Transport for Greater Manchester

GREATER MANCHESTER TRANSPORT STRATEGY 2040

A sustainable urban mobility plan for the future

GMCA GREATER MANCHESTER COMBINED AUTHORITY

Greater Manchester Local Enterprise Partnership

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Part 1
Introduction to our Greater Manchester 2040 Transport Strategy

Overview

1. Greater Manchester is changing. Not only is it growing, both in terms of population and economy, it is also on a path towards significant devolution of powers and funding from central Government, supported by a directly-elected Mayor. It is in this context of rapid change that we are developing this 2040 Greater Manchester Transport Strategy, led by Transport for Greater Manchester (TfGM) on behalf of the Greater Manchester Combined Authority (GMCA) and the Greater Manchester Local Enterprise Partnership (GMLEP).

2. Transport is crucial in supporting Greater Manchester's ambitious plans, including those set out in the Greater Manchester Spatial Framework – growth will both need and be driven by improved connectivity. This is true on both a local and pan-northern level; as Greater Manchester has a fundamental role to play at the heart of a successful, more connected, Northern Powerhouse.

3. Why 2040? The opportunities offered by devolution and greater local determination of policies, funding and delivery allow us to take a much bolder and longer-term view of our transport needs.

4. Our 2040 Vision for Transport, which we consulted on in 2015, set out our ambitions for a radical new approach to planning our transport system in support of long-term needs and aspirations. This Transport Strategy now builds on that Vision, highlighting the priority interventions needed to achieve it. The Strategy is, in turn, supported by a 5-year Delivery Plan, which sets out our short-term delivery priorities.

5. Importantly, our 2040 Transport Strategy is not about simply predicting what the future might hold and responding accordingly. It's about helping to shape and create a successful, resilient city-region, ready to tackle the challenges, and opportunities, of the 21st century. By being clear on our priorities, we can realise them more effectively; we can develop funding mechanisms linked better to the benefits of improved connectivity; and we can develop a local skills base to enable more of our residents to benefit from employment in the transport sector.

6. Our priority interventions range from transformational investment in HS2 and new, fast east-west rail connections across the North; to establishing Greater Manchester as a modern, pedestrian and cycle-friendly city-region. Our local road system will be much more reliable and safe for all users, including freight and commercial traffic. And, crucially, we will build on the success of our commuter revolution, which Metrolink and improved local rail services have brought over the past 20 years, with the delivery of new and enhanced rapid transit links and a transformed local bus network.

7. Ultimately, all interventions will come together to offer flexible and customer-focused travel choices, supported by smart information, ticketing and payment systems, across a truly integrated Greater Manchester transport network.

8. Our travelling customers – residents, business and visitors – sit at the heart of this Strategy. An effective transport system supports a strong economy by enabling goods to reach customers, and

businesses to access skills and talent. And it has a major bearing on people's health and well-being by facilitating social interaction, encouraging more active travel and addressing traffic pollution.

9. This Strategy focuses on the critical long-term challenges we are facing in Greater Manchester, such as a rapidly growing and ageing population, climate change and the need to improve productivity and reduce poverty and social inequality in our City Region. This is supported by a more holistic approach to the needs of passengers and freight, with a strong focus on integration; across different modes of transport, and with wider policy areas, such as spatial planning and health. Technology and innovation also have a key role to play. We will take a consistent and long-term approach to tackling these major challenges, but will also review our Strategy on a regular basis to respond to changing trends and new opportunities and priorities.

10. Our 2040 Vision will not be easy to deliver but, in preparing this long-term strategy, we believe we are putting in place the right framework to face up to the challenges of the next 25 years.

Our Vision for 2040

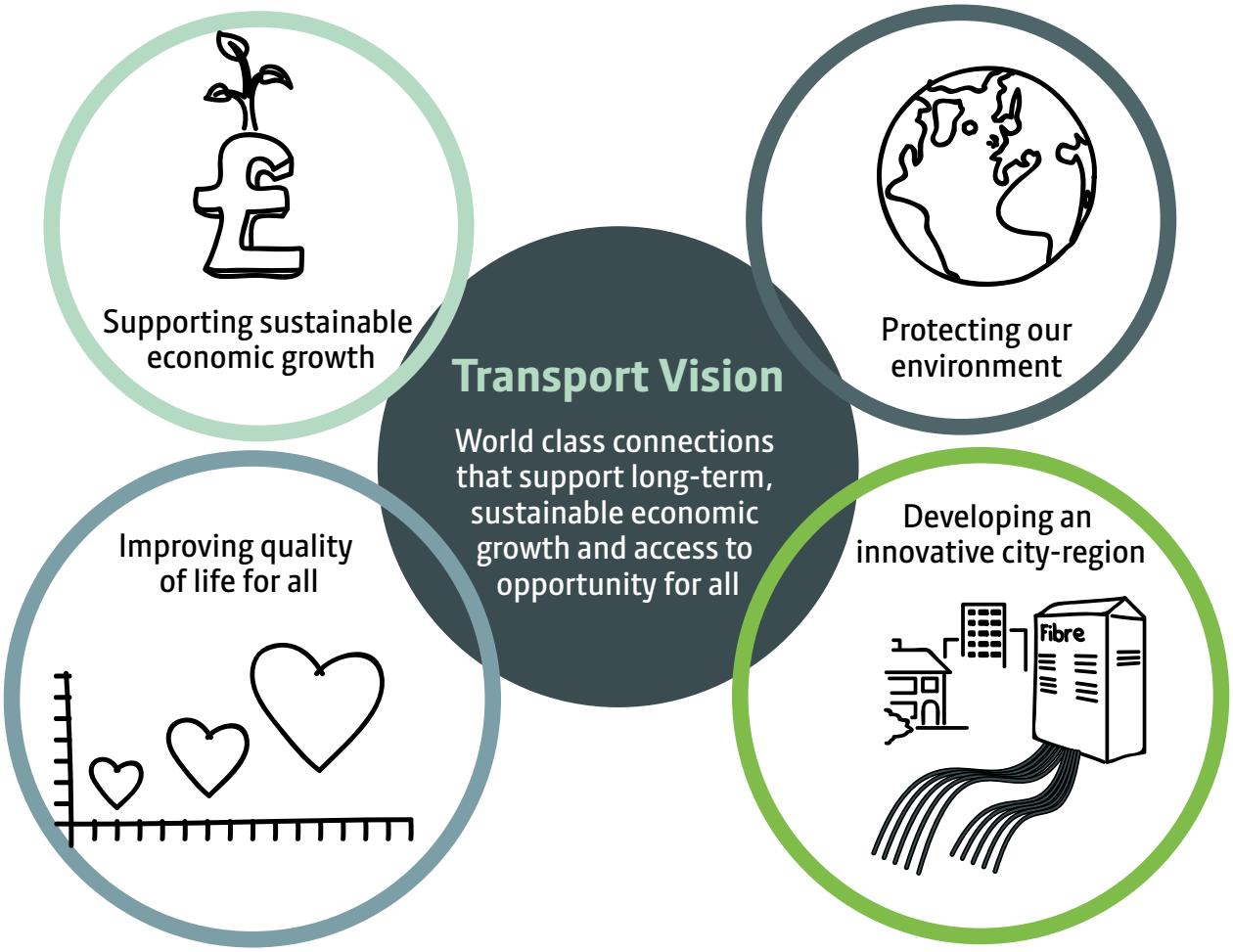
11. Our vision is for Greater Manchester to have '***World class connections that support long-term, sustainable economic growth and access to opportunity for all'***. Our approach to achieving this was set out in the 'Greater Manchester 2040 Transport Strategy: Our Vision'.

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

13. It 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.

14. Finally, the role of technology and innovation will be even more important in the period up to 2040, enabling us to improve transport performance and quality of life, to reduce costs and resource consumption, and to provide tailored information directly to transport users, providing a much better customer experience.

15. The four key elements of our Vision, which represent the goals of our strategy, are set out in the Figure below:

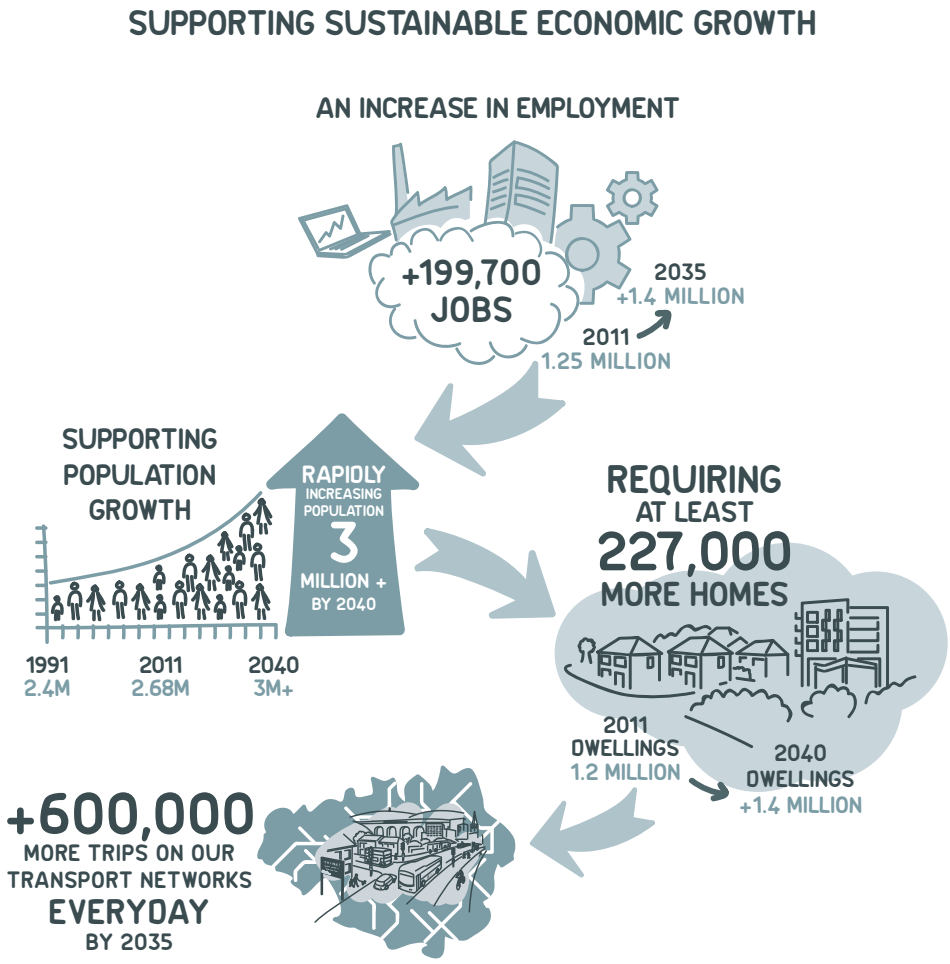


Critical Transport Challenges for Greater Manchester

16. We face a number of challenges in achieving our vision, and these are analysed in depth in our 2040 Evidence Base, which should be read alongside this 2040 Transport Strategy, and are summarised below.

Supporting Sustainable Economic Growth

17. Greater Manchester has ambitious growth plans over the coming 25 years, with major growth in employment (particularly in knowledge-based industries) leading to a rapidly increasing population and an urgent need to build over 11,000 new homes a year up to 2035, as highlighted below.



18. Further details relating to the infographics above can be found in the Evidence Base.

19. Key challenges for our strategy in supporting sustainable economic growth are as follows:

- Growth will lead to thousands more trips on our transport networks, which could result in significant highways congestion and overcrowding on our public transport networks, ultimately choking off investment and damaging prosperity. Preventing increased congestion will need more people to travel by public transport or to walk or cycle, and fewer goods vehicles on our roads during peak periods, but this will require a significant improvement in the alternatives, providing more capacity and creating a flexible, integrated sustainable transport system that meets customer

needs. Additional transport links will be needed to unlock growth areas, particularly as the scale of growth means that sites on the edge of the urban area will need to be developed.

- Access to skills and markets needs to be improved to allow people to take up the new jobs on offer, employers to recruit the best workers and businesses to deliver goods efficiently.

- Journey time reliability on our roads and on public transport is essential, reducing the cost to business of delayed deliveries and employees arriving late. The cost of congestion in Greater Manchester has been estimated by TfGM to be £1.3 billion per year.

- Networks need to be well maintained in order to function. We face an increasing challenge to keep networks open in the face of adverse weather conditions (linked to climate change), ageing infrastructure and more intensive operation.

- The perception of Greater Manchester as a good place to live, invest and visit is vital to the economy. We must deliver the sort of efficient, seamless, intelligent and easy to use public transport system enjoyed by leading world cities, and urban areas that offer a safe, attractive and clean environment for walking and cycling.

Improving the Quality of Life

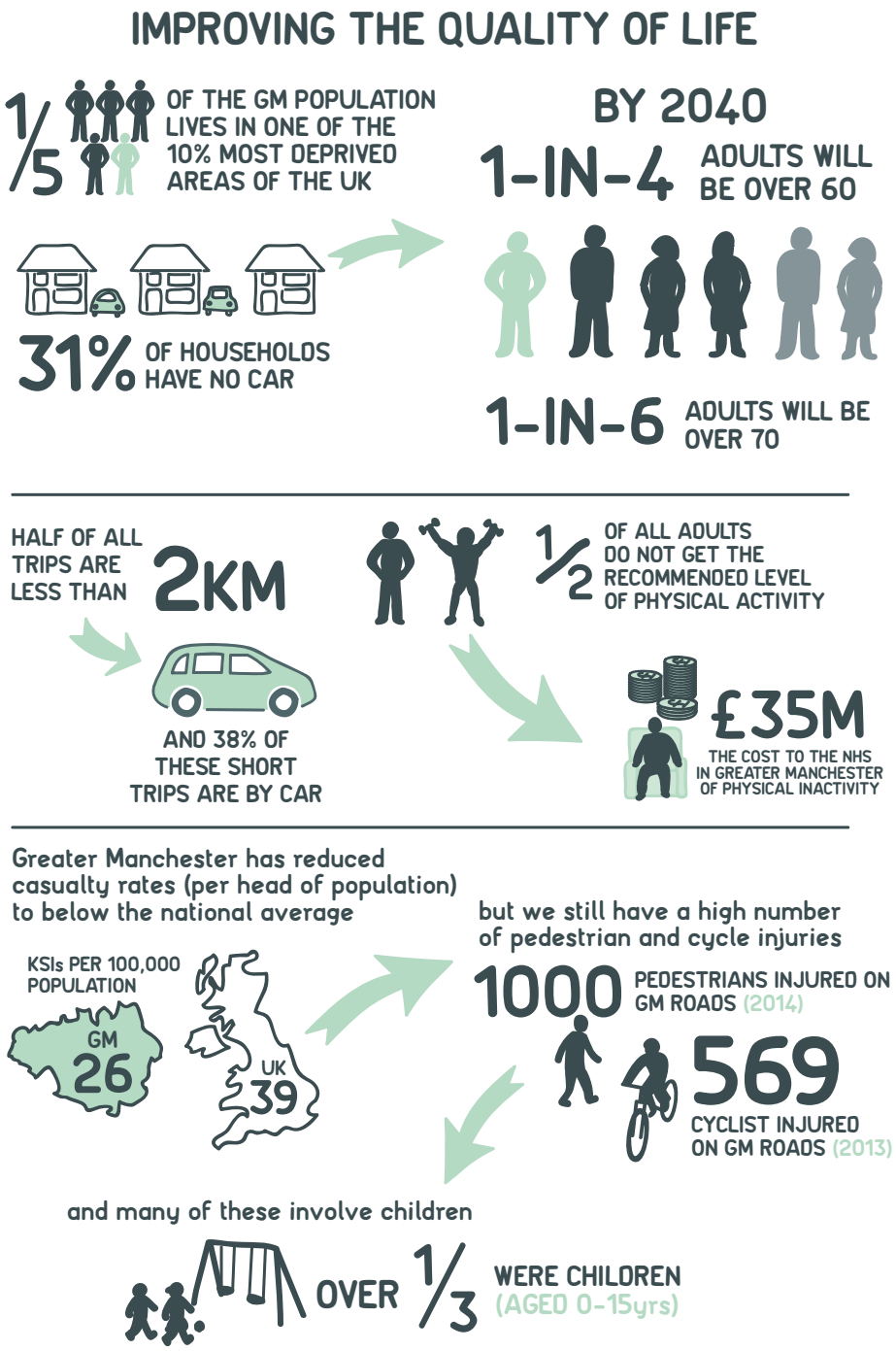
20. Economic success, particularly in the Regional Centre and the south of Greater Manchester, has not yet spread to all areas and there are significant pockets of severe deprivation throughout the conurbation, particularly around the central urban core and the main towns. Many of our residents do not have access to a car and therefore rely heavily on public transport. We also have major challenges in terms of physical inactivity and road collisions. Our 2040 Transport Strategy can make a major contribution to improving the quality of life of all our residents by helping to address some of the critical challenges highlighted below:

- Access to jobs and training needs to be improved so that transport is not a barrier to people taking up work, or moving to a better job. Where businesses operate 24/7 or have variable working hours it can be difficult to provide public transport, and the cost of travel is a serious issue for those in lower-paid jobs.

- Good access to services such as education, healthcare, shopping and recreation is essential, particularly for disadvantaged groups and people living in isolated areas. Our town centres are threatened by changing retail trends and elsewhere many of our services, such as healthcare, are becoming more centralised and, in some cases, more difficult to reach.

- Improving health is an area where transport can make a significant contribution by increasing levels of active travel. Much needs to be done to make this a real option by improving safety, providing better infrastructure and facilities and building confidence through training. We must make walking and cycling the natural choice for everyday shorter trips, many of which are currently made by car.

- Safety and security are fundamental. Good progress has been made in reducing the number of people killed or seriously injured on our roads but all partners must work hard to deliver our vision of reducing the number of road deaths to close to zero by 2040. Public transport is a very safe way to travel, but some people are deterred from using it by the fear of crime and anti-social behaviour, which we must continue to tackle.

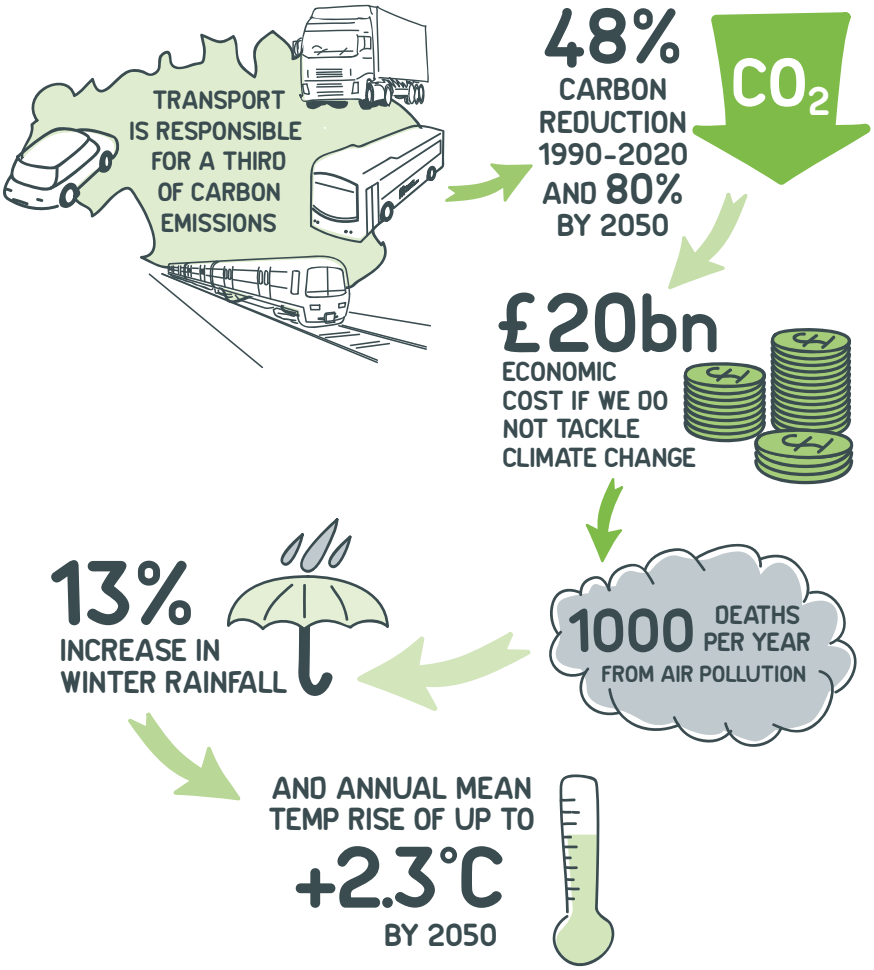


21. Further details relating to the infographics above can be found in the Evidence Base.

Protecting our Environment

22. Motorised transport has brought great benefits to society, giving easy access to a wide range of opportunities, but its impact on the environment can be very damaging. At a global level, CO_2 emissions are a major contributor to climate change, which may disrupt transport networks e.g. through increased flooding. At the same time, a concentration of harmful emissions in areas close to major highways contributes to illness and premature death, while noise can also blight communities:

PROTECTING OUR ENVIRONMENT



23. Further details relating to the infographics above can be found in the accompanying Evidence Base.

24. Key challenges for protecting our environment are:

- Increasing the use of sustainable transport to reduce the negative impacts of car use. Many people do not currently see sustainable modes as realistic alternatives and we must continue to work hard to improve the quality of our walking, cycling and public transport networks and to provide people with the facilities and training to make them natural, easy choices. The design of new development needs to make it easier for people to use sustainable modes.

