, with higher housing densities around rail stations and interchanges.

- Develop and adopt **more specific plans to support the 2040 Transport Strategy**, and start to develop **business cases for strategic transport investments** which will support the GMSF growth areas. This work is needed to further refine the emerging investment programme and ensure the prioritised investments are ready for delivery during the GMSF plan period.
This could include early feasibility, options appraisal, scheme prioritisation and case-making work for major investments such as the conversion of commuter rail lines to metro/tram-train operation, increasing city centre rapid transit capacity, highway improvement packages, and potential new rapid transit corridors to those developments where there may be sufficient new demand to support these interventions.
- **Continue dialogue with other stakeholders** to coordinate the direction of future growth in the region. Various studies of regional and national importance that could have major implications for the GMSF are currently underway, including the Manchester North West Quadrant study; the Trans-Pennine Tunnel study; Transport for the North's Strategic Development Corridor studies; and the development of the business case for Northern Powerhouse Rail. There is also a continuing need for dialogue with HS2 Ltd and Manchester Airport.
- Develop **a funding and financing plan** for the transport investment needed to support the GMSF, in support of the above actions. Most importantly, this will require negotiation with central Government over long-term transport funding arrangements for the Greater Manchester, as well as dialogue with other important stakeholders such as Network Rail and Highways England.

Following the consultation on the second draft of the GMSF, the findings of this GMSF Transport Study will also be reviewed against the consultation comments. The final portfolio of transport evidence to support the GMSF will be published prior to Examination.

Appendices

A.	Glossary of terms	67
B.	List of interventions	69

A. Glossary of terms

Table 1: Glossary of terms

Term	Definition
Bus Rapid Transit	Turn-up-and-go bus-based rapid transit providing excellent access to the rapid transit hubs that it serves. The Leigh-Salford-Manchester guided busway is an example of Bus Rapid Transit in Greater Manchester to date.
City centre	The core of the conurbation, including the area bound by the Manchester and Salford Inner Relief Route (MSIRR) and the University Corridor.
Greater Manchester Combined Authority (GMCA)	Greater Manchester's regional political authority, made up of the ten Greater Manchester councils and Mayor. The GMCA is run jointly by the leaders of the ten councils and the Mayor of Greater Manchester.
Greater Manchester Spatial Framework (GMSF)	The joint spatial plan which sets out the spatial strategy for housing and employment land growth across Greater Manchester up to 2037.
Greater Manchester Strategy (GMS)	The new plan for Greater Manchester, written by all ten councils, the Mayor, the NHS, transport, the police and the fire service. It covers health, wellbeing, work and jobs, housing, transport, skills, training and economic growth.
Greater Manchester Transport Strategy 2040	Greater Manchester's long-term transport strategy, developed by TfGM on behalf of the GMCA. Its vision for Greater Manchester is to have 'World class connections that support long-term, sustainable economic growth and access to opportunity for all'.
High Speed 2 (HS2)	The planned new high-speed railway line which will connect London to the North of England. Phase 2, which will connect London and the West Midlands to the north, has been split into: <ul style="list-style-type: none"> Phase 2a (West Midlands to Crewe): complete by 2027 Phase 2b (full network to Manchester and Leeds): complete by 2033
Inner relief road (MSIRR – Manchester and Salford Inner Relief Road)	The inner relief route around the city centre, comprising the A57(M) Mancunian Way, A6042 Trinity Way, A665 Great Ancoats Street and A635 Ring Road.
Key town centres	Greater Manchester's principal urban centres outside the Regional Centre. The eight key town centres are Altrincham, Ashton-under-Lyne, Bolton, Bury, Oldham, Rochdale, Stockport and Wigan.
Key Route Network (KRN)	Nearly 400 miles of Greater Manchester's busiest local roads, for which TfGM and the Greater Manchester local authorities are developing a more strategic, coordinated management and maintenance programme.
Mobility as a Service (MaaS)	The integration of various forms of transport services into a single mobility service, accessible on demand. To meet a customer's request, a MaaS operator facilitates a diverse menu of transport options, be they public transport, ride-, car- or bike-sharing, taxi or car rental/lease, or a combination thereof. The MaaS user is offered a single application with a single payment channel to access these mobility services.
Manchester North West Quadrant (NWQ)	The stretch of the M60 between Junctions 8 to 18, which experiences high levels of congestion at present. A strategic study to develop solutions for the North West Quadrant, sponsored by the Department for Transport, is currently being undertaken by Highways England, Transport for the North and TfGM.
Metro	Turn-up-and-go rail-based rapid transit providing excellent access to the rapid transit hubs that it serves.
Northern Powerhouse Rail (NPR)	A major strategic rail programme being developed by Transport for the North, designed to transform connectivity between the key economic centres of the North. NPR will include a combination of new routes with upgrades of existing infrastructure, over and above short and medium-term proposals for network upgrades.
Quality Bus Transit	Whole-route upgrades of key bus corridors, with a strong focus on quality and reliability.
Rapid Transit	Any public transport service that offers significantly faster journeys than a stopping bus service for middle-distance trips. Examples in Greater Manchester to date include the Metrolink network and the Leigh-Salford-Manchester guided busway.