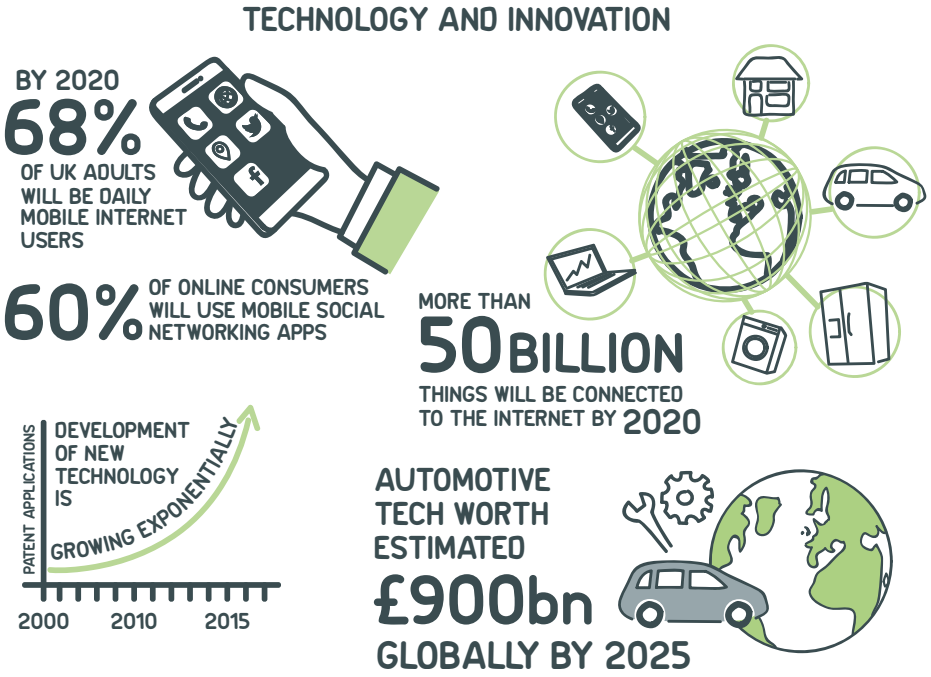
- Reducing transport emissions is a particular challenge, given that economic and population growth will increase the demand for travel, hence more radical measures will be needed to enable Greater Manchester to meet challenging standards and targets, in terms of air quality and in response to the challenge of climate change.

- Making the best use of existing infrastructure will help to reduce environmental impacts. Locating new development where there is good access to public transport and services will reduce car travel and therefore emissions. Road and rail networks must also be used as efficiently as possible, and be well maintained.

- Both the natural and built environment need to be protected from the impacts of transport, and enhanced. Damage to, or loss of, habitats as a result of construction, disturbance from traffic noise or street lighting, and pollution due to run-off from highways must all be minimised.

Developing an Innovative City Region

25. Digital systems and devices have already become part of our everyday lives, but global developments in technology offer huge potential to change the way we live and work: improving performance and reliability of our networks; reducing costs and resource consumption; and enabling service providers to engage more effectively and actively with citizens. We do not see innovation as an end in itself, but more a philosophy that we need to embrace, in a thoughtful and applied way, to everything that we do in transport over the coming years.



Further details relating to the infographics above can be found in the Evidence Base.

26. We will seek to exploit new technologies and innovative approaches where we believe they add real value to the delivery of our strategy, and particularly in the five key areas shown in the graphic below:

Building on Success

27. We already have significant improvements in progress to improve the capacity and resilience of our transport networks over the coming years, including:

- An effective doubling of capacity on our suburban rail network through electrification programmes, delivery of the Northern Hub, and new Northern and TransPennine franchise specifications which will relieve the majority of our overcrowding issues, up to the mid-2020s. Beyond, that additional capacity will be needed on our rail networks, through improvements to infrastructure and rolling stock provision, to accommodate rapid growth in the City Region.

- We are close to completing the delivery of significant additional capacity on our rapid transport networks to support growth in the medium-term future. This includes major expansion of our Metrolink network to Oldham, Rochdale, East Didsbury, Ashton, Manchester Airport and Trafford Park , and delivery of the Second City Centre crossing, plus more double-unit vehicles operating on the busiest Metrolink lines and delivery of the Bus Priority Package (which includes the Leigh-Salford-Manchester busway). However, before 2040, we anticipate a need for significant additional rapid transit capacity, particularly in the City Centre where lack of capacity will restrict the further expansion of the network.

- On our highways networks, we are developing a Greater Manchester-wide approach to managing, maintaining and improving our Key Route Network of major roads which play the biggest role in supporting our City Region economy, and have been investing heavily in innovative real-time traffic management and information systems to improve the reliability of our roads.

- Investment in the first phases of a comprehensive Greater Manchester-wide cycle network, through our Velocity programme, supported by large-scale cycle training and travel choices programmes to encourage more cycling and walking.

- Investment in modern, attractive interchanges in our town centres, supported by further programmes of targeted bus priority and passenger facility improvements across our bus network.

28. However, the scale of the growth challenge we are facing over the coming years will need much more investment and careful planning and management of our transport systems, co-ordinated closely across the different elements of Greater Manchester's growth and public service reform agenda.

29. The policies and interventions set out in this document in Parts 2 and 3 have been developed to provide a comprehensive toolkit for addressing all of the challenges outlined above. As we move from broad interventions to specific schemes and funding programmes, set out in the Delivery Plan, we will need to prioritise those measures which best meet our long-term goals, with a particular focus on raising prosperity for all, whilst establishing a sustainable growth path for the City Region. Our well-developed approach to prioritisation ensures that investment is targeted in a manner that supports the economic performance of the City Region first and foremost, whilst also ensuring that at a programme level, we are able to address Greater Manchester's wider environmental and well-being challenges.

Scope of this Document

30. This document sets out Greater Manchester's Transport Strategy for 2016 to 2040. It takes as its starting point the '***Greater Manchester 2040 Transport Strategy: Our Vision***', which received widespread support through public and stakeholder consultation in the summer of 2015 (the results are reported at www.tfgm.com/2040). The strategy has been developed by TfGM, in consultation with the ten District Councils (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan), the GMLEP, and approved by the GMCA and the Interim Greater Manchester Mayor.

31. We recognise that the world around us is likely to change significantly in 25 years, in ways that we cannot always predict. We will need to refresh our strategy on a regular basis to reflect new challenges and opportunities. In particular we will need to ensure we have the appropriate transport infrastructure and services to support future growth in Greater Manchester.

32. The Greater Manchester Spatial Framework, which will identify new development locations, is still (in 2016) under development and so our transport strategy needs to be flexible to enable it to influence and support proposals as they are brought forward. This flexibility is achieved through a series of five-year Delivery Plans, which will accompany the Strategy. These will set out our spending programmes, based on the resources available. Each Delivery Plan will be updated annually to describe the progress made in delivering the Strategy and to reflect any changes needed. Taken together, the Strategy and Delivery Plans will constitute Greater Manchester's Fourth Local Transport Plan, as shown below:

33. This strategy has been developed in line with current Local Transport Plan guidance and European best practice in creating Sustainable Urban Mobility Plans. It is based on a thorough analysis of a range of supporting evidence, which is presented in more detail in our 2040 Evidence Base report. We have also undertaken an Integrated Assessment of the Strategy to ensure that it fully considers environmental, health, habitats and equalities impacts.

34. The draft Strategy and Delivery Plan were the subject of a 12-week consultation, beginning in July 2016, to which over 80 stakeholder groups and almost 1,690 members of the public responded. This incorporated a range of elements including a dedicated webpage, an animation that distilled the strategy into a 3-minute video, strong media coverage, a comprehensive social and mainstream media plan, and a well-attended stakeholder event. The documents themselves were available online and this included accessible versions: a British Sign Language video, Easy Read, Large Print and Audio versions.

35. Responses to the online questionnaire showed that 72% of respondents either agreed or strongly agreed that the strategy would help to deliver the vision. There was also strong support for the principles, priorities, spatial themes and Delivery Plan. Respondents also had the opportunity to answer an open question on 'What one thing would make travel in Greater Manchester easier for you?' The responses to this question, along with stakeholder comments were used to amend the draft documents.

36. A report on the consultation outcomes was approved by GMCA in October 2016 and the Final Strategy and Delivery Plan were approved in December 2016.

37. The remainder of this document is structured around three key parts:

- **Part 2** sets out some key strategic principles and policies for delivering a more customer-focused Greater Manchester transport system. These cover the principles we need to apply across our transport system as well as our strategic approach to planning and managing different modes of transport, including highways, walking and cycling, and public transport.

- **Part 3** focuses on the five "spatial themes" which we introduced in our 2040 Vision, highlighting key challenges, ambitions and interventions for different types of travel in Greater Manchester.

- Finally, our approach to delivery is set out in more detail in **Part 4**, including a summary of policies and key interventions, our approach to funding and prioritisation, and how we will measure performance.

Part 2
Supporting Travel in Greater Manchester in 2040: Strategic Principles and Policies

Introduction

38. Since we published our first LTP in 2001, Greater Manchester's transport strategy has had a consistent focus on sustainable transport and regeneration, and so we are already working hard to tackle many of the economic, environmental and quality of life challenges described in Part 1.

39. However, we will need to go much further in order to deliver the scale of ambition set out in our 2040 Vision document. Greater Manchester's growth and reform agenda, secured through the ground breaking 2014 Greater Manchester Agreement, will give us some of the additional tools we need to achieve our aspirations, through further devolution of powers and funding to a locally elected Greater Manchester Mayor.

40. We will build on our existing successful transport strategy and continue to develop and apply consistently a series of strategic principles and policies across our transport system. These are set out in more detail within this section and set a framework within which we can bring forward specific measures to tackle issues in different parts of Greater Manchester, as described in Part 3.

A More Customer-Focused Transport System: Our Network Principles

41. Meeting the varied transport needs of our residents, businesses and visitors is at the heart of our 2040 Transport Strategy. We are mindful that our transport system facilitates the movement of people and goods, and we must consider the needs of both as we plan for the future.

42. We have therefore established seven mutually reinforcing principles, set out below, which we will apply consistently as we improve Greater Manchester's transport system to ensure that it meets the needs of all customers:

Integration at the Heart of our 2040 Transport Strategy

Our Ambition: To enable people to move seamlessly between services and modes of transport on a single, high quality, easy-to-use network; maximising choice and supporting low-car lifestyles, made possible by integrated land use and transport planning.

43. A fundamental aspiration of the 2040 Transport Strategy is to provide Greater Manchester residents, visitors and businesses with real choice in their mode of travel and how goods are transported. In particular, we must provide sustainable travel options that offer an attractive alternative to the private car and minimise the negative impacts of road freight on our City Region. Tackling these issues will enable Greater Manchester to deliver its economic growth, environmental and quality of life goals without traffic congestion and pollution undermining its long-term success.

44. A major barrier to enabling people and goods to travel more sustainably is the lack of integration across the different parts of the transport network. This makes it difficult for customers to understand what travel options are available to them; how they access and pay for these; and how to move between different modes of transport for more complex journeys. Much of this is due to the complexity of different institutions and transport operators involved in planning and delivering our transport system. This is why developing a more joined-up approach to planning and delivering transport is at the heart of Greater Manchester's devolution and reform agenda.

An Integrated Transport Network

45. While the concept of integration is not new, the delivery of a truly integrated transport system has, in the last 30 years, been beyond our reach due to a range of regulatory and institutional barriers.

46. Through this strategy, we will stop viewing different modes of transport as separate networks, with individual asset management, service planning, and fares and ticketing regimes, and instead plan our transport system as a single, highly-connected entity that all customers can move through seamlessly. This will allow us to prioritise transport improvements more effectively, based on the needs of different travel markets and to save valuable resources by minimising duplication of expenditure and activity across different modes.

47. A network approach will also enable us to meet a much wider variety of travel demands, facilitating easier interchange at key nodes on our transport network and, along with improved services, enabling people to make orbital, as well as radial, movements much more easily.

48. We will enhance our public transport network so that bus, rail and tram services and facilities are planned and delivered in a much more integrated way to minimise the time and cost penalties of changing between services. We will develop more comprehensive and easy to understand cycle and walking networks that facilitate access to a range of destinations and integrate well with our public transport networks. And we will develop a more joined-up approach to planning and maintaining our strategic and local highways networks, to meet the sometimes conflicting needs of different users and considering the role - both positive and negative - of highways in shaping local places.

49. Over the coming years, we will focus on significantly improving people's travel experience. We will aim to ensure that individual customers are able to make their journeys in the most flexible way, using multiple modes of transport, through innovative new ways of planning and paying for travel and through access to real-time information. The latter will enable customers to make informed choices about how, where and when they travel, putting them in control and facilitating more sustainable travel behaviour.

50. Technology developments open up a range of new opportunities for delivering an integrated and customer-focused transport system to meet future customer needs (see graphic below).

51. Such an approach also blurs the traditional boundaries between public and private transport, and TfGM's role will have an increasing focus on enabling mobility and improving connectivity for everyone no matter how they choose to travel.

52. We recognise that there are parts of the current transport offer in Greater Manchester that are under-developed, thereby making car use essential, rather than optional, for some residents of the City Region. In sections 118-218 we set out the types of improvement needed for different transport modes. However, there is also potential to exploit the increasingly popular "sharing economy" concept to enable people to access a car or a bike for occasional trips, even if they do not own one as an individual. Hence, we want to see a more comprehensive low-emission car club offer in Greater Manchester, as well as developing options for cycle hire or sharing schemes. This will provide a more comprehensive travel offer to our residents and businesses, and has potential to reduce the number of cars on the roads and parking provision needed.

53. We also recognise the importance of other supporting modes of transport, such as taxis, private hire and demand responsive services, which can fill gaps in our transport system, enabling people to make the first or last leg of their journey if they live or work in a location that is remote from the mainstream public transport network. Specialist accessible transport is also essential for people who have mobility impairments and cannot easily use conventional public transport.

54. Again, the development of new technologies and applications will make it easier and more convenient for people to plan, book and pay for journeys by more demand responsive services, potentially as part of longer multi-modal trips. We will continue to work with a range of different commercial and community transport operators to ensure that these supporting modes of transport are fully embedded into our transport strategy and are seen as an integral part of a fully integrated, accessible transport system in Greater Manchester.

Policy 1: We will work with partners to ensure that supporting modes of transport, including taxis, private hire, demand responsive services, car clubs and cycle hire, are available and fully integrated into the Greater Manchester transport network.

Integrated Information, Fares and Ticketing

55. Journey planning and wayfinding tools need to provide customers (both passengers and freight operators) with simple and straightforward information about their travel options prior to and during travel. Technology will increasingly enable such tools to be tailored to meet the needs of individual customers, through the use of web-based tools and apps, delivered directly to mobile devices and vehicles to provide customers with accurate information and support throughout their journey. We will make our transport data available as 'Open Data' to allow third parties to develop apps which will benefit our customers.

56. TfGM and its partners will focus on rapidly evolving travel planning tools over the coming years to improve information to travellers and to enable us to respond more quickly to incidents on the network, for example the Optimised Public Transport Information System (OPTIS) will provide a single portal for travel information and planning to provide multi-modal travel information to help travellers to make informed decisions on their journeys. Future developments could include adding data on roadworks, incidents/events, and a 'predictive' function to warn customers of the potential impacts on their journey of, for example, adverse weather. Expansion of CCTV and other sensor coverage will allow better real-time monitoring of our transport networks and feedback issues to customers.

OBJECTIVES OF THE GREATER MANCHESTER FARES AND TICKETING STRATEGY

SIMPLICITY

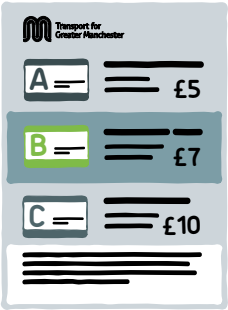
Customers can easily understand and choose options, and transport products/offers are straightforward to promote and market.

CONVENIENCE

Transactions are quick and easy for the passenger, one payment allows multi-modal travel and delivers efficiencies to the operator.

VALUE FOR MONEY

Passengers see fare as a fair price for the service they get.



TRANSPARENCY AND TRUSTWORTHINESS

Passengers have clear understanding of pricing and product.

INCLUSIVITY

Relates to the affordability of public transport pricing (and may require the use of concessions).

BALANCED FUNDING

Relates to the extent that ticket revenues contribute to the costs of operating the public transport network.

57. At the same time, we will continue to provide information in a range of formats, recognising that not everyone has access to digital devices

58. We will develop a much more consistent approach to transport information, pricing and payment systems to allow customers the opportunity to search and pay for a range of different travel services, such as public transport, car clubs, cycle hire and parking, in a much more straightforward way through "*account-based travel*", sometimes referred to as "mobility as a service". This concept, which is illustrated in the graphic above on public transport fares strategy objectives, could be delivered through a smartcard, credit/debit card, mobile phone or other cashless technology. Such an approach could also support a more sophisticated and responsive approach to managing demand on our transport networks.

Policy 2: Working with partners, we will seek to deliver integrated pricing and payment systems across the transport network, including integrated fares and smart ticketing for public transport, to support the delivery of 'Mobility as a Service'.

Integrated Travel Choices

59. To make effective use of all our transport networks and obtain good value from public investment, we need people to be able to make informed decisions about which mode of travel best suits their needs for a particular journey, rather than always travelling by car (however in some rural and suburban areas the population density does not support good public transport, making car or taxi use more of a necessity).

60. We will focus on measures that encourage people to travel, or freight to be moved: by a different mode; on a different part of the network; or at a different time, where feasible; to make more efficient use of available capacity, particularly during peak periods. This will include addressing the drivers of travel behaviour where possible, such as encouraging employers to allow home working on some days. Future demand management will include measures to encourage people to make at least some of their journeys by public transport, walking and cycling, which has long been at the heart of Greater Manchester's transport strategy. In addition to physical measures (bus priority measures, reallocating road space for pedestrian and cycling infrastructure, car share schemes, and constraints on long-stay parking in our key centres), a range of supporting measures will be needed.

61. A consistent, long-term approach to travel choices, promotions and marketing will provide people and businesses with the information, training and incentives to make better informed decisions about how, when and where they travel and the impact of their choices. It will also seek to improve travel horizons for those whose life and employment chances may be constrained by a lack of travel awareness. Greater Manchester already has a comprehensive Travel Choices programme focussed on the journey to work, working with businesses to encourage their staff to travel sustainably; helping jobseekers travel to interviews and to their workplace during the initial period of employment; encouraging individuals to use public transport, cycling or walking infrastructure in their area; and promoting cycling in secondary schools and colleges. A continuing programme of Travel Choices will be important in complementing the interventions described in Part 3 and we will seek partnership funding for this, including developer contributions, to focus on:

- Making best use of the transport network;
- Maximising the benefit of new, integrated transport infrastructure and services;
- Delivering public health benefits through encouraging active travel;
- Supporting town and city centres;

- Improving access to key services and job opportunities; and
- Maximising sustainable travel in new developments

62. Future programmes will be targeted at specific locations and target population groups in order to maximise the impact. For example, to make the best use of the existing transport network, target areas might include key commuter corridors and centres of activity, while target groups could comprise commuters, parents of school-age children, those with the potential to switch mode, or those who are at lifetime transition points such as moving house or starting a new job. We will also target travel choices programmes at areas with poor air quality.

Policy 3: We will maintain a conurbation-wide programme of travel choices interventions, supported by journey planning tools and information, to encourage travel behaviour change and mode shift, in order to make the most efficient use of available capacity, particularly during peak periods.

63. We also need to reduce demands on roadspace from the road freight sector, particularly during the peak, through measures such as freight consolidation, delivery and servicing plans, freight routing strategies and use of sustainable modes (see section 211).

Integration with Spatial Planning

64. Greater Manchester is now a rapidly growing City Region and a national growth engine. Trend data alone suggests that Greater Manchester will have a population in excess of 3 million (currently 2.7 million) by the mid-2030s. Further devolution of transport and spatial planning powers to Greater Manchester provides an important opportunity to plan our development and transport needs in a more integrated way across the City Region.

65. The first Greater Manchester Spatial Framework is currently in development, and will set the scale and distribution of housing and employment growth across Greater Manchester, to support delivery of significant levels of growth over the next twenty years. It is clear that the challenges involved in achieving the expected growth are considerable.

66. Accommodating this scale of growth without significant additional congestion on our already busy transport networks will be a huge challenge. We will need to identify not only development locations that are well served by public transport, walking and cycling, but less accessible locations where a sufficient scale and density of development could support new provision, applying public transport-oriented development principles wherever possible.

67. Integration with spatial planning is critical in influencing people's travel choices. Fundamentally, the transport network needs to connect the places people live with the places where they work, study, play, shop, visit, and access public services like healthcare. The location of housing close to facilities and public transport tends to reduce the levels of car use. While most places in Greater Manchester are served by public transport, some developments have been designed around the car making them difficult to reach in any other way. The car will continue to play an important role in supporting economic growth and opening up opportunities for people to improve their quality of life. However, many of the negative impacts of transport, such as congestion, high emissions, noise and road traffic casualties, are a consequence of our over-reliance on the car, and the locational decisions that have made it a more convenient choice for many journeys have contributed to this. The design of development, e.g. in terms of the availability of parking, the availability of safe and direct walk/cycle routes, the provision of secure cycle parking or the availability of EV charging points, also influences travel choices.

68. TfGM will continue to work with planning authorities and developers to better integrate transport and new development in accordance with the principles of:

- Reducing the need to travel by car, and the distance travelled;
- Maximising accessibility by sustainable modes;
- Making the best use of existing infrastructure, particularly through increasing the density of development close to public transport nodes;
- Maximising opportunities to provide additional public transport; and
- Designing to encourage active travel.

69. This will involve providing advice on Development Plan Documents and significant planning applications, with the aim of reducing the need to travel by car and maximising travel by sustainable modes.

Policy 4: TfGM will continue to work with planning authorities and developers to ensure the accessibility of new development by sustainable modes and to reduce the impact on the highway network

70. More information on how the strategy supports GMSF is included in Part 3: Travel Across the Wider City Region.

An Inclusive Network

Our Ambition:
To develop a fully inclusive and affordable sustainable transport system for all.

71. To meet the scale of ambition set out in the Greater Manchester Strategy, we must ensure that everyone in Greater Manchester is able to access a range of employment, training, health and leisure opportunities to enable them to lead productive, healthy and fulfilling lives. In 2013, 7% of the population in Greater Manchester was claiming Disability Living Allowance, but the numbers of people with some form of mobility impairment will be much higher. Therefore we must make sure that our transport network is as inclusive and accessible as possible. An accessible transport network will become even more critical as the proportion of our population that is elderly continues to grow over the coming decades. Consistent standards of vehicles, facilities and customer care are needed to give disabled people the confidence that they can make their journey on public transport.

72. In line with our responsibilities under the Equality Act, 2010, we will continue to ensure that all new transport infrastructure, vehicles and information are designed to be as accessible as possible to all our customers, regardless of their age and mobility. We will also continue to deliver accessibility improvements to our existing transport networks, targeting those parts of our transport system which most require improvement and cause most disadvantage to those with a mobility impairment.

Policy 5: We will work with operators and Highway Authorities to ensure that that all transport infrastructure, vehicles and information are as accessible as possible to all our customers, regardless of their age and mobility.

73. Affordability of transport is also an important issue, particularly for residents on limited incomes, many of whom depend on public transport. Season tickets can offer good value to people who need to travel five days or more a week, but these do not benefit part-time workers, who have to pay higher daily fares. In the future, we are likely to see increasing numbers of people working or studying on a part-time, flexible or short-term contract basis, or home-working on some days, and so flexible ticketing options will become even more important to support our rapidly changing economy. We must also ensure that our transport system is priced in a way that encourages sustainable travel behaviour and manages demand effectively on our constrained networks. More flexible fares and ticketing options are a critical part of our Vision for Bus (see section 170).

74. Concessionary fares play an important role in meeting people's travel needs. The national scheme provides free weekday bus travel after 9.30 am for those who have reached pensionable age or have a disability , but Greater Manchester has a more extensive local scheme that extends this to Metrolink and local rail. With an ageing population, the cost of providing these concessions is likely to increase. We also recognise the importance of public transport for young people, for whom concessions are currently linked to being in full-time education, and will seek to introduce a more flexible system that recognises the role played by apprenticeships, work placements and part-time study in improving their future prospects.

75. For those without access to a car, the availability of public transport may determine whether they can access jobs or training or attend medical appointments without recourse to more costly individual travel options. This can be a particular issue for people working in the night-time economy. TfGM provides support for a network of socially necessary bus services, which would not otherwise be provided, but this is limited by budget. We will continue to work with bus, rail and Metrolink operators to ensure that the network meets peoples' needs as far as possible. We will also work with partners to

better co-ordinate the provision of door-to-door transport, in order to increase its availability to disabled customers.

Policy 6: We will work with partners to better integrate the provision of Accessible Transport services, to increase availability and convenience for customers.

76. For those who are able to cycle, we will promote cycling as a low cost alternative for travel to work and education, including developing cycle links to key employment areas.

Supporting a Healthier Greater Manchester

Our Ambition:
To develop a transport system that supports people in leading active, healthy lives.

77. Transport can have a major impact on people's health. It provides access to healthcare and other services, enables people to visit friends and family, and links them with green spaces. On the negative side, motorised transport can make people less active, leading to obesity, increases the severity of collisions and produces damaging emissions which either affect health directly or through climate change.

78. The huge potential of walking and cycling to reduce car mileage, improve access to key facilities, and improve public health, is now widely understood. While recognising the role of personal choice in travel decisions, we will encourage people who are able to do so to travel actively in order to improve their health, as discussed in Part 1. This is particularly important in relation to tackling childhood obesity - establishing active travel behaviour early in life for day-to-day journeys or for leisure can greatly improve health outcomes.

79. Reduced local authority budgets, which are projected for the first Delivery Plan period of this strategy, will make it increasingly difficult to provide the socially necessary bus services, including door-to-door services provided for people with disabilities, which are not provided by commercial operators. We will continue to monitor the impact of this on social isolation, so as to safeguard against health problems such as depression, and problems in residents being able to attend health appointments. People who are able to access a range of social contacts and to visit parks and countryside are likely to have better mental health, while attending medical appointments is important in improving long term health outcomes.

80. The devolution of health and social care to Greater Manchester provides the opportunity for a much more joined-up approach to health, by linking it to other aspects of life. People who are more active will enjoy better health and be less likely to need medical intervention and this will bring savings to health budgets.

Policy 7: We will work with partners, including through Health Devolution, to deliver transport interventions that improve the health of GM residents, including: increasing levels of physical activity; improving access to healthcare; and reducing social isolation.

81. In recent years, we have been very successful in securing funding and establishing new partnership arrangements, e.g. with Sustrans, to deliver major improvements to our active travel infrastructure, such as significant expansion of our network of cycle routes and cycle parking facilities, together with supporting activities such as cycle training and maintenance, and promoting walking for health. The Greater Manchester Cycling Strategy, 2014 (see section 159) aims to create 'a well-established cycling culture, integral to the region's health and prosperity'. It aims to 'double and double again' the

proportion of trips made by bicycle by 2025, with the aspiration that 10% of all trips should be made by bike. Ultimately, our aim is to establish cycling as a recognised and attractive component of our future integrated transport offer.

82. However, while cycling is increasing, much more needs to be done to achieve the desired scale of change and more investment is essential to provide safe and convenient routes that connect people to jobs, key services and opportunities for recreation. In view of the serious health consequences of inactive lifestyles, and the significant numbers of very short trips which are currently being made by car (88% of trips within Greater Manchester are of 5 miles or less, and more than half of these are by car), we have forged strong partnerships to work across sectors to increase walking and cycling (see box).

'Greater Manchester Moving', 2015, aims to bring about large-scale change that will reduce sedentary behaviour and increase participation in physical activity throughout life. It commits partners (Public Health England, NHS Clinical Commissioning Groups, Sport England, Greater Sport, GMCA, the local authorities and TfGM) to:

- Increase the number of people running and walking;
- Increase the number of people cycling;
- Create more attractive and sustainable environments and communities; and
- Create a transport system that promotes an active life.

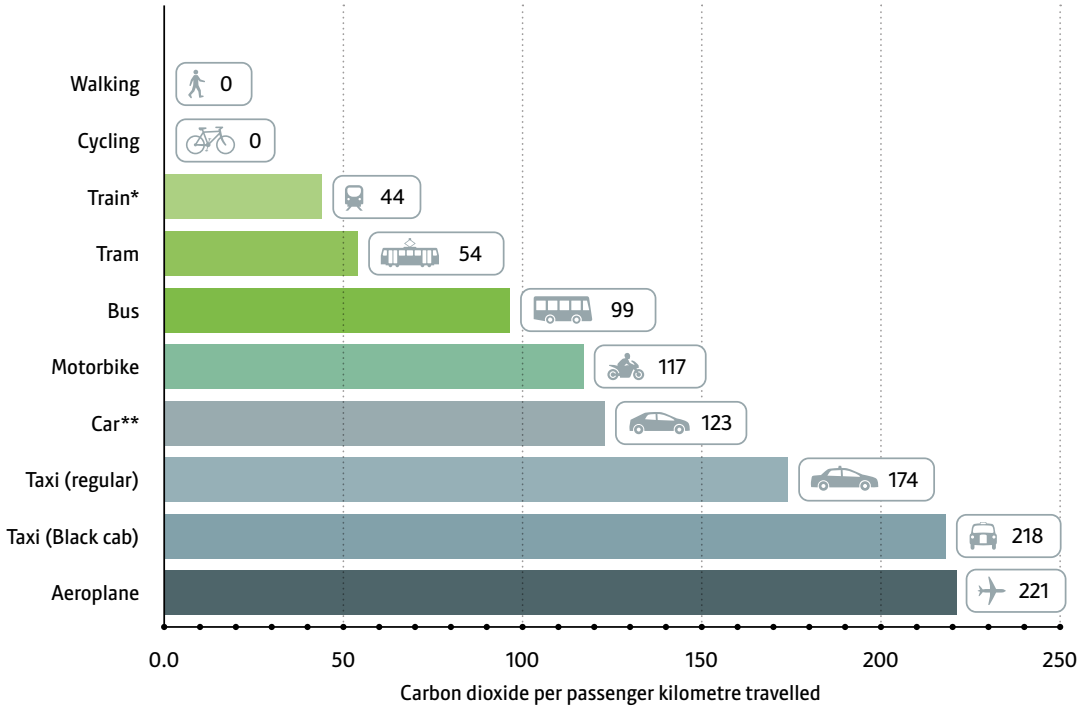
83. The focus of activity to drive these much higher levels of active travel will be influenced by funding opportunities and we will work with partners to co-fund activities which meet shared objectives.

Environmental Responsibility

Our Ambition: For Greater Manchester to be known for the quality of its urban areas, natural environments with transport emissions reduced to near zero, and new transport schemes delivering environmental enhancements whenever possible.

84. Local air pollution and carbon emissions cause significant harm to health and the environment and, as a result, have an adverse impact on the economy. Climate change, mainly caused by CO_2 and other greenhouse gas emissions, looks likely to give us: warmer, drier summers, impacting on water supply and soil shrinkage/subsidence; warmer, wetter winters with increased flood risk from rivers and surface run-off; and more extreme weather patterns. In terms of local air pollution, the most dangerous pollutants are NO_2 and particulates, small particles which are harmful even in low concentrations. Both of these contribute to respiratory illness, as well as cardio-vascular problems and cancer, and lead to thousands of early deaths in Greater Manchester (and other major cities) every year. Transport is a major source of all three emissions in the conurbation, contributing 76% of NO_2, 82% of particulates and 32% of CO_2, due to the continued high dependence on traditional engine technology, and use of petrol and diesel to fuel vehicles.

Transport Carbon Emissions



Adapted from: DEFRA Greenhouse Gas Conversion Factor Repository (2013)

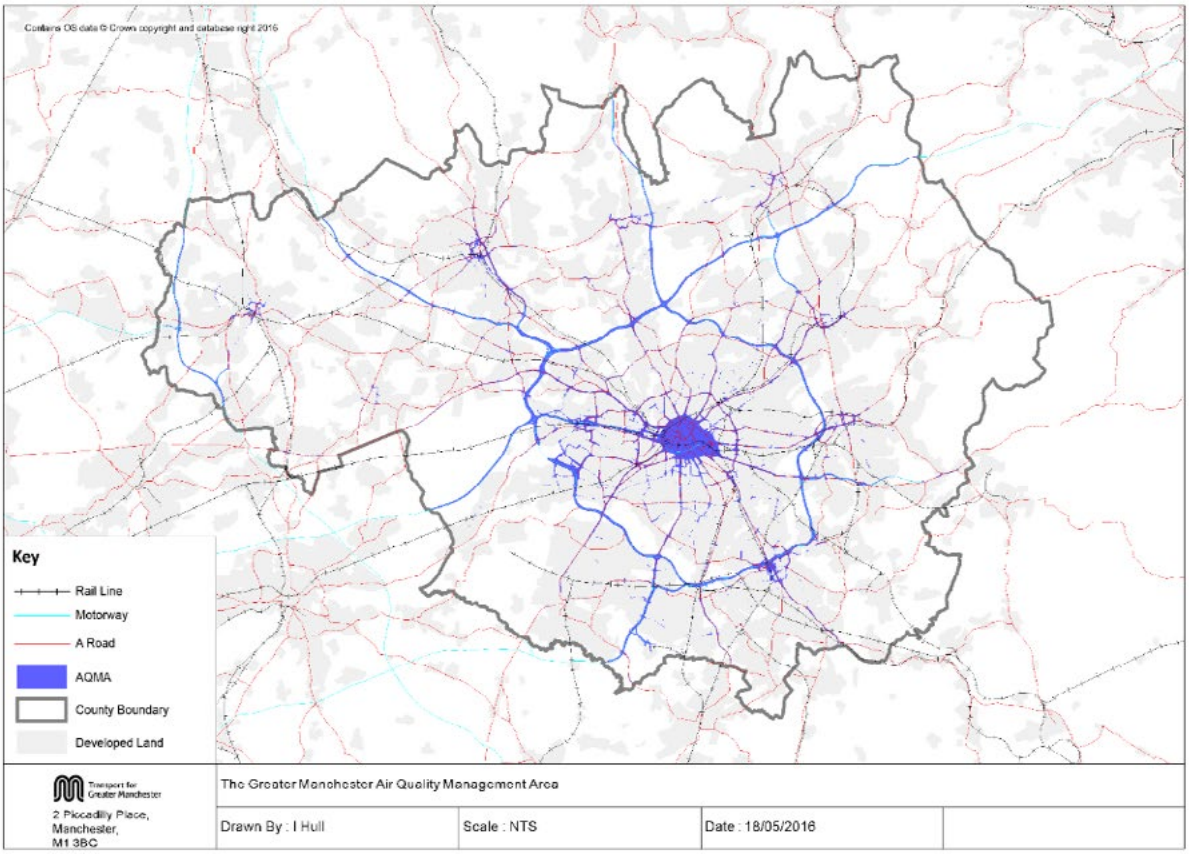
Train, bus and tram figures based on national average patronage.
* Average Diesel and Electric Rail Combined.
** Average Large and Small Car Combined.

85. In response to the global climate change agenda, the Greater Manchester Strategy set an ambitious 2020 target for reducing carbon emissions by 48% from 1990 levels. Greater Manchester has demonstrated clear commitment alongside global cities by becoming a signatory to three International commitments on climate change: The Integrated Covenant of Mayors, The Compact of Mayors, and the Under 2 MOU.

86. At present (in 2016), the UK is in breach of EU emission levels for NO_2, which is extremely damaging to health. A single Greater Manchester Air Quality Management Area (AQMA) was declared on 1st May

2016 (replacing the previous ten District AQMAs), covering the areas where levels are exceeded (or are at risk of being exceeded) and where there is risk of exposure to the general population. These are mainly areas close to the motorway network and the major roads converging on the Regional Centre and town centres, as shown on the map below.

Greater Manchester Air Quality Management Area



87. Existing and planned measures, including the transport proposals in this strategy, are helping/will help to reduce emissions, however the need to reduce emissions in the context of a growing economy means that a concerted and co-ordinated effort, potentially requiring radical actions, is needed by all parties. The latest Department for Environment, Food and Rural Affairs (Defra) forecasts suggest that Greater Manchester will comply with EU levels for NO_2 by 2020 if action is taken now to implement proposed interventions. We will adopt appropriate measures to reduce significantly the emissions from transport, as set out in the Climate Change Implementation Plan and Air Quality Action Plan. We have developed a 'Low Emissions Strategy' to identify the types of measure that will have the greatest impact, given the mix of traffic in Greater Manchester. These include: changing travel behaviour; reducing emissions from HGVs; stimulating the uptake of ultra low-emission vehicles; and reducing emissions from buses on key urban corridors.

88. This has informed the detailed actions in our Climate Change Implementation Plan and statutory Air Quality Action Plan. The latter includes a commitment to carry out a feasibility study into a Clean Air Zone (CAZ), to assess whether emissions can be reduced without having a disproportionate impact on business.

Policy 8: We will work with partners to reduce, as far as possible, the emissions from transport, particularly CO_2, NO_2, particulates and noise.

89. Whilst our primary ambition is to encourage a shift to more sustainable modes of travel, we recognise that some journeys will always need to be undertaken on the highway network. In these instances our priority is to reduce the harmful emissions and population exposure levels. The ambition for smaller vehicles is a shift to a fully electric fleet. GM already has an extensive GMEV network and we will expand this further as funding allows. For heavy vehicles we will work with the Government and other city regions with the aim of establishing a consistent policy framework to encourage an accelerated uptake of alternatively fuelled vehicles. Within GM we will work with infrastructure providers and fleet operators to encourage and facilitate a shift to alternative fuelled vehicles or a retrofit of existing vehicles.

90. In addition to climate change and pollution concerns, the noise from motorised traffic can impact on the quality of life in residential areas and deter people from walking and cycling. Defra has identified 'Noise Important Areas' (NIA) in all the major cities where noise is a problem, and while electric vehicles will reduce this problem in the medium to long-term, we will take opportunities to reduce noise through design (including the use of noise-reducing surfacing) or traffic management (smoothing traffic flow) where possible.

91. Greater Manchester and its surrounding areas contain a number of statutory nature conservation sites of European level importance. These include Special Areas of Conservation, Special Protection Areas, Sites of Special Scientific Interest (SSSI) and Ramsar sites. In addition to these areas protected under the European Habitats Directive, there are many locally important sites and green spaces, which both support wildlife and contribute to the wellbeing of the population. These locations are vulnerable to the effects of motorised traffic and the development of new infrastructure.

92. A high quality environment is increasingly seen as the key to attracting and retaining the best businesses and skilled workers, and 'liveability' is therefore an important issue which is influenced, to some extent, by transport. Urban areas with a rich cultural heritage and diverse green infrastructure, which are attractive and safe for people to walk and cycle in, and have access to efficient public transport networks, are generally more pleasant living environments. Creating attractive public realm to reduce the dominance of the car and create visual interest at street level can create safer neighbourhoods with more opportunity for social interaction. The natural environment is immensely valuable: creating an attractive public realm through the incorporation of critical green infrastructure can result in not only better social interaction and improved wellbeing but can mitigate transport emissions, improve health, stimulate economic investment and provide an overall betterment for the environment e.g. by improving water quality and reducing surface water runoff.

Policy 9: We will work with partners, including the Canals and Rivers Trust, to enhance green and blue infrastructure to provide a safe and attractive environment for walking and cycling

93. Reducing the impact of traffic, by increasing the use of public transport and through effective traffic management, will be essential if we are to achieve this and will improve the quality of life by reducing noise, severance and pollution. Transport is already contributing to regeneration in some areas, particularly through the expansion of Metrolink, which can stimulate investment in the surrounding area, and through the development of high quality passenger facilities in town centres. Greater Manchester is fortunate in having a number of countryside destinations, such as the Peak District National Park, within a relatively short distance, which adds the quality of life for residents. However more needs to be done to improve the quality of streets and public spaces and improve access to parks and countryside.

94. New transport projects have the potential to impact on habitats and species and more generally on the Green Infrastructure network, through direct land-take for infrastructure (which may contribute to fragmentation) and construction and operational disturbance (noise, vibration, light pollution etc.) and emissions / contamination (air, water & soil), though it may also provide opportunities for enhancement. We will look for opportunities to enhance biodiversity and green infrastructure through transport schemes, for example, through planting. TfGM is a partner in the 'City of Trees1' project, which aims to plant a tree for every man, woman and child who lives in Greater Manchester within a generation.

95. Transport can pose a risk to water quality e.g. through runoff from highways following gritting. Pollution of water bodies (including groundwater) and increased risk of flooding must be prevented, both during the construction and operation of any transport project, for example through Sustainable Urban Drainage schemes, bio-remediation and use of tree pits.

96. Transport infrastructure and traffic can have a significant effect on the built environment and through this be detrimental to people's quality of life. New transport projects need to be designed sensitively to be sympathetic with existing character and quality, and opportunities for improving built assets and their settings and public spaces should be examined.

97. Any development that would have an adverse impact on an important environmental site should be avoided as far as possible. If this cannot be achieved, the adverse impacts will be adequately mitigated, or, as a last resort, compensated for. In the case of European designated sites, a Habitat Regulations Appropriate Assessment is required for any proposal likely to have significant effects on the site.

1 http://cityoftrees.org.uk/

98. Our aim is to minimise the impact of transport on the built and natural environment. Large transport schemes will be subject to statutory Environmental Assessment, as required by the planning process. However we will also continue to apply our established principles for the design of new infrastructure projects, as described in the Delivery Plan.

Policy 10: We will aim to minimise the impact of transport on the built and natural environment, (including townscape, the historic environment, cultural heritage, landscape, habitats and biodiversity, geodiversity, water quality, pollution, flood risk and use of resources) and will seek to deliver environmental enhancements and biodiversity net gain where possible.

A Reliable Network

Our Ambition: To develop a transport network that offers reliable journey times and gives people the confidence to use public transport.

99. Reliable transport networks are essential to allow the economy to function and grow. Journey times by road need to be predictable, particularly when journeys are time-critical e.g. for deliveries, for work or to attend an event; public transport has to be reliable if people are to have confidence in using it; and cycle networks need to be well maintained to offer a reliable level of service.

100. The cost of congestion on the highway network in Greater Manchester has been estimated at £1.3 billion per annum[2]. In addition to frustration for motorists and delays for business, highway congestion can have a significant impact on bus journey times, making public transport less attractive as an alternative mode, and leads to increased emissions. Reducing congestion can therefore help the planning and management of more fuel efficient transport, particularly for freight vehicles.

101. Road works can cause congestion and disruption and in 2013 the Greater Manchester Road Activities Permit Scheme was introduced to better co-ordinate the timing of road works and to monitor their impact. In the future there is the potential to make greater use if this data for journey planning, enabling people to change their route or mode of travel to avoid disruption.

102. We will continue to monitor the performance of the highway network and to identify improvements, such as changes to signal timings or redesign of junctions, at 'hotspot' locations. In some instances, additional highway capacity will be needed, particularly to serve new developments. However in a dense urban area the solution to increasing demand will generally need to involve a shift to sustainable modes rather than the provision of additional highway capacity. This may include re-allocating road space to public transport and cyclists in order to maximise the number of people that can be moved.