Term	Definition
Regional Centre	Greater Manchester's primary economic centre, as defined in the 2040 Transport Strategy. It includes the city centre, The Quays to the west, and the Etihad Campus to the east, among other key growth areas in the core of the city-region.
Road Investment Strategy (RIS)	A long-term approach to improve the Strategic Road Network. The first RIS (RIS1) covers the period 2015-2020. Highways England is currently carrying out studies to prepare for the second RIS (RIS2), which will cover the period from 2020 to 2025.
Strategic Road Network (SRN)	The national network of motorways and trunk roads managed by Highways England.
Streets for All	Streets for All is Greater Manchester's new way of thinking about the role of streets in creating sustainable, healthy and resilient places. It begins with a focus on the needs of people and place, rather than considering the movement of vehicles alone. The approach provides a much more strategic and integrated approach to addressing a range of priority issues which are linked to Greater Manchester's streets, such as revitalising local town centres, tackling congestion and air pollution, increasing levels of walking and cycling, improving local bus services and enabling housing growth, while also helping to address the needs of general traffic, including freight.
Tram-train	A form of rapid transit where trams share sections of track with conventional trains. Tram-train technology is common in countries such as Germany, but is relatively novel in the UK.

B. List of interventions

The table below presents a list of all the transport interventions discussed in this report.

Table 2: Regional Centre Study Area interventions

Intervention	Rationale	Theme	Cost
Early Plan Period – 2018-2026			
Trafford Park Metrolink Line	To provide transformational rapid transit connectivity to this part of Greater Manchester, and support regeneration and economic growth in the area.	Metrolink and Bus Rapid Transit	High
Quality Bus Transit corridor between MediaCityUK and Salford Crescent	A substantially higher non-car mode share is needed to sustain the growth of Salford Quays / Media City. There is potential for a QBT priority alignment, which could then be transformed into a Metrolink connection in the longer term.	Bus	Medium
Increased Metrolink capacity between Piccadilly and Victoria stations	To provide a key link from the north of Greater Manchester (Oldham and Rochdale) to Piccadilly station.	Metrolink and Bus Rapid Transit	Medium
Metrolink resilience package	To increase the reliability of the Metrolink network.	Metrolink and Bus Rapid Transit	Medium
New Metrolink stop at Sandhills	To support the Manchester Northern Gateway growth location, providing a fast and frequent rapid transit option into the Regional Centre.	Metrolink and Bus Rapid Transit	Medium
Castlefield corridor rail capacity improvements, including Manchester Piccadilly platforms 15-16	To address the critical capacity constraints on the rail network in the Regional Centre, which will need to grow further to accommodate the forecast levels of employment growth.	Rail	High
Salford Central station upgrade	To provide additional capacity by re-opening disused platforms and accommodate longer trains.	Rail	Medium
Review of city centre bus routing and termination	To ensure the city centre has the right balance between terminating and through bus services, minimise the negative impacts of bus movements on pedestrian and cycle movements, and better integrate the bus network with the Metrolink and rail network.	Bus	Medium
Streets for All corridor studies and improvements	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
A57 Regent Road improvements	To address congestion issues at this key junction serving both The Quays and the wider Regional Centre, and to provide better access into the Quays for all modes.	Local Highways	Medium
Great Ancoats Street improvements	To minimise the severance impacts of the MSIRR for pedestrians and cyclists, and enable the expansion of the Regional Centre outside of the MSIRR.	Local Highways	Medium
City Centre Salford infrastructure improvement: New Bailey	To improve car and public transport journey time reliability, as well as connectivity for pedestrians and cyclists in this growing part of the Regional Centre.	Walking and Cycling	Medium
Mancunian Way / Princess Parkway junction improvements	To increase capacity, improve management of traffic flows, and create a safe environment for vulnerable users (pedestrians and cyclists).	Local Highways	Medium
Walking and cycling improvements, to be delivered through the Mayor's Challenge Fund	To increase the number and proportion of short journeys (less than 5km) made by walking and cycling, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Medium
Further wayfinding and public realm improvements	To encourage greater use of walking and cycling to key destinations.	Walking and Cycling	Low
Late Plan Period – 2027-2037			