103. On the public transport network, we will continue to monitor reliability and work with operators to improve it. On rail and Metrolink, reliability is closely linked to resilience, which is discussed below.

Policy 11: We will seek to deliver measures, and put in place appropriate management systems, to improve the reliability of the transport network.

104. Reliability is discussed in more detail in relation to individual modes in sections 118-218.

2 Cost of Congestion in Greater Manchester, TfGM HFAS Report 1853, 2015

A Well Maintained and Resilient Network

Our Ambition: To bring the transport network into a good state of repair, maintain it in that state and ensure that it is able to withstand unexpected events, exceptional demand and severe weather conditions.

105. The economic performance of the city region depends on a functioning transport network. All assets, whether they are roads, rail lines, signals, interchanges, bus stops or cycle routes, need to be well maintained both to keep them in a safe and useable condition and to avoid the cost of replacing them unnecessarily.

106. If a section of road, or a structure, is allowed to deteriorate, the impact on collisions (and therefore safety), vehicle damage, network resilience, travel comfort, network performance and the 'liveability' of an area, can be significant. Recent winter weather events have caused severe and unpredictable damage, and exacerbated maintenance issues for roads and structures. A 2015 study of the Greater Manchester Key Route Network (see section 118 below) found that up to 28% of it would soon require maintenance.

107. On the rail-based network, a lack of spare capacity and alternative routes means that the impact of incidents is all the more disruptive. We will work to identify the locations where additional capacity could be beneficial in helping the network to recover from major incidents. The Metrolink Second City Crossing will be beneficial in this respect, providing an alternative route across the city centre.

108. Transport networks need to continue to provide a service even when planned or unplanned events intervene. When rail or tram services are unavailable due to a fault or engineering works, well publicised alternatives need to be available e.g. flexible ticketing allowing transfer to other modes/operators, or replacement services. When roads are closed (including closures due to flooding or snow) clearly signed diversionary routes are needed, along with information on the availability of alternative modes. Finally, when there are major visitor events the whole network needs to be managed (including provision of additional capacity where appropriate) to cope with much greater demand.

109. In the winter, key roads have to be gritted and cleared of snow and gullies cleared, while rail and tram routes have to be de-iced. However we will also need to adapt to different, or more extreme, weather, such as increased flooding, as a result of climate change. Measures to reduce run-off from the highway will be important in this respect, for example planting trees, which have the potential to reduce run-off (by as much as 80% compared to an asphalt surface).

110. In addition, we recognise that oil is a finite resource and that there is a risk that future price volatility will impact on the cost of travel and hence the economy. Our proposals to encourage a shift to sustainable modes will reduce this risk. However, we also need to recognise that the increased electrification of transport, which brings environmental benefits, may place pressure on power supply in some parts of the area and we need to work with the electricity supply industry to ensure that there is sufficient capacity.

Policy 12: We will work with partners to maintain the transport system to a good standard, adapt it and improve its resilience to the effects of climate change

A Safe and Secure Transport System

Our Ambition: To reduce deaths on our roads as close as possible to zero and ensure that poor perceptions of personal security are no longer a significant barrier to people using public transport or walking and cycling

Improving Safety

111. Safety is a fundamental requirement of any transport system. The immediate aim is to contribute to the achievement of national and local targets for road safety, but our ultimate ambition must be to eliminate road deaths, as far as we can, in Greater Manchester. We will focus measures to improve safety on the most vulnerable users of the road network and on areas with a high number of collisions, particularly involving deaths or serious injuries.

Policy 13: Working through the Casualty Reduction Partnership, we will deliver measures to improve safety on the highway network, with a particular focus on the most vulnerable road users.

112. Working through the GM Casualty Reduction Partnership (GMCRP), which comprises the ten local authorities, TfGM, Greater Manchester Police, Greater Manchester Primary Care Trust, the Greater Manchester Fire & Rescue Service, the Crown Prosecution Service, Her Majesty's Courts Service and the Highways England, we have been successful in reducing deaths and serious injuries to road users. However in the period 2013-2015 more than 70% of the people killed or seriously injured on our roads fell into four particular categories of road user. The Greater Manchester Road Safety Plan, approved in 2013, identified these most vulnerable road users as pedestrians, cyclists, young drivers and their passengers, and motorcyclists. There is historic under-reporting of collisions involving pedestrians and cyclists, so the figures may be even higher.

113. Safety must also be a fundamental consideration in the design of all new transport schemes and programmes. Where these involve the highway network, the needs of a range of different users need to be considered, making it particularly important to reduce conflicts between the most vulnerable road users and other traffic. Maintenance also has safety implications, with potential for injury to pedestrians and cyclists from broken pavements or potholes in the road. Safety must be a key consideration in our strategy to get more people walking and cycling. It is also vital in the design and operation of public transport services and waiting facilities, underpinning our mode shift ambitions.

Improving personal security

114. We recognise that security and the perception of security, is an important element in persuading people to travel by public transport, or to walk or cycle. Personal security is also an important consideration in terms of the growth of jobs in the night-time economy as people are travelling at a time when they may feel more vulnerable.

115. We will continue to prevent and tackle crime and antisocial behaviour on Greater Manchester's bus and tram network through partnership working between TfGM, Districts, operators, Greater Manchester Police (GMP), Local Community Safety Partnerships, British Transport Police and Network Rail, to share information and safeguard the networks. The pilot 'Travelsafe' Partnership was launched in 2015, providing a dedicated team of police constables, police community support officers, special constables and security personnel to provide regular patrols. Led by TfGM and GMP, the scheme uses data on crime and antisocial behaviour provided by contributing operators to target patrols in hotspot areas at key times and support front line staff. Where appropriate, legal powers are used to ban offenders from public transport and deliver restorative justice schemes following, or as an alternative

to, prosecution. There is also a focus on preventative measures and youth education as to the dangers, impacts and consequences of crime and anti-social behaviour on public transport.

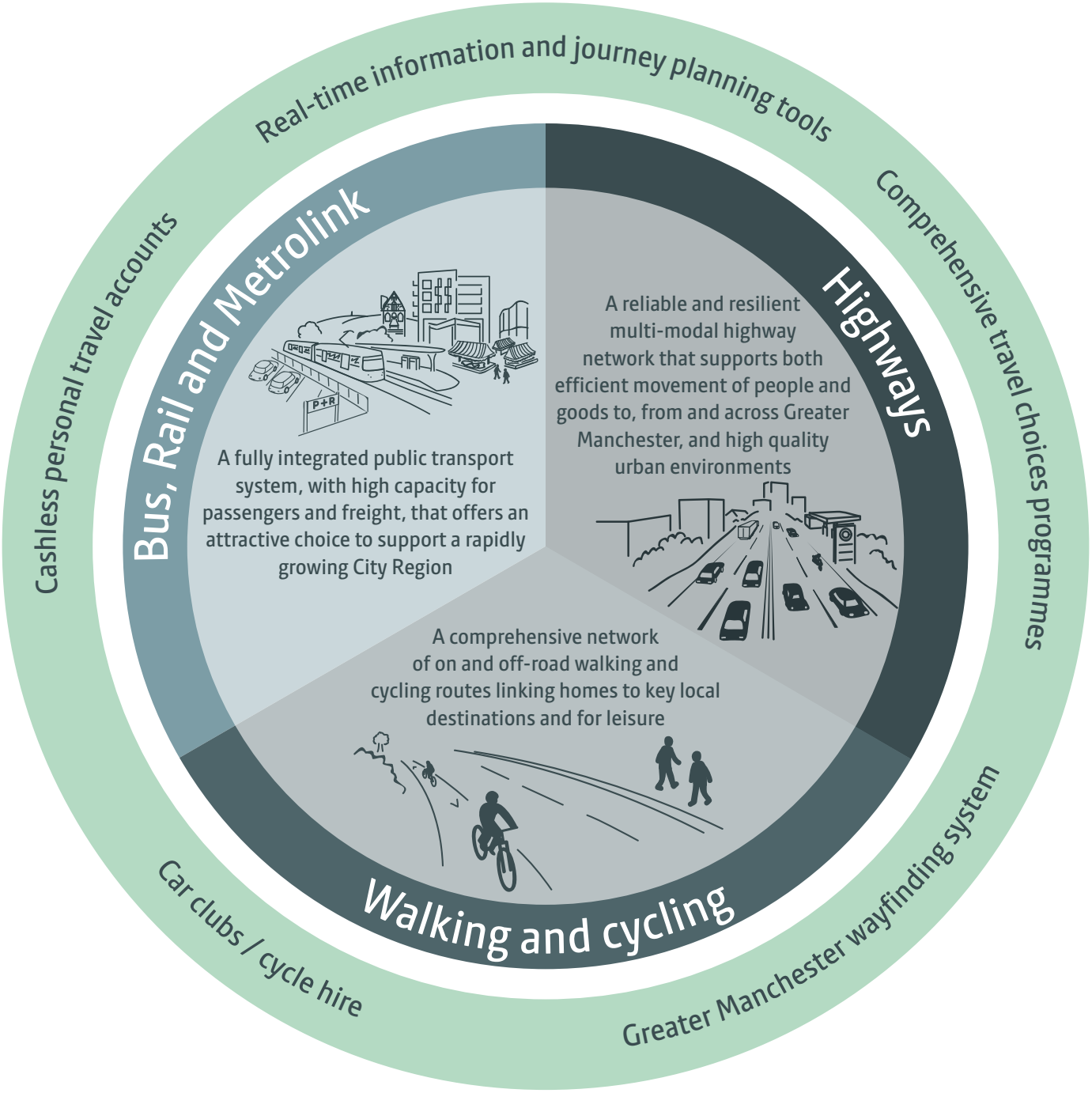
116. Personal security is also an important element in the design of public transport vehicles and infrastructure. We will continue with programmes to upgrade interchanges through measures such as removal of 'blind spots', improved lighting, CCTV and customer help points, developing consistent standards across all our public transport networks. It is also important for pedestrians and cyclists, and personal security is therefore a key consideration in the design of new walking and cycling routes, e.g. in terms of lighting and natural surveillance. There is evidence that personal safety and security is a greater barrier to walking and cycling for certain age groups, such as teenagers. These concerns need to be addressed to increase levels of active travel.

117. Security of property is also important and ensuring that car parks and cycle parking are secure, with good natural surveillance or CCTV, is essential for encouraging people to use them.

Policy 14: We will work with operators and other partners to improve safety and personal security and to tackle crime and anti-social behaviour on the transport network

Our Greater Manchester Modal Principles for 2040

118. Our 2040 Transport Strategy focuses principally on creating an integrated, well-co-ordinated transport system which supports a wide range of different travel needs. However, there are some modal principles which cut across the entire strategy and define our specific aspirations for bus, rail, Metrolink, active travel and highways in Greater Manchester. These are summarised in the graphic below, and explored further in the following sections.



A Multi-Modal Highway Network

Our Ambition: To deliver a consistently reliable and resilient network which focuses on the efficient and effective movement of people and goods to, from and across Greater Manchester but also respects the needs of the places it passes through.

119. Greater Manchester has a network of 9,000 kilometres of local highways and 180 kilometres of Highways England routes, which brings a particularly complex set of challenges: in managing the demand for local, commuter and long-distance travel; in balancing the needs of cars, goods vehicles, buses, cycles, motorcycles and pedestrians; in making sure that our roads are as safe as possible for all users; and in mitigating the environmental impacts of motorised traffic.

120. This network has been managed by a multiplicity of agencies: ten local highway authorities, TfGM (who manage the traffic signals), and Highways England. Through the 2014 Greater Manchester Growth Deal, the Greater Manchester highways authorities agreed to establish a Key Route Network (KRN) of local authority roads. Since April 2015, TFGM has had responsibility for monitoring the performance of the KRN at a city region level, under the oversight of GMCA. This monitoring will inform the development of policies for network management and operation, and approaches to asset management and infrastructure investment and development which are consistent across Greater Manchester, for that part of the highway system that will help to determine Greater Manchester's economic success over the next 20 years. However our local authorities remain the Highway and Traffic Authorities for the KRN, with the associated duties and powers. They are also responsible for the other (non-KRN) local roads, which provide important links in, and between, local neighbourhoods, centres and other local destinations.

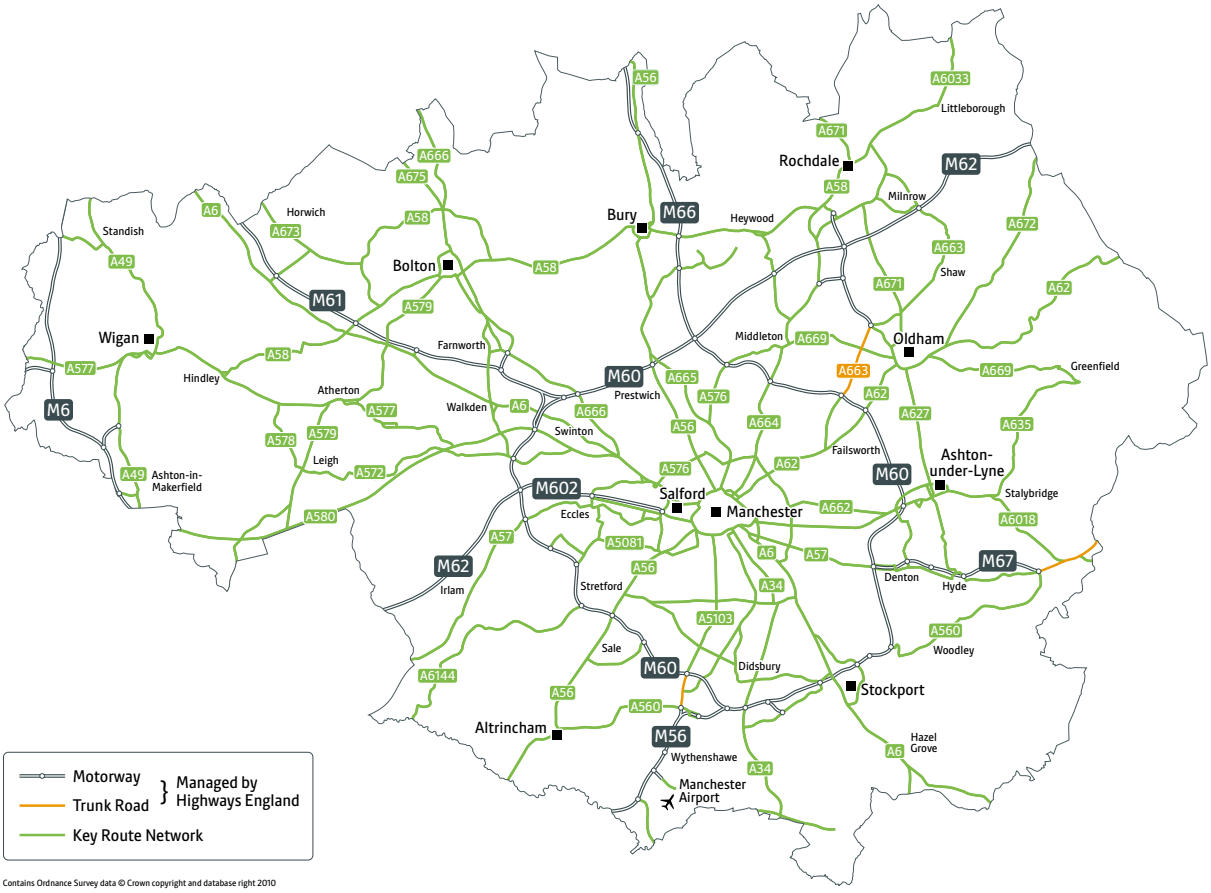
121. The KRN comprises over 600km of highways, which represent about 7% of all local authority roads by route and 48% of A and B roads in Greater Manchester. It carries around 64% of annual traffic using these A and B roads. The core of the KRN is provided by the Primary Route Network (marked in green on most road maps), which links places of traffic importance across the UK. To this base have been added other sections of network considered of strategic importance to Greater Manchester, including:

- Significant road links to strategic employment sites and to adjacent areas outside the Greater Manchester boundary;
- Bus priority corridors and high frequency bus routes;
- All road links serving motorway junctions; and
- Manchester Ship Canal crossings.

122. TfGM, on behalf of GMCA, will promote the KRN, alongside the HE's Strategic Road Network (SRN), to complement local rail, Metrolink and bus systems. This will improve network performance and support economic growth. Consistent performance monitoring and reporting across the KRN will be used to shape integrated network management and maintenance policies that support strategic traffic movements across the KRN and SRN; safeguard the needs of adjacent communities; and promote GMCA's modal shift policies

123. An integrated approach to planning whole corridors, across local authority boundaries, will enable a coordinated approach to investment, so that highway improvements will be considered in a consistent way alongside public transport improvements. This will ensure that our highways investment and maintenance programmes are fully aligned in support of growth objectives.

The Key Route Network



Contains Ordnance Survey data © Crown copyright and database right 2010

124. The non-KRN local roads will continue to be managed by the Local Highway Authorities to maintain and improve the efficiency, reliability and resilience of the network and balance the needs of all road users. This means ensuring that communities will have safe and easy access to work, healthcare, education and leisure and that the impact of traffic on residential areas is minimised. The network needs to support the economies of town and district centres and accommodate the needs of new development. Our approach is based on making the best use of the existing network, and only building additional road capacity where it clearly supports economic growth.

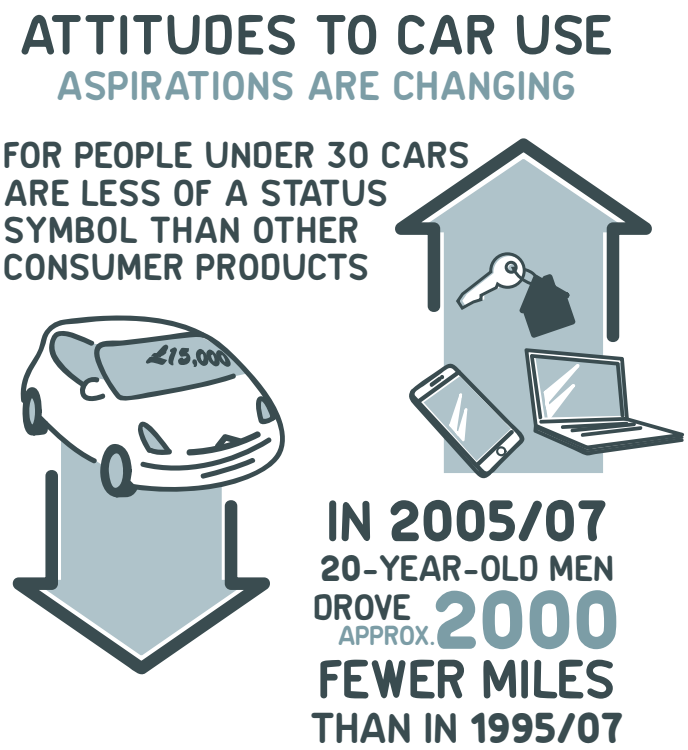
Policy 15: We will establish a unified Greater Manchester approach to managing the Key Route Network (KRN) of roads and work with Highways England to co-ordinate this with the management of the Strategic Route Network (SRN).

Future role of the car

125. Greater Manchester's population is expected to reach 3 million by 2030 alone. We need to try to plan this population growth to ensure that it is not accompanied by a similar level of growth in the use of cars, which would have major negative impacts in terms of worsening congestion (which affects both economic growth and quality of life), air quality, carbon emissions and road safety. Even with a rapid move towards low emission vehicles, unconstrained growth in car use will not make for efficient use of our limited highway capacity and will continue to cause congestion and conflict with vulnerable road users. We must therefore design our urban areas around the needs of people and not traffic and we must think differently about the long-term role of our critical highways networks.

126. At the same time as our population is growing, however, attitudes to owning and using a car are also evolving. Many younger people no longer see car ownership (or indeed holding a driving licence) as essential. Growing, ageing and more affluent populations will also choose different ways to travel. The growth of car clubs, the advent of online taxi dispatch companies, and the use of social media to arrange shared transport can provide transport on demand without the costs and responsibilities of car ownership and will help to shift attitudes towards car ownership over time. This provides a great opportunity to develop a more integrated and flexible transport system which responds to the changing needs of Greater Manchester residents and businesses.

127. Technological innovations in vehicle design will also change the way we use and operate our roads by 2040. 'Smart' vehicles equipped with technology that supplements the driver's actions with autonomous safety features are already available. These are able to detect safety hazards and obstructions, maintain lane discipline and vehicle spacing, and override the driver's control in certain situations such as when a possible collision is detected. There is potential to apply this technology to public transport, as well as to cars. A number of companies are developing further stages of this technology that will take us towards fully autonomous vehicles connected to each other and to highway infrastructure, although this is some way off being proven in all road situations and there remain significant public acceptance, technological, legal and policy issues to resolve before it could be fully implemented. We also need to be extremely cautious about the risks associated with fully autonomous vehicles, particularly if it results in higher levels of car ownership and use, as they may make modal shift much more challenging.



128. By 2040, the widespread use of even semi-autonomous vehicles could significantly change the way in which we travel and the impacts of road transport. If deployed carefully and on the basis of long-term strategic objectives, they have the potential to reduce road casualties, to make better use of limited road capacity for general traffic, to smooth traffic flows, and to cut journey times and energy use. Such benefits will only be achieved through partnership working between the public and private sector to ensure that vehicle technology development delivers Greater Manchester's wider objectives.

129. Vehicle connectivity could be a significant future source of travel data enabling us to better manage demand and plan future needs. The technology will also support changes to models of vehicle ownership and has the potential to extend access to opportunities for the young, the elderly and those with mobility difficulties. As the technology develops, it is also likely to bring significant changes to bus operations and to the freight and logistics sectors, improving levels of service and reducing costs. We will work with partners to realise these benefits, which may be significant, but some caution will be required to ensure that this new technology is fully integrated into our transport system and does not undermine our multi-modal objectives.

Priorities for highways investment

130. Future investment in highways across Greater Manchester will reflect the vital role that the KRN plays in the economy and will ensure that that interventions required to maintain the reliability and safety of the network for all users – motorised and non-motorised - are brought to the fore.

131. We will continue to explore the role of, and benefits of investment in, next generation technological capabilities in signalling and predictive traffic management, supported by real time operational intelligence across the network, and prepare for advances in vehicle-to-vehicle and vehicle-to infrastructure communications (e.g. autonomous vehicles). We will also seek to invest in implementation of innovative junctions which support different modes in and around our key local centres e.g. pedestrian count-down and pedestrian and cycle SCOOT[3].

132. Experience suggests that high growth in road traffic is not inevitable. During the period 1996 to 2013, traffic growth in Greater Manchester was only moderate at 10%: away from the motorway network, there was a reduction in motor-vehicle kilometres in Greater Manchester during that period. Nonetheless, it is likely that improvements will be required to maximise the traffic throughput of the existing network and that new links and/or additional highway capacity will be needed in some locations, particularly to facilitate new development

Policy 16: We will work with Highways England and Transport for the North to identify, and seek funding for, joint future investment needs across the Strategic Road Network (SRN).

Role of Travel Demand Management in Reducing Highway Congestion

133. We recognise that simply increasing highway capacity to meet an ever growing demand for car travel is not sustainable or, indeed, physically or financially practical. Instead we will increasingly need to apply travel demand management measures (TDM) to make better use of the highways capacity that is available, particularly during peak periods. Such demand management will also be vital to controlling demand for road trips and minimising congestion during periods of network disruption, e.g. caused by roadworks or special events, which will be inevitable for periods while we and partners such as Highways England continue to deliver the interventions set out in the Government's Road Investment Strategy and within this document.

134. We will continue to work with Highways England and with planning authorities to ensure that the impact of new development on the SRN, in terms of congestion, reliability and safety, is mitigated by ensuring appropriate measures are identified and delivered at an early stage. We will also work with a range of partners, including operators, to identify measures which might contribute to the objective of managing demand, both short term during planned events and works, and more permanently. Short term measures may have the effect of engendering permanent changes in travellers' behaviour, so we will ensure that the effectiveness of such measures is monitored. A range of measures may be employed. These may include marketing and communication with travellers and engagement with businesses to encourage retiming of journeys and car-pooling/car share; provision of information on modal choices and appropriate facilities within new development to support non-car modes; constraints on long-term parking in our key centres; and measures to enhance the priority for

3 SCOOT – Split Cycle Offset Optimisation Technique; Pedestrian Scoot enables the adjustment of traffic signal timings automatically to extend the green pedestrian phase when large numbers of people are waiting, allowing more people to cross the road. 'Cycle SCOOT' detects the numbers of cyclists travelling along a route. This enables the traffic signal timings to be adjusted to give more green time when there are high numbers of cyclists at key junctions during peak times. Trials of this technology are underway in London.

sustainable modes.

135. We will continue to work with the Department for Transport and Highways England to maximise the potential to use Variable Message Signs to transmit messages about travel choices (e.g. stations with park and ride facilities), and to identify opportunities for improving access to public transport facilities from the SRN (as envisaged by the Integration and Accessibility objectives of the HE Delivery Plan). We will also continue to work with partners to identify the scope for and costs/benefits of additional or expanded park and ride provision, and to manage existing parking at stations/stops to ensure maximum availability of spaces for public transport users.

136. We will monitor the effectiveness of travel demand management initiatives being trialled elsewhere in the United Kingdom and beyond, such as the M27 TDM Pilot Scheme in Hampshire, and seek to apply any lessons learnt to Greater Manchester.

Providing for sustainable modes on our highways

137. Our highways networks are critical not just for the movement of general traffic, but also for supporting sustainable travel, including walking, cycling and buses. These modes are important in making the best use of the available road space, to maximise the movement of people. We will aim to provide additional priority where appropriate, in consultation with the local highways authorities, for enhanced crossing facilities and reallocation of road space to provide bus priority, on-street tram routes, cycle lanes and wider footways. Where we improve highways, we will include improvements for pedestrians and cyclists. We will also continue to support the introduction of 20mph speed limits in residential and other built up areas where there is local support. Such interventions will actively assist these modes by making them more reliable and safer and will help to make best use of available highways capacity by enabling higher volumes of people to be moved more safely and more efficiently through the network (see graphic below). It is important, however that the design of interventions is suitable for the function of the road, in terms of the amount of through traffic and whether it is a bus route.

138. The shared use of highway space has the potential to cause conflicts between different users, e.g. at crossing points. We will design schemes to reduce these conflicts as far as possible to protect the most vulnerable road users in particular.

Streets as Places

139. The future road network will also increasingly be about the ability of places to support economic and cultural activities and events – particularly in the Regional Centre and our other Key Centres, enable the delivery of the homes and jobs identified within the Spatial Framework, and meet and sustain our growing population's aspirations for a high quality of life, including the need to feel safe and secure and enjoy an environment free of harmful emissions including noise.

140. Inevitably as our economy and population grows so the demands on our roads will also grow and diversify. Meeting the number and variety of demands from different road users will inevitably create competition and conflict between functions on our roads – indeed many of these are already a feature of daily life on the road network. The function of certain types of roads and the intensity of different demands will not allow for all users to have their needs fully satisfied everywhere at the same time. For some types of street, the "link" or "movement" function will be more important than other functions such as "place" and vice versa. In some case "moving" vehicular traffic (including buses, taxis and freight) will be most important and will need to be prioritised, even though this means other users will

have lower levels of service. On other streets, cycling and pedestrians should be prioritised, alongside "place" or "living" and other functions, such as "protecting".

141. The 'Link and Place' concept, which has been introduced in London and Birmingham, recognises that a street may function as a link – where users pass through – and as a place – somewhere that is a destination in its own right. Streets within the network have a differing balance between Link and Place status, which in turn shapes the priorities for individual parts of the network, reflecting the differing requirements of users. This approach will underpin our thinking and the types of interventions under consideration when improvements are considered for particular corridors. We will undertake a pilot of this approach, focussed on the City Centre where the pressures around road space allocation are already being felt, to understand whether this should be rolled out more widely.

142. Such measures will, over time, change the look and feel of our local centres, facilitating more short distance trips that may be made on foot or by cycle rather than by car. The role of our roads in creating more attractive local places will increasingly be recognised rather than simply viewing them as transport links that facilitate rapid movement of high volumes of vehicles. Severance created by road traffic will also be reduced and the environment for local residents, businesses and their customers significantly improved.

Policy 17: We will seek to manage the road network in accordance with its function in specific locations, balancing the needs of cars and other motorised traffic (including buses, goods vehicles and powered two-wheelers) with those of cyclists, pedestrians, residents, shoppers and local businesses.

Bus priority and infrastructure

143. As noted earlier, the bus has an important role to play in the movement of people in Greater Manchester. However, the potential value of bus can be reduced by traffic congestion. Providing the right conditions for bus whilst accommodating other demands on the road network is not straightforward. However, to support our aim of running a strong and reliable bus network, bus priority and infrastructure will continue to be a key focus. The movement of buses to, from and through town centres and into interchanges in Greater Manchester will be a priority as congested centres are often where bus services experience the greatest delays. These centres also require a balancing of priorities with multiple competing demands such as parking, servicing, pedestrian- and cycle-friendly facilities, public realm and landscaping.

144. We will complete the delivery of the current programme of bus priority measures and we will continue to explore ways in which appropriate interventions such as bus lanes, adjustments to traffic signals, and changes to waiting and loading restrictions can help to free buses from congestion and improve their attractiveness to existing and new customers. We will work with partners to complete development of a long-term bus priority and infrastructure plan which will identify how we can best protect the existing bus network by improving punctuality and reliability, develop the bus market by increasing patronage to key destinations, and help support our future growth aspirations. We must also continue to improve our bus stop facilities to improve the waiting environment for all passengers and to improve accessibility for those with mobility impairments.

Policy 18: Where feasible we will introduce appropriate bus priority measures on the highway network to improve reliability and will keep existing measures under review to ensure their effectiveness.

145. Work will also continue to investigate the detail of bus routeing around and through our major centres and to identify any deliverable interventions which can improve journey reliability. Facilitating the movement of buses in and around these centres will complement the wider investment we will continue to make in transforming interchange and bus station facilities across Greater Manchester.

Cycle infrastructure

146. Our cycling strategy is to develop a network of dedicated, high quality, newly built or enhanced cycle routes that will be largely segregated from general traffic wherever possible. While in some instances we will be able to use off-road routes, such as alongside the canal network, the majority of cycle trips will be made on the highway, particularly in and around our key centres, and we may need to re-allocate road space in order to improve safety. The way in which this is done will vary according to local conditions, such as road width. More detail is provided in section 153.

Powered two-wheel vehicles

147. Powered two-wheel vehicles (PTW), i.e. motorcycles, scooters and mopeds, have an important role as part of the overall transport mix. Their efficient use of road space means that they contribute to reducing congestion and they also represent a lower cost form of transport which offers an alternative for those who are unable to afford a car. PTW users face many of the same issues as cyclists, particularly in terms of safety, and collision/accident rates are high.

148. We will continue to seek to improve the safety of PTW users through education initiatives such as Ridesafe Backsafe. We will seek to provide adequate and secure parking for PTW in key locations, such as our town centres, and in new developments. Conditions for PTW using our main roads will be improved through our focus on investing in maintenance and on improving the resilience of the network.

Maintenance and renewal

149. With the development of the KRN, there is an increasing awareness of the value of the highway asset, and more importantly the future implications of neglecting it. The economic performance of the city region depends upon a functioning highway network. If a section of road, or a structure, is allowed to deteriorate significantly, the impact on collisions, vehicle damage, network resilience, travel comfort for all road users, network performance and the 'liveability' of an area, can be significant. Where this deterioration in highways performance is on the economically vital KRN, the impacts are magnified and start to have regional and national level impacts.

150. We will work to improve and maintain the condition of our road network drawing on best practice, such as that set out within the Highways Maintenance Efficiency Programme (HMEP)[4]. We will also continue to pursue a policy of Invest to Save. Invest to Save is an approach to maintenance whereby capital investment funded through borrowing is used to renew highway infrastructure in order to overcome maintenance backlogs, arrest decline and bring the condition of the asset up to a high standard. The renewed assets then require less maintenance work in the short/medium term thereby reducing future maintenance costs. The objective is to reduce the total lifespan cost of the assets, and hence the overall unit cost per km of highway.

151. We will continue to explore opportunities to improve the efficiency of delivery in highways maintenance operations through collaborative working. This will enable unit costs to be reduced, resulting in the delivery of more maintenance work on our roads than could have been achieved for a given budget under individual local highway authority management.

Resilience of the highway network

152. A resilient network is one of our network principles, discussed in section 105. The highway network is highly sensitive to incidents and changes in demand; for example peak hour flows can vary by 13% between summer holiday traffic levels and non-holiday traffic levels. When combined with our growing economy and population, failure to make the road network resilient could result in the deterioration or failure of assets, increasing journey times and declining reliability, increased collisions and vehicle damage, and third party costs.

153. We will keep the vulnerability of our highway structures and road surfaces under constant review and ensure that new infrastructure is designed with in-built resilience. In recognising that climate change will have an increasing impact over the period to 2040, we will work with partners to determine the key infrastructure assets (including roads) that might be at significant risk, identify and implement appropriate mitigation measures and agree service levels for various tiers of road infrastructure.

Policy 19: We will work to improve and maintain the condition of our road network, drawing on best practice.

154. We will continue to liaise with all Authorities and stakeholders to develop the highway works permit system (GMRAPS) to ensure effective coordination and to reduce the impact of works on the Highway Network.

155. To ensure our customers are kept informed on the usability of our road network and the availability of alternatives, we will continue to develop our network management and travel information systems and provide real time 'open data' to support development of travel planning applications by third parties.

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4 HMEP is a £6 million, Department for Transport funded and sector led transformation programme which provides the tools and resources to generate ideas and help transform delivery of roads and services through greater efficiencies.

These systems will be supported by a growing network of Variable Message Signs, passive detectors, traffic counters, ANPR[5] and CCTV cameras, monitored and controlled through our Traffic Control Centre, and by our Roadwork Permit System (GMRAPS). These systems will also allow us to monitor our progress in meeting targets for the performance of the KRN in areas such as reliability, levels of delay, and network speed.

5 Advanced Number Plate Recognition

Developing a Comprehensive Walking and Cycling Network

Our Ambition: To create a comprehensive network of on and off-road walking and cycling routes that make it easier and safer for people to walk and cycle to key local destinations, such as local centres, jobs, healthcare and education, for leisure purposes and for local public transport access.

156. Throughout our 2040 Strategy, we place a strong emphasis on enabling people to travel more easily and safely on foot and by bicycle. Achieving this will help to increase levels of physical activity as well as reducing the significant numbers of very short car trips currently made in our local towns and neighbourhoods, making them more attractive places to live, work and visit. This will, in turn, reduce harmful emissions and traffic noise.

157. This approach is strongly supported by national policy, as set out in the DfT's Walking and Cycling Investment Strategy, 2016. The Government states the ambition to deliver by 2040:

- Better Safety: 'A safe and reliable way to travel for short journeys';
- Better Mobility: 'More people cycling and walking- easy, normal and enjoyable'; and
- Better Streets: 'Civilised places where people come first'.

These three principles are embedded in our Greater Manchester Transport Strategy 2040, with Part 3 showing the part that active travel needs to play in each of our five spatial themes: from access to public transport for longer distance journeys; to providing access to employment, education and other facilities; and, most importantly, becoming a mode of choice for short local journeys.

158. Despite significant investment in walking and cycling infrastructure over recent years, we know that there is much more to do to create an environment which is truly pedestrian and cycle friendly. Our priorities for cycling investment will be as follows:

- Improvements in links into and across the city centre core (building on the development of radial routes feeding cycle traffic in);

- Development of a Regional Centre network which is highly permeable for cyclists;
- Outward extension of existing radial routes leading to the city centre;
- Additional radial routes into the city centre;
- Connections from main cycle routes into local communities, employment areas and countryside;
- Connections/missing links between existing major cycle routes;
- Reducing the impact of major sources of severance for cyclists such as major roads and water courses;
- Cycle-friendly District centres;
- Upgrades to existing cycle routes to provide a consistent standard of facility;
- Improvement of facilities for cyclists at, and close to, public transport interchanges; and
- Working with schools and colleges to promote a culture of cycling in the next generation.

159. Our cycling strategy is to create a network of routes, linking schools, colleges, employment areas, shopping centres and public transport interchanges, that is largely segregated wherever possible. Segregation can be achieved through:

- Use of off-road routes, such as canal towpaths, which will also provide attractive pedestrian routes;
- Sharing of bus lanes (as is already permitted);
- 'Dutch style' bus stops that enable bikes to pass buses without having to ride round the outside of the bus in the flow of traffic; and
- Physical separation of cycle lanes, via light segregation using physical delineators, full segregation using continuous physical barriers and provision of height differential to lanes such as hybrid tracks.

160. Where routes are shared by pedestrians and cyclists, the safety of both sets of users must be considered in the design. This can be a particular issue for disabled people. In designing any new routes, we will also take opportunities to enhance the streetscape/townscape, subject to funding, and we will identify opportunities to provide new cycle facilities as part of new public transport routes. Principles for the development of the cycle route network are set out in the Greater Manchester Cycling Design Guidance6 and these will continue to be refined in discussion with the ten Highway Authorities. The guidance will be periodically reviewed and updated to ensure it keeps pace with this rapidly developing area of highways infrastructure.

161. Safety and security are of prime importance for pedestrians and cyclists. Our road safety programmes will continue to focus on reducing collisions involving the most vulnerable road users, which include these groups. We will also introduce 20mph zones, where these have local support, in areas around cycle routes. Reduced traffic speeds will encourage more people to walk and cycle, and provide a safer 'catchment' for the cycle network. Personal security is a key consideration in the design of new walking and cycling routes (see paragraph 113) and cycle parking needs to be secure, with good natural

6 cycling.tfgm.com/pages/pdfs/GM-Cycle-Design-Guide.pdf

surveillance. We recognise that poor air quality can deter people from walking or cycling, and will work to reduce emissions as set out in Policy 8.

162. Strategic 'cycle and ride' stations, introduced as part of our Interchange Strategy, will allow access to the public transport network from within a local station catchment. These will provide: a mix of covered stands and enclosed parking; improved security measures; and improved access to the station (e.g. ramps).

163. The school journey is one that can often be made on foot or by bike, and encouraging more active travel in this area is important in improving children's health, as described in section 75. We will therefore work with secondary schools and Further Education colleges to improve cycle parking and access and promote a culture of cycling in the next generation.

164. Most journeys involve an element of walking: to/from the station or stop or from the car park. Walking routes within our town centres need to be safe, secure and well signed. The 'legibility' of our centres is important in making them attractive places to visit and in supporting the growing visitor economy and we will introduce wayfinding schemes accordingly.

A wayfinding solution for Greater Manchester

Policy 20: We will work with partners to improve pedestrian and cycle facilities across Greater Manchester, including development of a strategic walking and cycling network, wayfinding and cycle parking

165. We will prepare updated walking and cycling strategies and investment plans to set out in more detail our aspirations for improving the walking and cycling environment in Greater Manchester, with the aim of creating a conurbation-wide network. A major focus will be on improving pedestrian and cycle links to local centres and transport interchanges; and to key employment, health, education shopping and leisure destinations. We also recognise that walking and cycling for leisure purposes plays a major role in the health and quality of life of our residents, and we have put significant investment into improving walking and cycling links alongside our extensive waterway network, disused railway lines, and through parks and green spaces, to enable people to be more active in their day-to-day lives. We will continue to identify opportunities for further off-road improvements over the coming years across the city region. We will also continue to promote active travel, via events and information, and provide training and other support for cyclists.

Public Transport Integration: Keeping Greater Manchester Moving in 2040

Our Ambition: To develop a fully integrated, customer-focused, low-emission public transport network, with simple, integrated ticketing, that provides an attractive and accessible alternative to travelling by car to key Greater Manchester destinations.

166. Improved public transport will need to play a major role in delivering Greater Manchester's sustainable growth agenda over the period to 2040. An attractive, efficient and well-integrated public transport network is an essential element within the city region's infrastructure. Together with Active Travel, it can provide the significantly enhanced connectivity that our city region requires for success. It can encourage growing numbers of people out of their cars for more of their journeys (helping to reduce emissions), and it can provide access to employment, education and opportunities for the third of households without access to a car. Crucially, however, our approach also opens the way for a future where car ownership is not perceived as indispensable, and residents can choose from a range of sustainable and efficient travel options – public transport, ride sharing, car sharing/hire, walking, cycling or taxi – which in aggregate reduce congestion, carbon and emissions whilst providing residents with the excellent connectivity that they need.

167. Building on our recent investment, we will aim to deliver further transformational change in the quality, ease of use, coverage, accessibility and integration of our public transport networks to ensure we have a system fit for a modern, world-class city region.

Policy 21: Working with partners, we will seek to establish and promote one integrated Greater Manchester public transport network, making it easy and affordable for customers to plan, make, and pay for their journeys using different modes and services.

Interchange

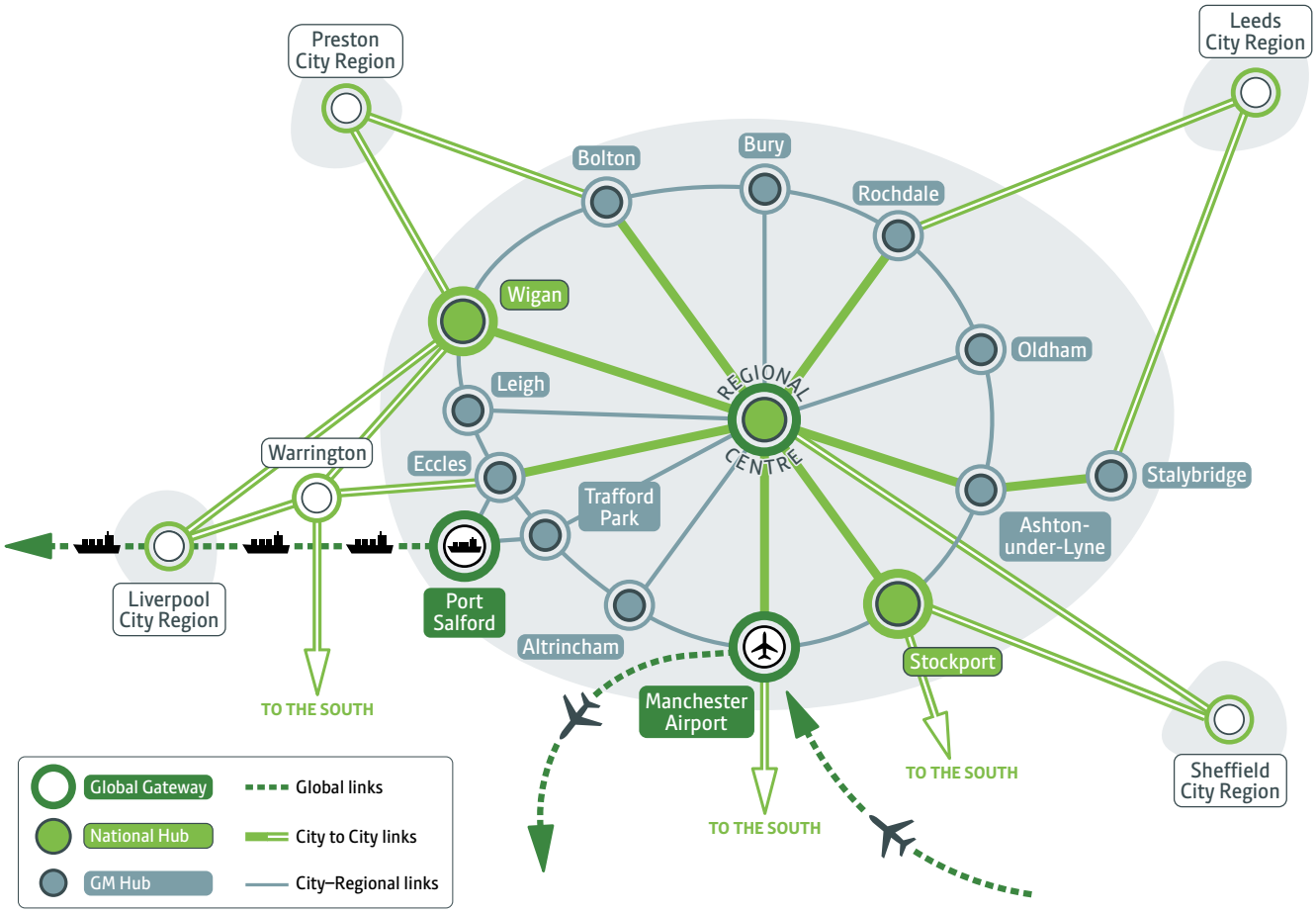
168. In order to develop a more coherent access and interchange strategy for Greater Manchester, we have identified the most critical points of interchange on the public transport network, based not on transport mode but on what travel opportunities our interchanges facilitate. Our approach builds on the principles of our five 2040 spatial themes (described in Part 3) to embed our transport interchanges far more into local places using the tiered approach shown in Table 1 below.