Intervention	Rationale	Theme	Cost
HS2 and Northern Powerhouse Rail station at Manchester Piccadilly	To deliver transformational change to Greater Manchester's city-to-city rail offer at Manchester Piccadilly station, and to ensure good onward public transport connections from across Greater Manchester to deliver wider benefits for the city region as a result of the improved connectivity.	Rail	High
City centre metro tunnel	To deliver a step-change in rapid transit capacity to and through the Regional Centre in order to: <ul style="list-style-type: none"> • accommodate demand growth on existing Metrolink lines. • release capacity in the City Centre to accommodate increased service frequencies - e.g. on the Bury line and to MediaCityUK via the Trafford Park line. • facilitate conversion of shorter-distance-focused suburban rail lines to metro / tram-train operation, radically improving services on those corridors, improving financial performance, and releasing capacity on the National Rail network in the Regional Centre, so that it can reliably accommodate 2040 demand. • provide the capacity to enable the rapid transit network to serve a wider range of middle-distance trips in Greater Manchester and to maximise the benefits of integrated fares. 	Metrolink and Bus Rapid Transit	High
Introduction of metro/tram-train services on suburban rail corridors into the city centre	To provide much greater capacity and frequency on suburban rail corridors, both to address existing crowding issues and to facilitate further growth.	Metrolink and Bus Rapid Transit	High
Further Metrolink network improvements, including next generation trams and capacity improvements	To exploit the remaining near-term opportunities for increasing Metrolink capacity into and through the Regional Centre, in order to facilitate the continuing growth of employment, leisure and residential development.	Metrolink and Bus Rapid Transit	High
Metrolink connection between MediaCityUK and Salford Crescent	A substantially higher non-car mode share is needed to sustain the growth of Salford Quays / Media City, which will require faster links to key interchange nodes in the existing rapid transit network in and around the Regional Centre.	Metrolink and Bus Rapid Transit	High
Further Streets for All improvements identified through the corridor studies, including walking and cycling connections	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Continued optimisation of city centre bus routing and termination, including to serve the HS2 Piccadilly station	To ensure the city centre has the right balance between terminating and through bus services, minimise the negative impacts of bus movements on pedestrian and cycle movements, and better integrate the bus network with the Metrolink and rail network.	Bus	Medium
Continued investment in walking, cycling, wayfinding and public realm	To increase the number and proportion of short journeys (less than 5km) made by walking and cycling, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Medium
Post Plan Period – 2038 and beyond			
Continued implementation of the full Northern Powerhouse Rail network to and from Manchester Piccadilly	To deliver transformational change to Greater Manchester's city-to-city rail offer at Manchester Piccadilly Station, and to ensure good onward public transport connections from across Greater Manchester to deliver wider benefits for the city region as a result of the improved connectivity.	Rail	High

Table 3: Northern Study Area interventions

Intervention	Rationale	Theme	Cost
Early Plan Period – 2018-2026			
New Trafford Park-Crumpsall Metrolink service	To provide transformational rapid transit connectivity to this part of Greater Manchester, and support regeneration and economic growth in the area.	Metrolink and Bus Rapid Transit	N/A (part of Trafford Park Line)
Direct Metrolink connection between Manchester Piccadilly and Oldham and Rochdale	To improve connections between the major transport hubs of Victoria and Piccadilly, and reduce waiting times for journeys from Oldham and Rochdale.	Metrolink and Bus Rapid Transit	Medium
Additional Park and Ride provision on the Bury Line	To provide better access to public transport by increasing the capacity of Park & Ride facilities.	Metrolink and Bus Rapid Transit	Low
New Elton Reservoir Metrolink stop	To support the Elton Reservoir allocation, providing a fast and frequent rapid transit option into the Regional Centre.	Metrolink and Bus Rapid Transit	Medium
New Cop Road Metrolink stop	To support the Beal Valley and Broadbent Moss allocations, providing a fast and frequent rapid transit option into the Regional Centre.	Metrolink and Bus Rapid Transit	Medium
Early phases of a North East Strategic Transformation Bus Rapid Transit Corridor	To support the North East Strategic Transformation area by providing good public transport access, as well as improving wider public transport connectivity in the north of Greater Manchester.	Metrolink and Bus Rapid Transit	Low
Tram-train Pathfinder trial between Rochdale and Heywood	To maximise existing Metrolink capacity in order to accommodate rapid transit demand growth. Will also facilitate testing of the tram-train concept for wider application in Greater Manchester.	Metrolink and Bus Rapid Transit	Medium
Improved accessibility at Mills Hill station	To maximise existing rail assets to provide better facilities, particularly for passengers with limited mobility.	Rail	Low
Completion of Calder Valley Line improvements	To address existing capacity and frequency issues on the Calder Valley Line, and to improve connectivity to Lancashire and Bradford.	Rail	Medium
North East Manchester Rail Study improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift.	Rail	High
Streets for All corridor studies and improvements, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Quality Bus Transit corridor (Bolton – Bury – Rochdale)	To provide a more attractive alternative to the car for orbital journeys between Bolton, Bury and Rochdale.	Bus	Medium
Quality Bus Transit corridor (Rochdale – Oldham – Ashton)	To provide a more attractive alternative to the car for orbital journeys between Rochdale, Oldham and Ashton.	Bus	Medium
Redevelopment and/or improvements to Bury Interchange	To increase the accessibility of Metrolink, bus and rail from nearby destinations, and increase the attractiveness of the Interchange as the focal point for town centre growth.	Town Centres and Interchanges	Medium
Walking and cycling improvements, to be delivered through the Mayor's Challenge Fund	To increase the number and proportion of short journeys (less than 5km) made by walking and cycling, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Medium