Table 1: Interchange Categories

Category	Description
Global Gateway	Manchester Airport – provides the key entrance to Greater Manchester for international travellers, providing first and last impressions of our city region.
National Hubs	Major interchange locations providing direct, mainline city-to-city rail connections.
Greater Manchester Hubs	Our key town centres and other strategic employment locations, that provide strategic opportunities for interchange to facilitate both radial and orbital public transport travel across Greater Manchester.
Local Hubs	Smaller local centres, and employment destinations, with potential for providing more local interchange opportunities e.g. to improve access to future employment areas identified through the Greater Manchester Spatial Framework.
Neighbourhood Gateways	Local points of access to our Greater Manchester public transport network, such as local Metrolink stops and rail stations.

169. The most strategic interchanges (Global Gateway, National Hubs and Greater Manchester Hubs) are highlighted on the map below. This also shows key radial links and the orbital connections we need to

improve in order to radically improve connectivity across Greater Manchester. There is significant potential for these interchange points to facilitate far more orbital and radial travel opportunities if other barriers to interchange are addressed.



170. We will ensure that access and interchange facilities, and their operation, are of a consistent standard, with criteria developed for different types of interchange to ensure that appropriate provision is made for: walking and cycling access (including wayfinding); parking provision (including drop-off for car and taxi passengers); passenger facilities; safety and security; information; and access for those with mobility impairments. Our approach will be tailored to specific local requirements, but will seek to provide a much more consistent and high quality customer experience across Greater Manchester.

171. As we seek to improve the physical aspects of interchange at our local and strategic interchange points, we will develop more detailed principles for each category of interchange, based on the following key elements:

- **Excellent customer experience –** making it easy and stress-free to access and move through an interchange, focusing on the design of entrance points, movement spaces within an interchange, and opportunity spaces that have the potential for commercial or community use.

- **Reinforcing a sense of place** by embedding the Greater Manchester transport network better within the local area by ensuring it is well connected and related to the surrounding area through high quality walking and cycling routes, appropriate car and cycle parking facilities, and excellent wayfinding provision.

- **Inclusive and accessible** – enabling everyone to use public transport equally, confidently and independently.

- **Minimising differentiation between modes**, both physically, in terms of better integrating service patterns and information, and introducing a simple, integrated ticketing system, and in terms of perception, through consistent branding and communication.

- **Simplicity** – through provision of easy to use information and easy-to-navigate design. Provision should be tailored to the unfamiliar customer, for the benefit of all users.

- **Tailored** – to the needs of the customer and the local area.

- **Attractive** – ensuring that customers feel safe, secure and confident in using the interchange facilities but that more emotional factors are also addressed to create a more pleasant and enjoyable atmosphere.

- **Enhancing access through park and ride, or drop-off facilities** - To be effective, park and ride needs to intercept cars before they reach congested urban roads and transfer their drivers to a fast and frequent public transport service. We will therefore identify additional park and ride and drop-off outside, or close to, the M60 on existing or future rapid transit routes.

Policy 22: We will seek to ensure a consistent standard of facilities at transport hubs, appropriate for their size and function, and will work with partners to improve access to them by all modes.

172. The characteristics of the different public transport modes mean that each has strengths which make it best suited to particular travel markets. Bus, with its frequent stops, is best suited to serving shorter distances (up to around 6 kms), in dense urban areas. It provides direct travel into city and town centres and to major employment areas as well as access to rapid transit stations and stops, via interchanges. Over longer distances, (6-50kms) rapid transit offers significantly faster journey times than bus, while rail, with a limited number of stops, is the best option for long distance journeys. In planning new infrastructure and services, our aim is to make the best use of public funding by prioritising the modes which best serve a particular market.

Our Vision for Bus

Our Ambition: To develop a modern low-emission accessible bus system, fully integrated with the wider Greater Manchester transport network on which everyone will be happy to travel regardless of their background or mobility level.

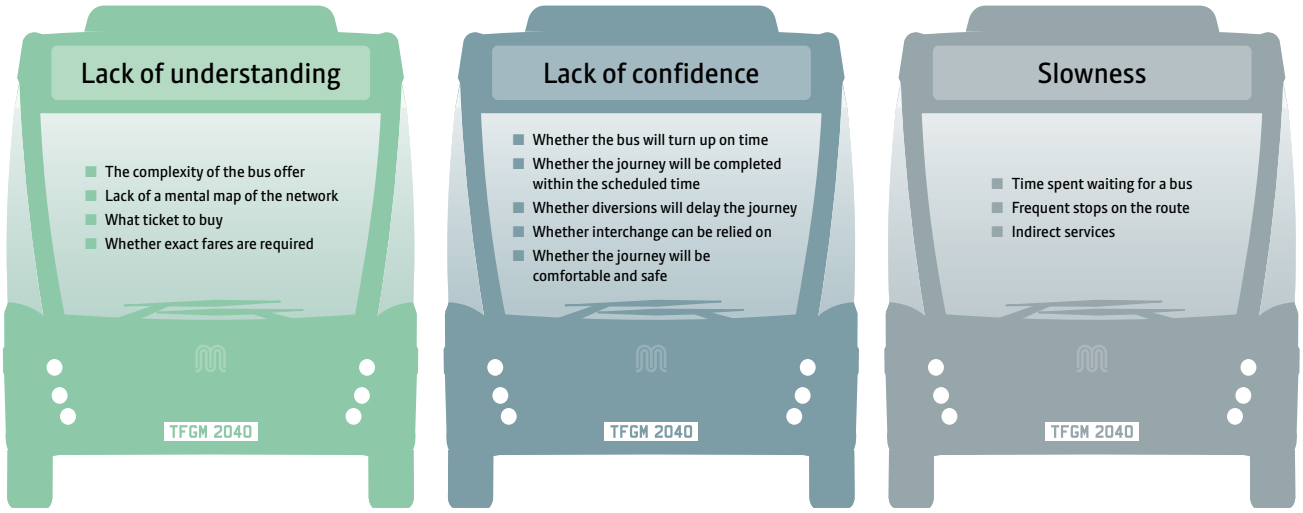
173. Bus travel currently accounts for four in every five public transport journeys in Greater Manchester. It plays a vital role in reducing congestion and improving accessibility for people who have no access to a car, but has the potential to contribute more effectively to our overall public transport strategy. We have invested heavily in bus infrastructure and services, in particular since 2000. Modern, high quality interchanges have been built or are under construction in our main town centres, and this programme of renewal is almost complete. We have also introduced extensive bus priority, through a network of Quality Bus Corridors and through the Bus Priority Package (which includes the Leigh Guided Busway). Working with bus operators, we have introduced smart ticketing for multi-operator tickets and to support this we have provided smart ticketing equipment to smaller bus operators. We have also provided support for a network of socially necessary services, which would not otherwise be provided by operators on a commercial basis, and provided concessionary fares in excess of the national statutory requirements.

174. Despite considerable and long term public investment in bus infrastructure, subsidy and service support, as well as investment by the major operators in new vehicles, patronage has remained largely

static overall, with growth on some corridors and decline elsewhere. Bus has simply not seen patronage growth over the past 15 years, despite significant population growth, in sharp contrast with the 50% growth experienced on rail and Metrolink, recognizing that the latter system has been expanded considerably during this period. This is also in sharp contrast to London, where bus patronage has increased by 31% since 2004/05, demonstrating that where services are extensive and frequent, and simplified integrated ticketing is available, bus patronage can increase.

175. We need bus to attract more people out of their cars and to play a full role within an integrated public transport network to ensure that growth in locations like the Regional Centre is not undermined by congestion. However, the multiplicity of operators means that the bus network lacks a consistent identity and cannot be marketed either as a recognised commuter brand, like Metrolink, or as part of a wider public transport network. Moreover, a complex and ever-changing ticketing offer, with higher fares charged for the tickets that allow passengers to use bus services provided by different operators, has done nothing to promote aggregate passenger growth, in contrast with most other European cities where a simple and integrated ticketing offer is at the heart of their comprehensive public transport networks.

176. A review of secondary evidence on the barriers to bus travel, carried out for TfGM, shows that for people who have a choice in how they travel, the main reasons for not making more use of buses are as follows:



177. Overcoming these barriers is essential to enabling bus to fully play its part in realising the 2040 Strategy. This means that it is vital to maximise investment in the bus network and improve public transport connectivity to employment and essential services, as well as improving the customer experience. To do this, demand for public transport, including bus, must grow, facilitating modal shift from car to public transport, reducing congestion and also harmful emissions. To fully achieve these outcomes, evidence from other cities suggests that improved integration and investment can increase use of public transport and bring attendant benefits.

178. Thus, our vision for bus in Greater Manchester is based on four objectives. Our first objective is **network integration** – how physically integrated the services are between themselves and with other modes. Our second objective is to deliver for passengers a **simplified and integrated fares system**, including transparency and operation across modes. For passengers, our next objective is to offer a great **customer experience**. Finally, an efficient and growing network would achieve **value for money,** enabling investment to improve services. Further detail is set out below.

Network Integration

- The bus network will be dynamic, developed in response to demand for travel, particularly to and from new areas of housing, employment sites, and education and training establishments. It will include the provision of bus services where current or anticipated demand might not support commercially viable services, in order to achieve important social or economic objectives.

- An integrated public transport network where services complement each other, will maximise connectivity opportunities. Buses acting as feeder services to rail and Metrolink services will extend commuting options. This will create a clear and logical set of travel options for passengers.

- Appropriate levels of bussing provided on routes will be aligned with levels of demand. Frequencies will be increased on some routes and at some times of day to better meet people's needs, particularly for access to work and training.

- Passenger convenience will be maximised, and journey times minimised, through optimal location of interchanges, hubs and bus stops to ensure passengers can complete journeys requiring more than one trip or mode.

- Network stability will be a key feature, giving customers the confidence to rely on their bus service. Changes to the network will be carefully considered, and their effects on the network as a whole understood before being made.

179. Simplified and Integrated Fares

- Bus passengers will benefit from a simple, integrated ticketing system that complements and enhances the integration of the transport network as a whole. It will be easy to understand for passengers, incorporating a simplified number of fare bands, and will allow flexible use of ticketing products across different bus services and other modes. This will facilitate longer and multi-modal journeys to be completed without excessive cost.

- A ticketing strategy that allows best possible management of demand within and between modes will allow for best possible management of highway, rail and tram capacity.

- Passengers will benefit from easy means of transaction, and swifter boarding, through more use of new technology, including use of their mobile devices and bank cards.

180. Customer Experience

- The bus network will be easy to navigate for all passengers, including visitors to Greater Manchester. It will also benefit from a unified brand within an overarching identity for the wider public transport network, removing confusion for everyone.

- The whole public transport network will be promoted effectively – travel choices will be simple to understand, and customers will be able to make informed choices, using the sophisticated presentation of information through digital communication devices as well as more traditional methods.

- A consistent and good journey experience will be achieved through high standards for on-board facilities. The journey experience will be further enhanced through passenger waiting facilities that are accessible, convenient, clean, comfortable and safe.

- Passengers will feel confident that the bus will get them to where they want to be, on time, and that buses will turn up when they are scheduled to do so.

- Bus performance will be improved through targeted investment in bus priority on the highways, and at relevant junctions. The bus network will be managed in real time, through technology, to minimise service disruption and maintain an even service.

- A modern bus fleet, increasingly able to reduce harmful emissions, which will improve air quality.

181. Value for Money

- The bus network will deliver optimal value for money in terms of the service to Greater Manchester for the inputs available – fares paid by passengers, and the different forms of subsidy.

  Network efficiency will maximise investment into the bus system, delivering new services and passenger facilities.

The Government has introduced a new Bus Services Bill, which includes for advanced quality partnerships, bus franchising, advanced ticketing schemes, better information, and enhanced partnerships, which may be beneficial in achieving our vision

Policy 23: We will seek to make best use of any powers included in the Bus Services Bill, as well as our existing powers, to give effect to our vision for bus.

Coaches and Taxis

182. Chartered coaches play a vital role in Greater Manchester's visitor economy, bringing people in to visit shopping centres, leisure and cultural attractions and to attend a wide range of events. Visitor numbers are growing, and we will work with operators and local authorities to ensure that coaches can set down and pick up close to their destinations and that accessible coach parking locations, with appropriate facilities and hours of operation, are provided and well signed.

183. Scheduled coaches provide a lower cost alternative for longer distance journeys and have traditionally been popular with students and retired people. We believe, however, that there is scope for this role to grow in importance as we deliver our Vision for Bus. We will therefore explore the feasibility and scope for coaches or express buses to provide some of the medium to long distance journeys, to places like the Airport or the Regional Centre, on corridors where rail or Metrolink would not be feasible or affordable.

Policy 24: We will seek to ensure that accessible coach parking and set down/pick-up points are available at key locations.

184. Taxis and private hire vehicles provide people with the flexibility of door-to-door transport on demand, without needing to use or own their own vehicle, and this role is likely to increase. They are therefore an essential component of the transport network: facilitating journeys where there is no suitable bus service, supporting the night-time economy by allowing people to leave their cars at home; providing the final 'leg' of a journey by rail or air; and acting as a backup mode when a change is needed to the usual travel arrangements. As described in section 126), the growth of 'on demand' companies is revolutionising private hire by providing customers with greater flexibility. Greater Manchester needs a vibrant and high quality taxi/private hire service and we will explore with the industry how new booking systems might be included in our Travel Choices offer.

185. In recognition of their role in supplementing the public transport network, hackney cabs are allowed to use 'with-flow' bus lanes in Greater Manchester. This freedom cannot be extended to private hire vehicles for a number of reasons. There is no limit on the number of PHVs that can be licensed (there are currently around 16,000 in Greater Manchester), and allowing a significant number of additional vehicles into bus lanes would erode the benefit to buses, which is their primary purpose, and would create additional conflicts with pedestrians and cyclists. Also, if selective vehicle detection bus priority, such as at pre-signals, were to be introduced, the signal would turn green for buses, but a PHV in the bus lane would not activate the signal, leading to the danger of red light running.

186. Hackney cab licenses are issued by each of the ten licencing authorities, who also determine the location of taxi ranks. Each authority sets its own standards; for example in terms of the number of licenses issued, the age of vehicles and the area in which they can operate. Our long-term aim is to achieve more consistency across the conurbation, in order to provide a better, more integrated service to the customer and to ensure that taxis entering the Regional Centre and main town centres meet the highest environmental standards. We will work with the ten Greater Manchester Licensing Authorities and the taxi/private hire industry to develop more consistent standards, building on best practice from elsewhere in terms of policy/regulation and operation. There will however be a need to ensure that higher standards are not undermined by vehicles registered in neighbouring authorities but operating in Greater Manchester.

Policy 25: We will work with the ten Licensing Authorities and the taxi/private hire industry to develop more consistent standards for policy/regulation and operation across Greater Manchester.

187. Our network of canals provides traffic-free routes through the urban area and may have potential to add to the transport offer by enabling water taxi services, which can be attractive for leisure trips. Where private sector proposals of this type are developed, we will seek to ensure integration with the wider transport network.

Our 2040 Rapid Transit strategy

Our Ambition: To extend the benefits of rapid transit to more areas of Greater Manchester and provide the capacity and reliability needed to support growth in the economy.

188. Rapid transit – principally Metrolink, alongside the higher frequency parts of the commuter rail network – has been a critical component in supporting economic growth and housing market renewal in Greater Manchester. Metrolink has proved highly popular, with over 30 million people a year (2014 patronage data) benefitting from accessible, fast, and frequent public transport with a high degree of segregation from other traffic, making it a very attractive alternative to car travel.

What is Rapid Transit?

We define "rapid transit" as any public transport service that offers significantly faster journeys than a stopping bus service for middle-distance trips of 6km to 50km. In Greater Manchester to-date, our Metrolink network and the new Leigh-Salford–Manchester busway provide excellent examples of Rapid Transit.

'Metro'-style rail operations are any fast, frequent, rail-based rapid transit services which provide excellent access into the heart of the Manchester city centre.

189. Building on the core Metrolink network, serving routes from Manchester City Centre to Altrincham, Bury, Eccles and MediaCityUK, further extensions have now been completed and a Second City Crossing through central Manchester is due to open in early 2017. A further line is planned to Trafford Park and we are investigating whether this can be extended to the AJ Bell Stadium and on to the Port Salford area, where future development is planned.

190. The Metrolink Second City Crossing will provide a welcome increase in capacity at the heart of the Metrolink network. Increasing operational capacity through the city centre will enable the potential of the Metrolink expansion programme to be realised. The Second City crossing will also improve system flexibility and resilience in the critical core area of the Metrolink network. The potential disruption caused by future maintenance and replacement works will be mitigated by having more than one route across the city centre. System reliability and resilience will be a recurring theme for Metrolink over the period of the 2040 Strategy. Further interventions will be identified and developed where they represent value for money and have clear potential to enhance the operational performance of the Metrolink network for the benefit of the travelling public. We will manage our Metrolink network systems and assets in accordance with sustainable development principles, including their long-term financial, societal and environmental impacts. The effectiveness of TfGM's approach to delivering the Metrolink services including stewardship of the assets will be measured and improvements identified. By reviewing and adjusting our approach to operations, maintenance and renewals we will seek to assure the Metrolink network consistently delivers the required services over time.

191. We will aim to expand the coverage and capacity of our rapid transit network (alongside other transport improvements), to deliver improved connectivity to employment and other opportunities within the City Region. This will be necessary in order to support a transformational level of growth in the conurbation. Further rapid transit improvements will need to both shape and respond to future development opportunities. The high cost of constructing and operating Metrolink means that we must undertake detailed analysis of rapid transit potential, based on future patronage opportunities and the scope for offering substantially faster journeys than could be achieved by a stopping bus service. We will also need to significantly improve rapid transit capacity within central Manchester, to ensure that current capacity constraints do not affect Metrolink's ability to accommodate long-term growth on existing and future lines (see section 288).

192. For rail-based rapid transit, we will aim to deliver at least a 15-minute service frequency on all key corridors into the city centre throughout the day (Mondays to Saturdays, 0700-2330). We will maximise (on lines that have the appropriate characteristics) the number of "Metro"-style rail operations in Greater Manchester. However, we will also seek to make optimum use of our existing and planned heavy rail infrastructure through more traditional heavy rail services.

193. Bus-based rapid transit also has good potential in corridors where levels of demand would not justify the high cost of rail-based provision.

Policy 26: We will seek to expand the coverage and capacity of our rapid transit network (Metrolink, Rail and Bus Rapid Transit), to deliver improved connectivity to employment and other opportunities within the City Region.

194. Over the period to 2040, we will be taking a much broader view of rapid transit, focusing on delivering the most appropriate, integrated public transport network to meet the needs of different parts of the city region.

195. Changes in rapid transit technology and operating practices mean that the traditional boundaries between heavy and light rail and bus-based systems will become increasingly blurred. That enables us to focus on providing the right rapid transit system to meet existing and future travel markets in Greater Manchester and to support significant population and economic growth.

196. In the medium term, tram-train (where vehicles can travel on both street tramway and all-purpose railway lines, as in many parts of Europe) offers the potential to deliver metro services to more areas without building new rail lines. A tram-train approach can help to improve access to the core of the city centre at peak and off-peak times, while also releasing valuable capacity on the heavy rail network.

197. Where demand is not sufficiently high for rail-based rapid transit, other types of rapid transit, such as busways, segregated bus lanes and express bus services can offer many of the same benefits with much lower infrastructure costs. They may also serve to build up demand for rapid transit to a point where a Metrolink extension can be justified in the future.

198. The Regional Centre will continue to be the major hub for rapid transit services due to its high concentration of trip attractors, and its role as the key interchange node in the Greater Manchester public transport network. As new city-to-city rail services are introduced (e.g. HS2 and Cross Pennine Northern Powerhouse Rail services), this Regional Centre hub role will become even more important, and our 2040 rapid transit strategy is designed to maximise the benefits of new strategic rail services to

Greater Manchester by ensuring full integration with our existing and future Greater Manchester public transport network.