Intervention	Rationale	Theme	Cost
M62 J20-25 Smart Motorway	To address existing congestion issues on the SRN, and provide the capacity for the scale of growth both within the city-region and in neighbouring authorities.	Motorways and Trunk Roads	High
M60 J21 / A663 Broadway improvements	To reduce congestion and improve safety on the Strategic Route Network.	Motorways and Trunk Roads	Low
M62 J19 Link Road	To relieve congestion and support long-term development proposals in Heywood, including 1,000 new homes off Pilsworth Road.	Local Highways	Medium
Bury Bridge improvements	To improve the punctuality and competitiveness of bus services, as well as reduce congestion and improve air quality.	Local Highways	Low
Elton Reservoir Link Road	To support the Elton Reservoir allocation, providing an additional crossing of the River Irwell and significantly improve network resilience in Bury.	Local Highways	Medium
Late Plan Period – 2027-2037			
Further improvements to the Calder Valley Line	To address existing capacity and frequency issues on the Calder Valley Line, and to improve connectivity to Lancashire and Bradford.	Rail	High
Bus Rapid Transit corridor connecting the North East Strategic Transformation area and surrounding towns to the Regional Centre	To effectively serve the major North East Strategic Transformation area with rapid public transport links, particularly to and from the Regional Centre, as well as nearby key centres.	Metrolink and Bus Rapid Transit	Medium
Rapid transit extension to Middleton	To provide communities in and around Middleton with a high-quality rapid transit option into the Regional Centre, thereby reducing pressure on local roads.	Metrolink and Bus Rapid Transit	High
Further Streets for All improvements identified through the corridor studies, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
New M62 junction near Birch and surrounding infrastructure for M62 North-East Corridor (Northern Gateway)	To support the North East Strategic Transformation area, facilitating access into and through the development from the M62 and M66.	Motorways and Trunk Roads	Medium
Simister Island improvements	To address existing congestion issues on the SRN, and provide the capacity for future growth.	Motorways and Trunk Roads	Medium
M66 improvements (potentially including enhancements to J2-3, a collector-distributor system, smart motorway, or bus priority measures)	To address existing congestion issues on the SRN, and provide the capacity for the scale of growth both within the city-region and in neighbouring authorities.	Motorways and Trunk Roads	Medium
Post Plan Period – 2038 and beyond			
Rapid transit corridor between Bury and Bolton	To provide a more attractive alternative to the car for orbital journeys between these key town centres, thereby reducing pressure on the A58 and M60/M61.	Metrolink and Bus Rapid Transit	High

Intervention	Rationale	Theme	Cost
Rapid transit corridor between Rochdale, Heywood and Bury	To provide a more attractive alternative to the car for orbital journeys between these three key town centres, thereby reducing pressure on the A58 and M62/M60.	Metrolink and Bus Rapid Transit	High
Continued implementation of the Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High

Table 4: Eastern Study Area interventions

Intervention	Rationale	Theme	Cost
Early Plan Period – 2018-2026			
Tameside Interchange redevelopment	To increase the accessibility of Metrolink, bus and rail from nearby destinations, and increase the attractiveness of the Interchange as the focal point for intra-urban growth in Ashton town centre.	Town Centres and Interchanges	Medium
Direct Metrolink connection between Manchester Piccadilly and Oldham and Rochdale	To provide a key link from the north of Greater Manchester (Oldham and Rochdale) to Piccadilly station.	Metrolink and Bus Rapid Transit	Medium
Rail improvements through the Northern franchise, e.g. new trains on the Glossop Line	To provide additional capacity on this key commuter corridor.	Rail	Low
South East Manchester Rail Study improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift.	Rail	High
TransPennine Route Upgrade to Leeds	To address medium-term capacity constraints and speed up journeys between Manchester and Leeds, delivering wider economic benefits in both conurbations.	Rail	High
Hattersley station accessibility improvements including south-facing access	To support the development of the Godley Green GMSF allocation.	Rail	Low
Streets for All corridor studies and improvements, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Quality Bus Transit corridor (Rochdale – Oldham – Ashton)	To provide a more attractive alternative to the car for orbital journeys between Rochdale, Oldham and Ashton.	Bus	Medium
Quality Bus Transit corridor (Ashton – Hyde – Stockport)	To provide a more attractive alternative to the car for orbital journeys between Ashton, Hyde and Stockport.	Bus	Medium
A57 Hyde Road Localised Widening	To address a pinch point on the A57 and reduce congestion.	Local Highways	Low
Walking and cycling improvements, to be delivered through the Mayor's Challenge Fund	To increase the number and proportion of short journeys (less than 5km) made by walking and cycling, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Medium
Mottram Moor and A57(T) Link Roads	To reduce journey times between Manchester and Sheffield, provide more reliable journey times and improve safety.	Motorways and Trunk Roads	High
Late Plan Period – 2027-2037			
Metro/tram-train services to Marple	To provide much greater capacity and frequency on the Marple corridor, both to address existing crowding issues and to facilitate further growth	Metrolink and Bus Rapid Transit	High
Metro/tram-train services to Glossop	To provide much greater capacity and frequency on the Glossop corridor, both to address existing crowding issues and to facilitate further growth.	Metrolink and Bus Rapid Transit	High
Metrolink extension to Stalybridge	To provide communities east of Ashton with an alternative rapid transit option into the Regional Centre, thereby reducing pressure on the A635 and other roads.	Metrolink and Bus Rapid Transit	High

Intervention	Rationale	Theme	Cost
Further Streets for All improvements identified through the corridor studies, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Further measures to address congestion in the Longdendale area	To address congestion issues on the strategic A628 corridor, and improve journey times and journey time reliability to South Yorkshire.	Motorways and Trunk Roads	High
Denton Island improvements	To address congestion and resilience issues on this key part of the SRN, which is likely to witness increased demand.	Motorways and Trunk Roads	Medium
Measures to address congestion on the south-east quadrant of the M60 through Stockport	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
Post Plan Period – 2038 and beyond			
Rapid transit corridor between Stockport, Ashton and Oldham	To provide a more attractive alternative to the car for orbital journeys between these three key town centres, thereby reducing pressure on the SRN.	Metrolink and Bus Rapid Transit	High
Trans-Pennine Tunnel to Sheffield and wider connectivity enhancements	To transform city-to-city highway connectivity across the North of England, in line with TfN's vision for an efficient highway network that effectively connects the labour markets of the North's major cities.	Motorways and Trunk Roads	High

Table 5: Southern Study Area interventions

Intervention	Rationale	Theme	Cost
Early Plan Period – 2018-2026			
Manchester Airport Metrolink Line extension to Terminal 2	To facilitate continued growth at the Airport by connecting passengers and staff more effectively to the Metrolink network, and help to increase the effective population catchment area of the Airport.	Metrolink and Bus Rapid Transit	Medium
Manchester Airport Metrolink Line extension from Roundthorn to Davenport Green	To provide communities in South Manchester with an alternative rapid transit option into the Regional Centre, and to facilitate an increase in frequency on the Airport Metrolink line by enabling services to split at Roundthorn and turn around.	Metrolink and Bus Rapid Transit	High
Tram-train Pathfinder trial between Altrincham and Hale	To maximise existing Metrolink capacity in order to accommodate rapid transit demand growth. Will also facilitate testing of the tram-train concept for wider application in Greater Manchester.	Metrolink and Bus Rapid Transit	Medium
Tram-train Pathfinder trial between Manchester Airport and Wilmslow	To maximise existing Metrolink capacity in order to accommodate rapid transit demand growth. Will also facilitate testing of the tram-train concept for wider application in Greater Manchester.	Metrolink and Bus Rapid Transit	Medium
Bus Rapid Transit from Manchester Airport to the east	To provide better public transport access to proposed GMSF developments and existing residential areas, and to help achieve the step-change in non-car mode share needed to support the growth of the Airport area.	Metrolink and Bus Rapid Transit	Medium
Rail franchise improvements, e.g. increased services to New Mills and Northwich and more direct connections from Manchester Airport	To provide additional capacity on these key commuter corridors.	Rail	Low
South Manchester Rail Study improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift, and prepare for the arrival of HS2.	Rail	High
South East Manchester Rail Study improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift.	Rail	High
Delivery of the Stockport Station Masterplan	To improve passenger facilities at Stockport station and reduce severance.	Rail	Medium
Capacity enhancements south of Stockport station to deliver improvements for national rail, HS2, and potential future metro/tram-train services	To undertake essential maintenance, and use the opportunity to upgrade the rail corridor for National Rail/HS2/potential Metro/tram-train services.	Rail	High
Manchester Airport station re-modelling	To facilitate continued growth at the Airport by connecting passengers and staff more effectively to the rail network, and help to increase the effective population catchment area of the Airport.	Rail	Medium
Streets for All corridor studies and improvements, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Quality Bus Transit corridor (Stockport-Ashton)	To provide a more attractive alternative to the car for orbital journeys between Stockport and Ashton.	Bus	Medium
Stockport Interchange redevelopment	To increase the accessibility of bus and rail from nearby destinations, and increase the attractiveness of the Interchange as the focal point for intra-urban growth in Stockport town centre.	Town Centres and Interchanges	Medium