199. In the longer-term, the growth of Manchester Airport and the Enterprise Zone means that the Airport has the potential to become a second rapid transit hub in Greater Manchester. Airport-focused rapid transit services could provide more orbital travel opportunities for Greater Manchester residents and visitors. We will continue to explore opportunities for delivering more orbital rapid transit services via the Airport over the coming months and years.

200. Our priorities for extending the capacity and coverage of the rapid transit network will include:

- Providing additional cross-city capacity in the Regional Centre for existing and future rail-based rapid transit services, potentially by means of tunnelling.
- Converting those suburban rail lines serving the Regional Centre which have a relatively poor financial performance to metro-style services, where there is a good financial case and the potential to attract both peak and off-peak patronage, achieved by track-sharing between light and heavy rail services.
- Providing additional capacity to accommodate growth on remaining suburban heavy rail services to the Regional Centre, and ensuring excellent local rapid transit connections with Northern Powerhouse and HS2 Rail services via a network hub at Piccadilly.
- Building new sections of rapid transit route, but only where there are opportunities to provide substantially faster journeys than could be achieved by a stopping bus service.
- Developing new bus-based rapid transit routes to the Regional Centre from areas poorly served by heavy rail, in the latter case potentially building up demand for future Metrolink routes.
- Developing Manchester Airport as a second Greater Manchester rapid transit hub in support of the Airport's growth strategy and exploring opportunities for new orbital bus- or rail-based rapid transit services from other Greater Manchester Hub interchanges, particularly to support growth areas identified through GMSF.

Heavy rail services

Our Ambition: To develop a rail network with the capacity, reliability, speed, resilience and quality to support growth in the Northern economy and extend the benefits of HS2 and Northern Powerhouse Rail throughout Greater Manchester.

201. The rail network in Greater Manchester plays an important role in supporting economic growth, in particular providing quick access into the Regional Centre and main town centres and linking the conurbation to other major cities. In recent years, there has been a significant growth in patronage, increasing by over 30% in the last ten years. The rate of growth in the use of rail in the North, especially into major centres, has in fact outpaced that in the South East and other parts of the country, despite the impact of the recession.

202. Improving reliability will be key in continuing this role, but there is a need to address the resilience of the network: both in terms of coping with increasing unpredictable major weather events (flooding, landslips etc.) and incidents (e.g. train failures and bridge strikes). The dis-investment in the UK rail network from the 1960s through to the 1990s saw the network removed of spare capacity beyond that required to operate a limited variety of service patterns. The renaissance in rail use since then has meant that significantly more trains are running through the same network, so that any perturbations are easily magnified and there is limited scope to avoid major incidents or seek alternative routes. We will assess the key vulnerable locations on the network where additional capability could bring a step change in network recovery from such major incidents, ensuring much greater resilience.

203. Increased capacity is needed both for resilience and future growth but a lack of investment over many years means that capacity is increasingly an issue in Greater Manchester. Also, the quality of rolling stock and passenger facilities is inconsistent, often offering a poor experience to the travelling public. There is potential for much of this to be addressed under the new Northern and Transpennine rail franchises that began in April 2016 and which TfGM has heavily influenced.

204. We believe that the northern rail system has the potential to further support economic growth, given the right investment, and in 2014 GMCA agreed five strategic rail priorities for Greater Manchester:

- Provision of sufficient capacity (including through rolling stock and infrastructure plans) to ensure all passengers can be carried;
- Delivery of the Northern Hub infrastructure and service patterns in order to release significant city-region economic benefits;
- Further electrification of the local and inter-regional rail network in order to reduce rail industry costs and yield passenger benefits;
- Preparation for the arrival of HS2; and
- Creation of a significant national Small Projects Fund to facilitate the development and delivery of value for money improvements to stations and the infrastructure.

205. Greater Manchester is set to benefit from major Network Rail investment in the 'Northern Hub', which will increase capacity and allow more services to operate across the northern network focusing on central Manchester. It is essential that all elements of this programme are delivered in order to achieve the maximum benefits, and we will continue to make the case with Network Rail for the early delivery of the additional platforms (15 and 16) at Piccadilly and the Oxford Road Re-modelling. Greater Manchester will also benefit from the electrification of the 'North West Triangle' (which includes Manchester-Liverpool and Manchester-Preston via Bolton) and the North trans-Pennine route (Manchester-York).

Policy 27: We will continue to work with DfT, Network Rail, train operators and with other local authorities across the North of England in order to secure our strategic priorities for rail.

206. The new Northern Rail franchise, which commenced in 2016, represents a significant step towards achieving many of our strategic rail priorities. It includes major investment in new rolling stock for local services and a step-change in service levels on many local routes, especially during the inter-peak, evening, and weekend periods.

207. The long-term sustainability of the local heavy rail network is likely to depend on continuing recent progress in reducing its need for subsidy: at present, Northern Rail covers by far the lowest proportion of its costs of any English rail franchise. However, the newly re-let franchises do show a planned reduction in subsidy, with new services, rolling stock and capacity forecast to result in increased patronage and revenue beyond the additional operating costs. Some of the lines that are likely to be the weakest financially also offer some of the best prospects for attracting additional demand via light-rail metro-style operation, which can – as seen recently with the conversion of the Oldham Loop line to Metrolink where patronage has more than tripled – attract more demand and revenue outside the travel-to-work peak periods. The financial sustainability of some parts of the suburban heavy rail network could be improved by conversion to metro-style services on lines with high potential for growth in demand outside travel-to-work peak periods, as indicated above under 'Our 2040 Rapid Transit Strategy'.

208. The Government has recognised the need for faster journeys between the major northern cities and the local authorities are working together to agree what is needed to benefit that wider area, with the aim of developing a "Northern Powerhouse Rail" network. Improvements would be delivered progressively, through franchise specifications and input to ongoing railway planning processes and through supporting activities of local authorities.

209. A key output of the new Northern and Trans-Pennine franchises is the provision of substantially enhanced weekday evening, Saturday and Sunday services so that rail can play its full role in servicing the leisure economy of the Regional Centre. We will continue to apply pressure to further improve services to meet the development of Manchester and adjoining centres as shopping and leisure destinations.

210. The fact that many of Greater Manchester's rail stations do not meet customer expectations, in terms of the facilities offered, deters some users. Because rail franchises are relatively short-term, train operators have little incentive to invest in facilities and improve access because there is insufficient time to recoup that investment. We therefore believe that the interests of the customer would be best served by TfGM operating stations on a long lease. This would enable longer-term programmes to be developed to bring stations up to a consistent standard.

Policy 28: We will work with DfT, Network Rail and Rail North to secure greater local control of rail stations within Greater Manchester in order to improve the customer experience and facilitate a long term approach to infrastructure planning.

Goods and Servicing

Our Ambition: To enhance the role that freight plays in contributing to economic growth and ensure that it becomes increasingly sustainable, minimising its impact on the environment and on communities in Greater Manchester.

211. The economy depends on the efficient movement of freight - supplying goods for manufacturing, stock for retailers and other businesses, and home deliveries to our residents. Nationally, the freight and logistics industry accounts for 9% of the country's GDP and 7% of total employment. The industry is almost entirely owned and operated by the private sector and is highly competitive. It has a strong interest in achieving low cost, on-time deliveries, and initiatives and interventions will only be adopted if they do not impose disproportionate additional costs.

212. The vast majority of freight is carried by road and these movements are a source of congestion, carbon emissions, poor air quality and noise as well as leading to conflict with vulnerable road users such as cyclists. Road freight is a significant contributor to poor air quality due to the dominance of diesel fuelled vehicles. This is a particular problem in congested areas, as HGV emissions are markedly worse at lower speeds. The 'last mile' of deliveries will, in many cases, need to be by road, but shifting more freight to sustainable modes would be desirable. However, Greater Manchester has very few rail or water-connected distribution sites and constraints on the rail network limit future rail freight growth. In the future, Northern Hub rail enhancements will increase freight capacity, enabling a tripling of freight trains to operate in Greater Manchester, should there be a demand for the available routes. In addition the regeneration of the Manchester Ship Canal, to provide low cost access by water to Port of Liverpool (Liverpool 2), has the potential to take a proportion of freight traffic off the roads between the two cities. Port Salford incorporates a new railhead capable of handling 16 container trains per day together with a new berth capable of handling existing barge traffic from the Port of Liverpool with short sea feeder ships.

213. The structure of the economy is changing towards a greater focus on high value added manufacturing and service industries. Along with the rise of e-commerce these changing trends in consumer markets have an impact on both the location of warehousing and goods handling facilities and the way goods are distributed - to individual residences and collection points as well as more traditional delivery to retail stores. The former trend has seen the rise of light commercial vehicles, rather than traditional use of HGVs which are required to supply goods in bulk between distribution centres and stores.

214. The challenge is particularly great in the Regional Centre where the very rapid growth in residents and workers will generate an increase in last-mile logistics. There will be a need to balance this demand for roadspace, with increasing demand from bus, Metrolink and active modes. A further issue is that ambitions to increase the number of journeys on foot and bicycle could increase the risk of freight-related collisions with these vulnerable road users. The timing of freight movements to minimise peak hour congestion needs to be balanced with the need to minimise the noise impacts of deliveries on residents and the needs of businesses to receive goods at particular times.

215. The expansion of logistics has been identified as an opportunity area for the Greater Manchester economy and the draft Greater Manchester Spatial Framework has identified a number of broad areas for future distribution and warehousing growth. This will increase number of goods vehicle movements, placing additional demand on the capacity of the strategic road network, and connections on the KRN and local road network, and potentially increasing the need for additional maintenance and renewal of these links. New logistics sites should ideally be accessible by rail and/or water, but some goods cannot be transported by these modes and for others it would not be practical due to timescales, routes and other issues. A further consideration is the fact that any increase in rail freight will have an impact on demand for rail paths, potentially reducing capacity for growing passenger services.

216. Through our Freight and Logistics Strategy we will aim to maximise freight's contribution to economic growth and competitiveness. In the period up to 2025 this will involve: improving journey times and reliability; keeping costs as low as possible; ensuring that infrastructure is capable of meeting future growth and demand; increasing integration between modes and distribution centres and increasing Greater Manchester's share of the logistics market. At the same time, the strategy aims to minimise the social and environmental impacts of the industry by reducing emissions from road transport, reducing noise, traffic disruption and congestion for residents and improving safety for cyclists. Over the longer term we will seek to encourage modal shift, where feasible.

Policy 29: We will work, including through the GM Logistics Forum, to improve journey times and reliability for deliveries, and to reduce the environmental impact of logistics, including the promotion of mode shift.

217. Better dissemination of information is central to achieving our objectives. Our understanding of freight movements across Greater Manchester will be enhanced by working with partners such as Highways England and industry representatives. Meanwhile, we can assist the industry with operational planning through the dissemination of live traffic data and encourage sustainable distribution practice through awareness campaigns, e.g. regarding air quality, and driver training. Our understanding of the needs of the industry will be improved through the creation of a Logistics Forum, to facilitate engagement.

218. A key intervention will be to maximise the practice of consolidation, whereby deliveries to the same location are bundled together or where goods are delivered to locations for onward distribution by smaller, low emission vehicles (including cycles or electric-assisted cycles in town and city centres) or for collection by individuals. This will reduce the numbers of large goods vehicles entering the city centre and town centres, reducing noise, congestion and air pollution. Central Government wish to pursue Clean Air Zones (CAZ) as a measure to improve air quality in major urban areas and such a measure could incentivise the use of consolidation centres. We will assess the potential impact of a CAZ, including the impact on freight operators. Proposals for freight and logistics are also discussed in Part 3 in relation to our spatial themes.

Part 3
Our 2040 Spatial Themes: Challenges and Interventions

Introduction

219. This section describes the policies and proposals for improving the transport network in the medium term, up to 2025, along with our aspirations for the longer term, up to 2040. These build on the Greater Manchester-wide strategic principles and policies set out in Part 2. Part 3 is structured around our five spatial themes (as introduced in our 2040 Vision), to enable an integrated set of interventions to be developed to address specific issues in different parts of the city region and for different types of travel:

Our 2040 Spatial Themes

220. Part 3 covers the need for better links to ports, airports and the Channel Tunnel to improve our overseas trade and tourism connectivity, alongside transformed links to other UK cities to deliver the crucial access to markets for labour and goods that our City Region needs. Within Greater Manchester, the Regional Centre has a critical role as a major transport hub as well as being the main centre for employment and a major focal point for long-term economic and residential growth, and therefore has

specific transport needs. Across the City Region, people also need access to the main town centres and employment locations as well as to facilities like hospitals and colleges. Within neighbourhoods the short trips made from home to local centres and facilities, rail stations and bus stops are essential to the quality of life we all desire. These journey types, and the improvements we plan to make for each of them, are discussed in more detail in the following pages.

221. A common theme throughout Part 3 is the need to tackle congestion on our transport networks and minimise the negative impacts of traffic on our communities, particularly as our City Region experiences rapid growth over the coming decades. This will need a concerted effort to improve the attractiveness of our sustainable transport networks by providing the right infrastructure to support our growth agenda and locating new development in accessible locations; whilst also carefully managing demand across our transport system.

222. Although the spatial themes are described separately, the journeys that people make may involve a number of different elements, covered by different spatial themes. For example, inter-city journeys may start with a trip within the local neighbourhood and may then involve a journey across the city region to access a motorway or a National Hub interchange. All elements need to function well in order to make a real difference to the journey as a whole.

Global Connectivity

Our Ambition is to support growth at the Airport and the adjacent Enterprise Zone by: bringing many more passengers within a 1hr and 2hr rail journey time; improving the reliability of the highway network; and ensuring that public transport services better meet the needs of airport passengers and employees. Fewer people will drive to work at the Airport, with transformed sustainable transport connectivity from across Greater Manchester and beyond.

The Atlantic Gateway corridor will be developed to maximise the sustainable movement of goods by water and rail. The Port Salford area will be developed as a tri-modal (rail, water and road) logistics park and development zone to improve access to global markets via the Port of Liverpool.

223. In our 2040 Vision for Transport, we highlighted the importance of Greater Manchester's connectivity to global markets to enable our city region to compete effectively on the world stage and to rebalance the UK's economy. The Greater Manchester brand is already strong around the world and we have a huge opportunity to capitalise on this in terms of attracting further international inward investment and tourism.

224. We are also an important strategic location for international freight movement in terms of our excellent connectivity by air, sea, road and rail, and through further targeted investment in our transport infrastructure and services, we can build on this strategic advantage to the benefit of our residents and businesses. The rest of this section focuses on how Greater Manchester can support improved global connectivity for freight and passengers via Manchester Airport and the Manchester Ship Canal for international freight movements. Improving access to global gateways will, of course, also depend on improved access from across Greater Manchester and to and from other city regions, notably to London for the Channel Tunnel (see Delivering Better City-to-City Links) and to Hull and the North East Ports.

Manchester Airport and Enterprise Zone

225. Manchester Airport plays a pivotal role in providing access to international markets from Greater Manchester and across the North of England, and is therefore central to our success in delivering a Northern Powerhouse economy. It employs 21,500 people on site and contributes c.£900m each year to the North West economy. As the third busiest airport in the UK, and with c.8.9 million people living within a one hour drive time, and nearly 22 million within a two hour drive time, Manchester Airport is also a major asset for the whole of the UK.

226. The Airport already provides access to a range of international destinations, with over 70 airlines operating to around 200 destinations worldwide. Direct flights are operating or planned to important growth economies around the world: North America, the Emirates, Singapore, Hong Kong and mainland China. It also offers highly flexible, affordable short-haul access to European cities and attracts passengers from across the North, North Wales and parts of the Midlands. The Airport plays an important freight role, handling around 100,000 tonnes of cargoeach year, much of it high value or time sensitive.

227. Manchester Airports Group (MAG) has ambitious plans to grow its passenger market from 24 million trips per annum in 2016 to 45 million, delivering over £2bn to the UK Economy and providing up to 60,000 jobs in the wider region. Unlike major UK airports in the south-east, Manchester Airport has spare runway capacity and therefore has enormous potential to rapidly expand its role without the

need for major investment in potentially contentious new runway capacity. MAG is delivering a transformational £1bn investment plan into its Airport facilities to maintain and enhance its world-class position and to secure further new airlines and routes into Manchester.

228. However, the full potential of Manchester Airport will only be realised if surface access to the gateway matches the quality of the transformed Airport facilities and services. While there has already been significant investment in connectivity improvements to the Airport in recent years, such as the Metrolink line extension; major highways investment in schemes such as the A6 Manchester Airport Relief Route and A556 Knutsford to Bowdon link road; and the Airport City Enterprise Cycleway, much more will need to be done. In particular, we will need to improve transport connectivity by public transport to enable both passengers and employees to travel easily and seamlessly to the Airport without a car, coupled with carefully designed demand management measures, to ensure that congestion does not undermine the Airport's long-term growth potential. Connectivity improvements and demand management measures will also support sustainable economic growth at the Greater Manchester Enterprise Zone (GMEZ), and at Davenport Green (which has potential for office and residential development), both adjacent to the Airport.

The Greater Manchester Enterprise Zone (GMEZ)

The GMEZ comprises a number of sites, including Airport City North, which is expected to provide 200,000 m^2 of office/commercial and 50,000m^2 of industry over the next 20 years; the World Logistics Hub, with potential for 190,000m^2 of logistics; an advanced "Medipark" to the south of Wythenshawe Hospital with 100,000m^2 of biotechnology and healthcare and a string of other developments, which cover areas such as Roundthorn Industrial Estate, Wythenshawe Town Centre and Atlas Business Park. Davenport Green, the proposed location of the Airport HS2 station, is another longstanding potential major development site to the west of the M56 which will require significant investment in sustainable transport.

A Gateway to the North of England

229. The Northern Transport Strategy (2015) emphasises the importance of global connectivity, particularly via Manchester Airport, in supporting long-term economic growth in the North of England. Better rail connectivity to Manchester Airport is particularly important to allow quick and easy access to a range of intercontinental destinations.

230. HS2 and Northern Powerhouse Rail proposals will transform rail connectivity to the Airport from across the North of England and the UK, unlocking new jobs and productivity growth. More frequent and faster rail services will help to increase the effective population catchment area of the Airport, supporting the case for introducing new inter-continental trade routes, and thereby boosting the economic potential of the North of England.

231. Any new rail connections must be carefully planned to ensure that they integrate well with existing rail and road networks. GMCA and Manchester Airports Group (MAG) have already given an "in principle" commitment to make a local funding contribution towards the costs of the new HS2 station and an HS2 and NPR growth Strategy is being prepared for Manchester Airport and the surrounding area.

232. Committed electrification and infrastructure schemes in the North West will offer enhanced linkages to Liverpool, St Helens, Blackpool, Preston, Bolton, Wigan, Huddersfield, Leeds and York using faster and longer trains, whilst the Ordsall Chord and associated Northern Hub capacity improvements will permit better cross-Manchester rail links to the airport, a new direct Bradford-Halifax-Rochdale to Airport service and enhanced train frequencies to Liverpool. More direct service links to the Airport are expected to be forthcoming via the new Trans-Pennine and Northern franchises, including a direct

Liverpool, Warrington Central to Airport "Northern Connect" service. Supporting infrastructure improvements, such as platform lengthening at key rail stations in the North, will be necessary to maximize the benefits of these transformational rail improvements.

233. TfGM, Transport for the North and other key transport agencies, such as Highways England and Network Rail, will also need to work closely with MAG to identify opportunities to improve the quality of the entire door-to-door passenger travel experience, from providing excellent information on how to travel to the Airport (and on travel times and delays); through to seamless, integrated smart ticketing products. We must make it as easy as possible for people to plan their whole journey in advance and to encourage the use of more sustainable travel options wherever possible.

234. The strategic road network also plays a crucial role in accessing the airport. Reliability of journey times to the airport is particularly important. We will need to work closely with Highways England to maximise the benefits to connectivity and capacity accruing from the A556 improvement and future M56 Junctions 6-8 Smart Motorway; and to develop strategic priorities for improving airport access, better managing demand for travel by car, and dealing with existing and potential bottlenecks on our motorway network.

Links to the Regional Centre

235. Excellent connectivity from the Regional Centre to Manchester Airport will be vital to maximize global trade opportunities for Greater Manchester. Travel between the Regional Centre and the Airport must be as seamless and customer-oriented as possible to secure the greatest benefits to the city region. This must include fast, high-quality rail links, with journey times competitive with the car, and seamless interchange both at the Airport and within the Regional Centre. Public transport services should be

tailored to integrate with flight times and with worker shift patterns as much as possible, which will require 24-hour a day operations on key services.

236. We will consider other potential travel options, such as express bus and coach services; new models of car club operation and car sharing; and taxi provision to provide a range of alternatives for international travellers. All travel options must be carefully designed and marketed to make them as easy to use as possible, particularly for those unfamiliar with Greater Manchester.

Access to employment opportunities at Manchester Airport

237. If Greater Manchester is to benefit fully from access to global trade and new job opportunities at the Airport and Enterprise Zone, the area must be accessible from across the city region. This will require improvements to both orbital and radial public transport connectivity, supported by appropriate ticketing products and fare structures. This will need investment in a range of sustainable transport measures to attract workers out of their cars. Car sharing also has a major role to play in improving access to employment opportunities at the Airport. Use of public transport and car sharing can be further incentivised through carefully designed car parking management strategies, which will be crucial as activity in the area increases and the local highway network comes under further pressure.