Intervention	Rationale	Theme	Cost
Stockport Interchange and Town Centre Access Plan	To tackle congestion in and around Stockport town centre and remove barriers to movement for all modes.	Town Centres and Interchanges	Medium
Priorities for improving the local road network identified in the South East Manchester Multi-Modal Study (SEMMMS) refresh	To increase the resilience of the transport network in the south of Greater Manchester and improve access to the Airport.	Local Highways	High
Walking and cycling improvements, to be delivered through the Mayor's Challenge Fund	To increase the number and proportion of short journeys (less than 5km) made by walking and cycling, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Medium
M56 J6-8 Smart Motorway	To address existing congestion issues on the SRN, and provide the capacity for the scale of growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
Late Plan Period – 2027-2037			
Stockport HS2 Growth Strategy	To address medium-term capacity constraints on the West Coast Main Line and at Stockport station, which will become more pressing between 2026 and 2033, when HS2 trains will start to arrive, but the new tunnel to Piccadilly (HS2 Phase 2b) will not yet be complete.	Rail	High
New HS2 and NPR station at Manchester Airport	To deliver transformational change to Greater Manchester's global rail offer from this new high-speed rail hub, and to ensure good onward public transport connections from across Greater Manchester to deliver wider benefits for the city region as a result of the improved connectivity.	Rail	High
Completion of the Airport Metrolink Western Leg	To provide rapid transit connections to new development areas to the north-west of Manchester Airport, which will help achieve the step-change in non-car mode share required to support the growth of the Airport area.	Metrolink and Bus Rapid Transit	High
Metro/tram-train services between Manchester Airport and Stockport town centre	To facilitate the growth of Manchester Airport area, which requires a step-change in non-car mode share.	Metrolink and Bus Rapid Transit	High
Further phases of Bus Rapid Transit from Manchester Airport to the east	To provide better public transport access to proposed GMSF developments and existing residential areas, and to help achieve the step-change in non-car mode share needed to support the growth of the Airport area.	Metrolink and Bus Rapid Transit	Medium
Rapid transit corridor between Manchester Airport and Altrincham	To provide a more attractive alternative to the car for orbital journeys between Altrincham and the Airport, and to support the Timperley Wedge allocation.	Metrolink and Bus Rapid Transit	Medium
Metro/tram-train services to Marple	To provide much greater capacity and frequency on the Marple corridor, both to address existing crowding issues and to facilitate further growth.	Metrolink and Bus Rapid Transit	High
Metro/tram-train services to Hazel Grove	To provide much greater capacity and frequency for rapid transit to and from Hazel Grove (potentially including Stockport), both to address existing crowding issues and to facilitate further growth.	Metrolink and Bus Rapid Transit	High
Further Streets for All improvements identified through the corridor studies, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium

Intervention	Rationale	Theme	Cost
M56 and M56-M60 links capacity improvements	To improve the reliability of journey times to the Airport, enhancing its function as the primary global gateway for the North of England.	Motorways and Trunk Roads	High
Manchester Airport expansion highway improvements	To improve the reliability of journey times to the Airport, enhancing its function as the primary global gateway for the North of England. To be coordinated with longer term highway improvements required to support the HS2 and NPR Growth Strategy at Manchester Airport.	Local Highways	Medium
A6 to M60 Link Road	To increase the resilience of the transport network in the south of Greater Manchester and improve access to the Airport.	Local Highways	High
Measures to address congestion on the south-east quadrant of the M60 through Stockport	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
Post Plan Period – 2038 and beyond			
Continued implementation of the full Northern Powerhouse Rail network to and from Manchester Airport	To deliver transformational change to Greater Manchester's city-to-city rail offer at Manchester Piccadilly Station, and to ensure good onward public transport connections from across Greater Manchester to deliver wider benefits for the city region as a result of the improved connectivity.	Rail	High
Airport Western Link	To provide rapid transit connections to new development areas to the north-west of Manchester Airport, which will help achieve the step-change in non-car mode share required to support the growth of the Airport area.	Rail	High
Rapid transit corridor from Stockport to Ashton	To provide a more attractive alternative to the car for orbital journeys between these key centres, thereby reducing pressure on the M60, A560 and other local roads.	Metrolink and Bus Rapid Transit	High
Rapid transit corridor from Manchester Airport to Carrington (and potentially onwards to Irlam)	To provide a more attractive alternative to the car for orbital journeys, to provide a rapid transit option for the large New Carrington allocation, and to reduce the severance caused by the Manchester Ship Canal.	Metrolink and Bus Rapid Transit	High
Further long-term highways interventions emerging from the SEMMMS refresh	To increase the resilience of the transport network in the south of Greater Manchester and improve access to the Airport.	Local Highways	High

Table 6: Western Study Area interventions

Intervention	Rationale	Theme	Cost
Early Plan Period – 2018-2026			
Trafford Park Metrolink Line	To provide transformational rapid transit connectivity to this part of Greater Manchester, and support regeneration and economic growth in the area.	Metrolink and Bus Rapid Transit	High
Port Salford rail link	To facilitate the delivery of Port Salford as a 'tri-modal' logistics hub, reducing the impact of freight movement on the city region's congested motorway network.	Rail	Medium
Chat Moss and West Coast Rail Study improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift.	Rail	High
New Carrington priority bus corridor	To serve new development at Carrington with improved public transport links, particularly to and from the Regional Centre.	Bus	Low
Streets for All corridor studies and improvements, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Walking and cycling improvements, to be delivered through the Mayor's Challenge Fund	To increase the number and proportion of short journeys (less than 5km) made by walking and cycling, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Medium
Full Western Gateway Infrastructure Scheme (WGIS)	To facilitate the growth of Port Salford, delivering improved global connectivity to Greater Manchester through deep sea and European supply chains.	Motorways and Trunk Roads	Medium
M62 J10-12 Smart Motorway	To address existing congestion issues on the SRN, and provide the capacity for the scale of growth both within the city-region and in neighbouring authorities.	Motorways and Trunk Roads	High
Early interventions emerging from the Manchester North West Quadrant Strategic Study	To address existing congestion issues on the SRN, and provide the capacity for the scale of growth both within the city-region and in neighbouring authorities.	Motorways and Trunk Roads	Medium
Carrington Relief Road	To support growth in the Carrington area by improving accessibility to new developments.	Local Highways	Medium
Late Plan Period – 2027-2037			
CLC Line capacity improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift.	Rail	High
Chat Moss Line capacity improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift.	Rail	High
Metrolink extension to Salford Stadium and/or Port Salford	To effectively serve the major developments of Trafford Waters, Salford Stadium and potentially Port Salford which are currently not connected to rapid transit, exploiting the 'critical mass' provided by these sites.	Metrolink and Bus Rapid Transit	High
Further Streets for All improvements identified through the corridor studies, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium

Intervention	Rationale	Theme	Cost
Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
New motorway connection into Port Salford	To facilitate the growth of Port Salford, delivering improved global connectivity to Greater Manchester through deep sea and European supply chains.	Motorways and Trunk Roads	Medium
Post Plan Period – 2038 and beyond			
Metro/tram-train services on the CLC Line to Warrington	To provide much greater capacity and frequency on the CLC Line, both to address existing crowding issues and to facilitate further growth.	Metrolink and Bus Rapid Transit	High
Rapid transit corridor from Manchester Airport to Carrington (and potentially onwards to Irlam)	To provide a more attractive alternative to the car for orbital journeys, to provide a rapid transit option for the large New Carrington allocation, and to reduce the severance caused by the Manchester Ship Canal.	Metrolink and Bus Rapid Transit	High
Continued implementation of the Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
Carrington-Cadishead-Birchwood highway link	To support growth in the Carrington area by improving accessibility to new developments.	Local Highways	High

Table 7: North Western Study Area interventions

Intervention	Rationale	Theme	Cost
Early Plan Period – 2018-2026			
Manchester-Preston electrification	To provide additional capacity on this key commuter corridor.	Rail	High
Rail franchise improvements, e.g. increased frequency on the Atherton line	To provide additional capacity on this key commuter corridor.	Rail	Low
North West Rail Study improvements	To provide increased frequency and capacity for journeys into the Regional Centre, facilitating new developments along the line and contributing to modal shift.	Rail	High
Bus Rapid Transit extension to Hindley, Ince and Wigan	To link major growth areas with the Regional Centre and Wigan Town Centre, including the Wigan HS2 station and associated developments.	Metrolink and Bus Rapid Transit	Medium
Streets for All corridor studies and improvements, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Completion of the Salford Bolton Network Improvements	To create shorter, more reliable journey times for all road users and deliver better access to employment and local facilities for bus passengers.	Bus	Medium
Quality Bus Transit corridor (Bolton – Bury)	To provide a more attractive alternative to the car for orbital journeys between Bolton and Bury.	Bus	Medium
Quality Bus Transit corridor (Bolton – Wigan)	To provide a more attractive alternative to the car for orbital journeys between Bolton and Wigan.	Bus	Medium
Walking and cycling improvements, to be delivered through the Mayor's Challenge Fund	To increase the number and proportion of short journeys (less than 5km) made by walking and cycling, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Medium
M58 Link Road	To provide better east-west connectivity between the M6, Wigan town centre and growth areas further east.	Local Highways	Medium
A49 Link Road	To provide better east-west connectivity between the M6, Wigan town centre and growth areas further east.	Local Highways	Medium
M58/M6 interchange upgrade (short term)	To increase the capacity of the M58/M6 interchange, providing better connectivity into Wigan and to the Port of Liverpool.	Motorways and Trunk Roads	Low
Further east-west highway infrastructure connecting the M6 and M61	To provide better east-west connectivity between Wigan town centre and growth areas further east.	Local Highways	Medium
M6 J21a-26 Smart Motorway	To address existing congestion issues on the SRN, and provide the capacity for the scale of growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
M6 J23 upgrade	To address existing congestion issues on the SRN, and provide the capacity for the scale of growth both within the city-region and in neighbouring authorities.	Motorways and Trunk Roads	Medium
Late Plan Period – 2027-2037			

Intervention	Rationale	Theme	Cost
Wigan HS2 Growth Strategy	To better integrate Wigan Wallgate and North Western and therefore make the rail offer more attractive, creating a secondary long-distance rail hub for the city region as an alternative to Manchester Piccadilly, particularly in the context of HS2.	Rail	High
Electrification from Bolton to Wigan	To provide additional capacity on this key commuter corridor.	Rail	High
Bus Rapid Transit extension to Lowton and Golborne	To provide a more attractive alternative to the car along the corridor, particularly for the associated new developments.	Metrolink and Bus Rapid Transit	Medium
New Guided Busway stop to serve North of Mosley Common	To support the North of Mossley Common allocation, providing dedicated access to the Guided Busway.	Metrolink and Bus Rapid Transit	Low
Metro/tram-train services to Wigan via Atherton	To provide much greater capacity and frequency on the Atherton Line, both to address existing crowding issues and to facilitate further growth.	Metrolink and Bus Rapid Transit	High
Further Streets for All improvements identified through the corridor studies, including walking, cycling and Quality Bus Transit measures	To support the delivery of better streets to create sustainable, healthy and resilient places, tackling issues such as congestion, air pollution, bus service reliability, improve interchange between modes as well as walking and cycling improvements.	Local Highways	Medium
Manchester North West Quadrant Study package of motorway and multi-modal capacity Improvements	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High
New link road to M61 Junction 6	To support the M61 Junction 6 West of Wingates allocation.	Local Highways	Medium
Post Plan Period – 2038 and beyond			
Continued implementation of the Manchester North West Quadrant Study package of motorway and multi-modal capacity improvements	To address existing congestion issues on the SRN, and provide the capacity for growth both within the city region and in neighbouring authorities.	Motorways and Trunk Roads	High

Table 8: Greater Manchester wide interventions (note: only those interventions not covered by the previous tables are included below)

Intervention	Rationale	Theme	Cost
Early Plan Period – 2018-2026			
Additional Metrolink trams and associated infrastructure	To exploit the remaining near-term opportunities for increasing Metrolink capacity into and through the Regional Centre, in order to facilitate the continuing growth of employment, leisure and residential development.	Metrolink and Bus Rapid Transit	Medium
Tram management system improvements	To provide capacity improvements through the city centre and real time passenger information.	Metrolink and Bus Rapid Transit	Low
Metrolink renewals programme	To intelligently invest in timely asset replacement.	Metrolink and Bus Rapid Transit	Medium
Contactless payment on Metrolink	To make it easier for customers to plan, make and pay for their journeys using different modes, thereby making the overall Greater Manchester public transport offer more attractive.	Fares and Ticketing	Low
Zonal charging on Metrolink	To make it easier for customers to plan, make and pay for their journeys using different modes, thereby making the overall Greater Manchester public transport offer more attractive.	Fares and Ticketing	Low
Further roll-out of smart, integrated ticketing across Greater Manchester	To make it easier for customers to plan, make and pay for their journeys using different modes, thereby making the overall Greater Manchester public transport offer more attractive.	Fares and Ticketing	Medium
Work with TfN to deliver a pan-Northern integrated and smart travel programme	To make it easier for customers to plan, make and pay for their journeys using different modes, thereby making the overall Greater Manchester public transport offer more attractive.	Fares and Ticketing	Medium
A business case for Bus Reform in Greater Manchester	To provide greater influence over the Greater Manchester bus network, delivering a more attractive offer for passengers (subject to feasibility and GMCA decision to proceed).	Bus	Low
New Stations Study to identify prioritised locations for potential new stations	To provide a new public transport option, contributing to modal shift and reducing pressure on the highway network where this can be shown to be viable.	Rail	Medium
Improved Park and Ride facilities	To provide better access to public transport by increasing the capacity of Park & Ride facilities.	Rail / Metrolink and Bus Rapid Transit	Medium
Improved cycle parking at stations	To increase the number and proportion of short journeys (less than 5km) made by bicycle, thereby reducing the impact of traffic on local roads.	Rail / Metrolink and Bus Rapid Transit	Low
Implementation of the Greater Manchester Congestion Deal	To exploit short-term opportunities to reduce congestion across Greater Manchester.	Local Highways	Medium
Implementation of the Greater Manchester Freight and Logistics Strategy	To reduce the social and environmental impacts of freight traffic, tackle congestion and improve air quality.	Freight and Logistics	Low
Development and implementation of a Clean Air Plan for Greater Manchester	To improve air quality in the Regional Centre and other areas, and improve the health of Greater Manchester residents and visitors.	Clean Air and Carbon	Medium
Trials to explore the benefits of new transport technologies, including autonomous vehicles, flexible on-demand transport, and Mobility as a Service (MaaS)	To support the development of new technologies to support improvement of the transport network in Greater Manchester.	Future Mobility and Innovation	Low

Intervention	Rationale	Theme	Cost
Support for a new bike hire scheme	To increase the number and proportion of short journeys (less than 5km) made by bicycle, thereby reducing the impact of traffic on local roads.	Walking and Cycling	Low
Expansion of the electric vehicle charging network	To improve air quality in the Regional Centre and other areas, and improve the health of Greater Manchester residents and visitors.	Future Mobility and Innovation	Low
Support for car clubs	To support the development of new technologies to support improvement of the transport network in Greater Manchester.	Future Mobility and Innovation	Low
Late Plan Period – 2027-2037			
Further support for, and regulation of, new forms of mobility such as Mobility as a Service (MaaS) and autonomous vehicles	To support the development of new technologies to support improvement of the transport network in Greater Manchester.	Future Mobility and Innovation	Medium
Post Plan Period – 2038 and beyond			
Further support for, and regulation of, new forms of mobility such as Mobility as a Service (MaaS) and autonomous vehicles	To support the development of new technologies to support improvement of the transport network in Greater Manchester.	Future Mobility and Innovation	Medium