238. Local connections from surrounding areas (such as Wythenshawe, Baguley and Benchill) are also very important to ensure good access from more deprived areas to job opportunities at the Airport. Exploring potential improvements to walking and cycling opportunities, coupled with travel choices and car share initiatives and local public transport improvements, will be high priorities.

Key Supporting Evidence

- CAA and Manchester Airport Sustainable Development Plan growth forecasts both suggest significant long-term growth in demand for travel from Manchester Airport.
- Data on time of travel for passengers arriving and departing the airport suggests a significant peak in demand before the morning peak period (e.g. between 6-7am) and early to mid-afternoon.
- Vehicle flow data for M56 shows that airport traffic (staff and passenger car trips) do contribute to peak hour congestion and increasingly unpredictable journey times are forecast over the coming years on the motorways in the vicinity of the airport.
- Journey to work data for the Airport and surrounding area highlights extremely high levels of car dependence for commuter trips (81% of all trips – compared to Heathrow where only 50% of workers access by car as a driver). 76% of passengers currently travel by car or taxi (14% by rail). This compares to c.60% at Heathrow in 2015.
- If Manchester Airport reaches its goal of 45million passengers per year and achieves its mode share targets, there could be c.61% more car trips by airport workers than at present (the increase may be somewhat lower if airport worker productivity significantly increases). This does not include additional traffic from Airport City, A556, A6MARR, Wythenshawe Hospital and HS2.
- Public transport journey times from most of Greater Manchester (except Wythenshawe area, Manchester City Centre and Stockport Town Centre) are significantly greater than by car during off-peak periods, and from many areas are longer than most people would be prepared to spend travelling to work.

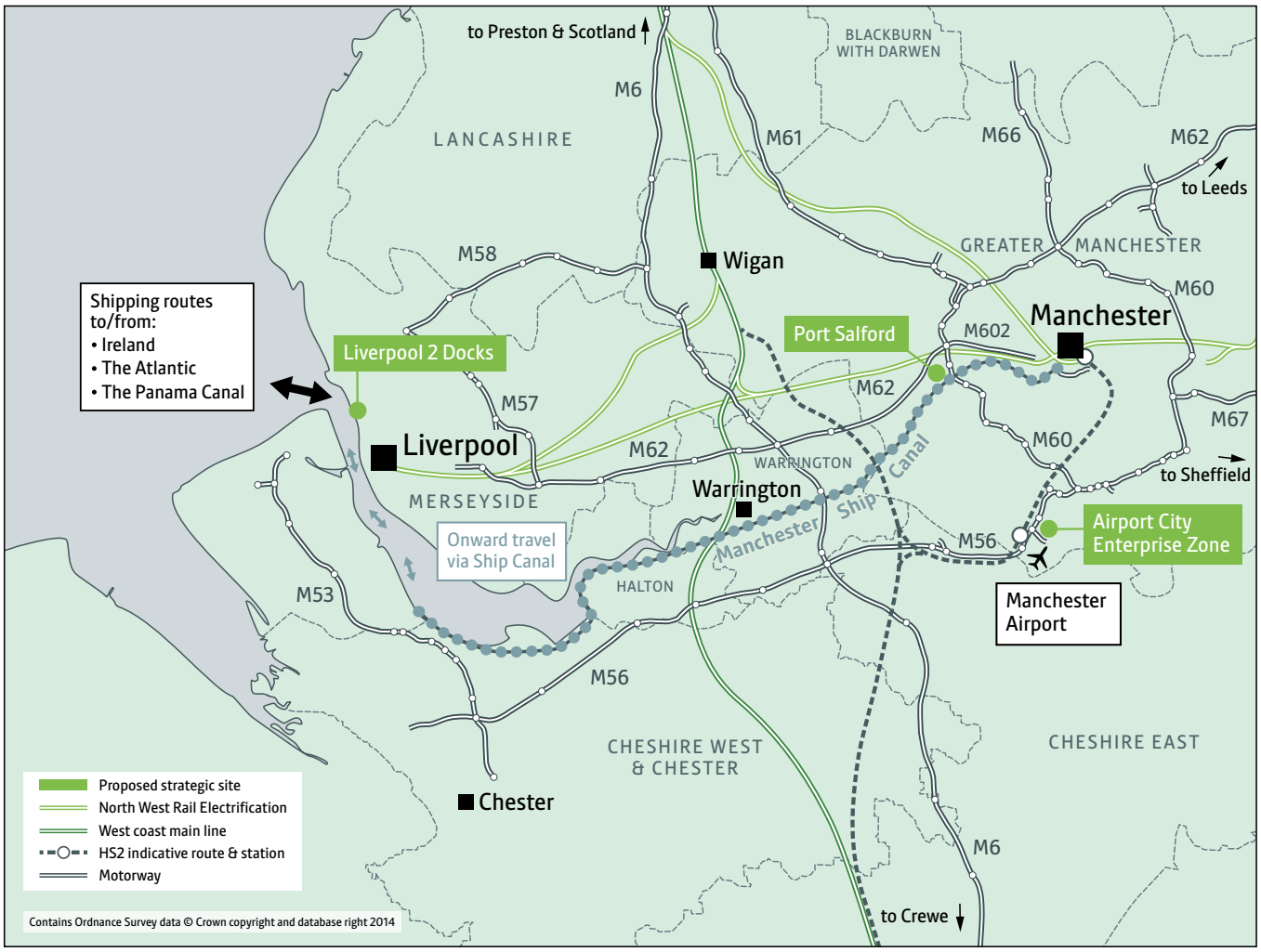
Atlantic Gateway and Port Salford

239. The development of the Liverpool 2 super container facility at the Port of Liverpool is a game-changer in terms of enabling the Port to handle the much larger deeper water container vessels that will operate on trans-Atlantic routes following the widening of the Panama Canal. This will enable Liverpool to establish itself as the UK's leading transatlantic port and to deliver much stronger trade connections between the North West and overseas markets. This has a range of potential benefits in terms of allowing goods to be shipped directly into the North West region, and we must maximise the opportunities for onward movement of goods via the Manchester Ship Canal into the Greater Manchester City Region, to reduce the impact of freight movement on our congested motorway network.

240. Port Salford is located on the western edge of Greater Manchester and is part of the Atlantic Gateway Economic Growth Corridor, which connects the Port of Liverpool with Greater Manchester via the Manchester Ship Canal. The location has been identified for a number of years as the ideal location for a 'tri-modal' freight interchange enabling waterborne, rail and road freight access to a large-scale logistics park. The location is served by a number of major transport routes including the Manchester Ship Canal, the Manchester-Liverpool (Chat Moss) railway, the M62 / M602 / M60 motorways and the A57. Port Salford can play an important role in delivering improved global connectivity to Greater Manchester due to its potential role as part of the infrastructure of global supply chains, both importing and exporting deep sea and European container flows.

241. Rail access improvements to the Atlantic Gateway are planned, including a link from Port Salford to the Chat Moss (Liverpool-Manchester via Newton-le-Willows) rail line. Subject to increased capacity on the Chat Moss line, this will enable freight trains to serve regional and UK markets from Port Salford and support trans-shipment activities there. The planned link road from Wigan to the M58 will provide Greater Manchester with a direct motorway link to the Port of Liverpool, which will make the west of the conurbation attractive for logistics developments (see below).

242. Helping Port Salford and the Atlantic Gateway growth area to achieve its potential within Greater Manchester is being pursued through joint working between the stakeholders involved, including developers/landowners, plus the local authorities of Salford, Trafford and neighbouring Warrington, TfGM and Highways England.



243. In addition to Port Salford, significant logistics and employment developments planned in Trafford Park, Carrington and around the M58/M6 area in Wigan will put increased pressure on already congested parts of our Greater Manchester transport network and, in particular, western sections of the M60 motorway. Hence, much more will need to be done to improve the reliability of our highways network, through development of a holistic access strategy for the area, incorporating highways, public transport, and local walking and cycling improvements.

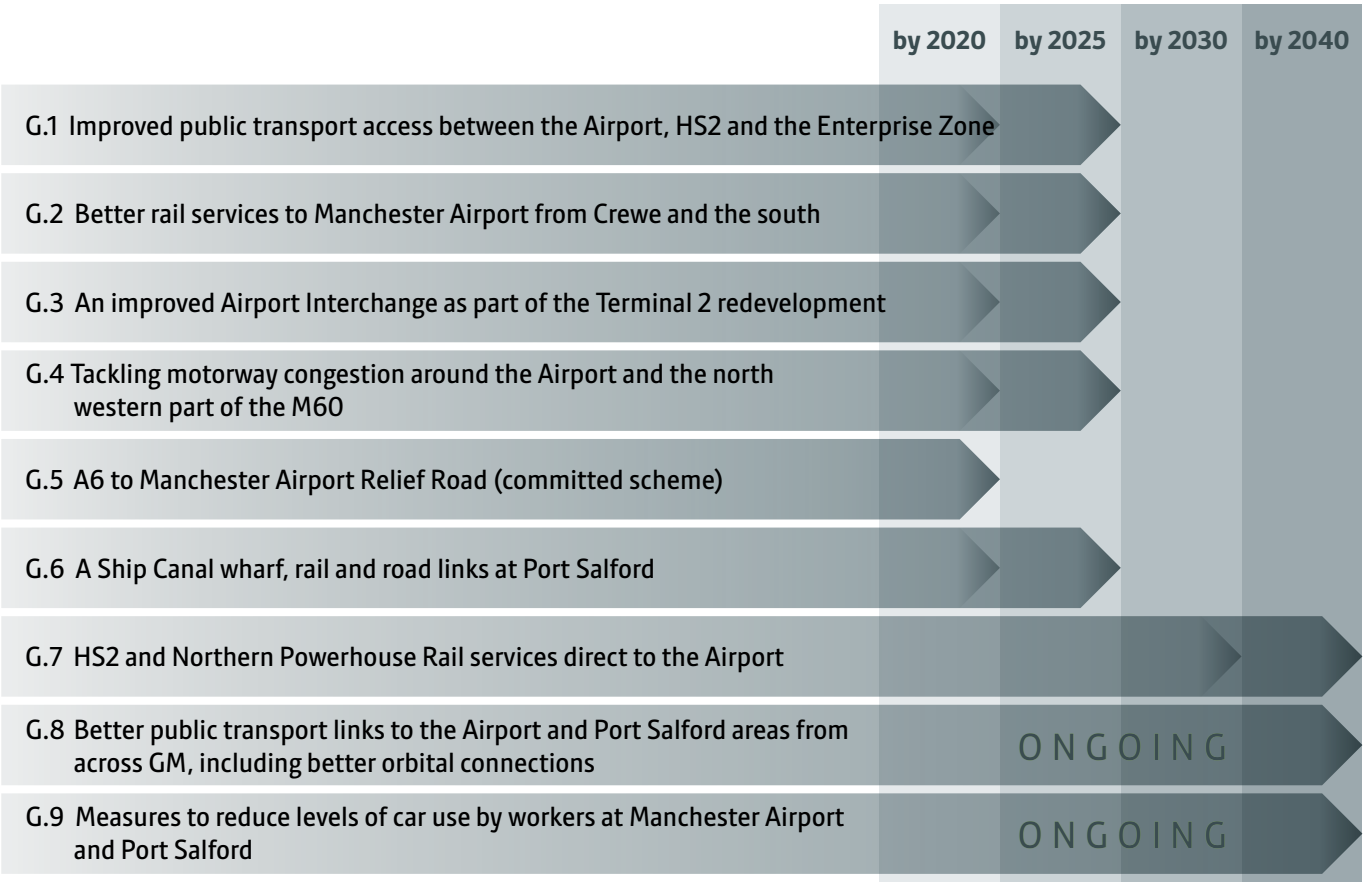
244. Greater Manchester partners will continue to work closely with Highways England to deliver the Western Gateway Infrastructure Scheme, including the new local crossing of the Manchester Ship Canal, and to develop a comprehensive programme of further strategic interventions to improve access to, and the performance of, our highway network in the Atlantic Gateway area, and particularly around the interface between our Greater Manchester Key Route Network and the Strategic Road Network. The M60 Northwest Quadrant Strategic Study, led by the Department for Transport and with participation from Transport for the North and Greater Manchester partners will assist in identifying the scale, type and location of interventions that may be required in the western part of Greater Manchester to support economic growth in the Atlantic Gateway.

245. We will also need to ensure that workers can access the new job opportunities at Port Salford and in the Atlantic Gateway corridor without having to travel by car. Public transport access to the area via the City Centre and other key interchange points, such as Trafford Centre and Eccles, will be critical. We are exploring the potential to extend the Trafford Park Metrolink line to the AJ Bell Stadium and beyond, into the Atlantic Gateway area, to support this objective and we will also identify opportunities to cater for increased demand for rail services from local rail stations, such as Irlam and Patricroft. We must also improve orbital connectivity to the Atlantic Gateway from across Greater Manchester. This will require investment in highway and public transport, to deliver the most effective and attractive overall package of measures, facilitating access from a variety of destinations.

246. Providing improved walking and cycling connections from surrounding areas (such as Peel Green, Patricroft and Irlam) will also be a high priority to ensure good access from more deprived areas to job opportunities in the Port Salford and the Atlantic Gateway area.

Interventions

247. A summary of our priority interventions for a Globally Connected City is shown below. A more detailed list is included in Part 4 of this document.



Delivering Better City-to-City Links

Our Ambition is to see an increasingly successful Northern Powerhouse economy, with Greater Manchester at its heart, supported by transformed connectivity between the major cities of the North of England, and to the Midlands, London and Scotland. There will be a step-change in quality, speed and reliability of our city-to-city rail links, allowing travel to Liverpool, Leeds and Sheffield in 30 minutes or less and to London in just over an hour. Motorway journey times will be more reliable. More freight will be moved by rail and water. Transformed infrastructure, smart ticketing and customer information will encourage more trans-northern journeys to be made by public transport.

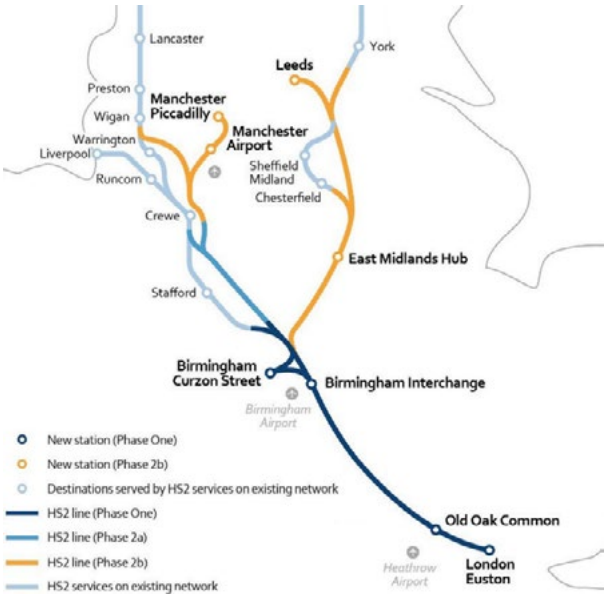
248. The Greater Manchester City Region lies at the heart of the North, with the large conurbations of Liverpool, Leeds and Sheffield all within 45 miles of our Regional Centre. Our connections to major city regions across the North, and to other major cities, such as Birmingham, London, Glasgow and Edinburgh are also crucial to our long-term success, supporting the critical flow of goods, skills and information that will enable the UK to boost its long-term productivity. The constrained capacity, speed and reliability of our existing city-to-city road and rail connections prevent Greater Manchester fulfilling its long-term potential. We will continue to work closely with partners over the coming years to deliver the transformational improvements to our city-to-city links we need to achieve our 2040 Transport Vision and to play a key role in delivering a Northern Powerhouse economy. However for the benefits of these improvements to be felt across Greater Manchester, we will also need to improve connections across the city region to enable people to access motorways and National Hub interchanges (see section 307)

Improving North-South Connectivity

High Speed 2

249. The West Coast Main Line (WCML) linking London to the northwest and onwards to Scotland is the busiest mixed use 125 mph railway in Europe. The line is already under considerable stress because there is more demand for train services than there are train paths available. This limits overall capacity and means there are trade-offs about deciding which services can run. We expect demand for rail travel to continue to grow over the coming years (both for freight and passengers) and the need for new rail infrastructure will become ever more pressing as we move towards 2040.

250. The pressure on the WCML underpins the strategic case for HS2. HS2 will be a new railway promoted and built in two phases: Phase 1/2a London to Birmingham and Crewe; and Phase 2 Crewe to the north west and Yorkshire. It will be fully integrated with the existing railway and through services will flow onto the existing network at Handsacre when Phase One opens in 2026. Phase 2a will extend the route in 2027 onwards to Crewe, whilst Phase 2 in 2033 will continue beyond Crewe to Bamfurlong near Wigan and through Manchester Airport to Piccadilly. Plans envisage services running at up to 225mph. New stations would accommodate 400m long trains, each capable of carrying up to 1,100 passengers. Detailed plans for the Phase 2 route were released by HS2 Ltd in November 2016, and GMCA look forward to continuing to work with HS2 Ltd to effect any further refinements where necessary, in order to minimise the impact on local communities, the environment and heritage assets. The November 2016 plans no longer provide for a west to east link in the north west which would have allowed for trains between Manchester and Wigan and onwards to Scotland to run much faster via the HS2 route, and therefore will no longer offer the opportunity to relieve capacity on the congested Manchester-Wigan/Bolton/Preston lines, which will instead need to be addressed by other means. A map of the current (November 2016) proposals is shown below.



251. The opportunities for sustained growth offered by HS2 cannot be delivered by any other alternative. However, the case for HS2 extends well beyond simple transport economics. HS2 is a strategic economic game-changer that will uplift productivity through enhanced labour market and business-to-business connectivity; increased network capacity; and improved international connections through the HS2 station at Manchester Airport. It will stimulate regeneration in areas adjacent to HS2 stations, as it has in the Kings Cross/St Pancras area of London, and also establish the basis for a renaissance in engineering skills development and a major stimulus for a domestic supply chain, with up to 50,000 jobs being directly related to the project at its peak.

252. We will push for the delivery of the full HS2 'Y' network as soon as possible to ensure that the people and businesses of Greater Manchester and the wider North have rapid access to the rest of the UK economy, including London, the Midlands, and Scotland. From Manchester, journey times to London are anticipated to be as low as 68 minutes, with 3 trains per hour to London and 2 trains per hour to Birmingham. Journey times to Wigan would also be reduced, by almost a half. We wish to see the benefits of HS2 realised as soon as possible, starting with extension of the line to Crewe by 2026. In the intervening years, however, we will continue to work hard to deliver improved north-south rail connectivity in and out of Greater Manchester, including identifying potential improvements to services on the existing WCML through future franchise specifications; and ensuring that Greater Manchester's key stations are served by HS2 classic compatible services that can run on both HS2 lines and the WCML following delivery of Phase 1 of HS2 from London to Crewe. We will also present growth strategies to government to demonstrate how we will maximise the benefits of both HS2 and NPR investment at Piccadilly and the Airport.

HS2 Growth Strategies

253. The High Speed 2 (HS2) Growth Taskforce was created in summer 2013 to advise the Government on how to maximise the return from the investment in HS2. Its report 'HS2: Get ready' concluded that HS2 can help rebalance the economy, kick-starting growth and regeneration in our cities and that HS2 stations, and the land around them, offer a 'canvas for urban regeneration to transform our cities'. In response to this, the Government allocated funding to enable HS2 places to develop dedicated HS2 Growth Strategies to explain how high speed rail will generate local jobs, growth and regeneration.

M6 Motorway

254. North-south strategic road links are provided by the M6 motorway, which runs through the west of Wigan borough and just to the south of Trafford. The M6 is a critical strategic highway corridor for both people and freight, and we must maintain good access to this corridor from across Greater Manchester.

255. The M6 immediately to the south of Greater Manchester is currently the subject of an improvement scheme which involves its conversion to Smart Motorway standards. The link into central Manchester and Manchester Airport, via the M56, is also being upgraded through improvements to Junction 19 and the A556 Knutsford to Bowdon Improvement scheme and work will commence on the M56 Junction 6 to 8 Smart Motorway scheme by 2020. Two committed schemes will improve Wigan's strategic highways connections: the M58 link road providing a direct link from the M58/M6 J26 to the A571; and

the A49 link road providing a more direct route from the M6 J25 to the town centre. However J25 currently has southbound access and northbound egress, and we aspire to making this an all movements junction, allowing the closure of J24, which would relieve congestion in Ashton-in-Makerfield town centre.

256. We will work with Highways England through the refresh of the M6 London to Scotland West Route Strategy to identify the requirements and scope for further interventions within the M6 corridor for possible implementation in the next Road Investment Strategy (2020-2025).

Key Supporting Evidence

- The combined population of Northern England is 15 million (larger than London). The current combined GVA[7] of £290bn has been forecast to grow by an estimated extra £44bn if the economies are unified.
- UK Cities account for 9% of land use, but 54% of population, 59% of jobs and 61% of output (Centre for Cities).
- 10 million people live within 40 miles of Greater Manchester (2 million of these are graduates)
- A 20 minute reduction in train journey times between Manchester and Leeds would be worth £6.7 billion for the north of England (Northern Way, 2009).
- With HS2 and Northern Powerhouse Rail network lies the potential to at least close the productivity gap between the North and South, which Treasury has estimated would equate to in excess of £40 billion additional GVA by 2030.
- The Spatial Economics Research Centre found that commuting between the Manchester and Leeds City Regions is about 40% lower than expected given the characteristics of the two cities and the physical distance between them.
- By road, it takes 44 mins to travel 34 miles to Liverpool from Manchester, but 1hr 12 mins to travel 38 miles to Sheffield

7 Gross Value Added – a measure of the value of goods and services produced

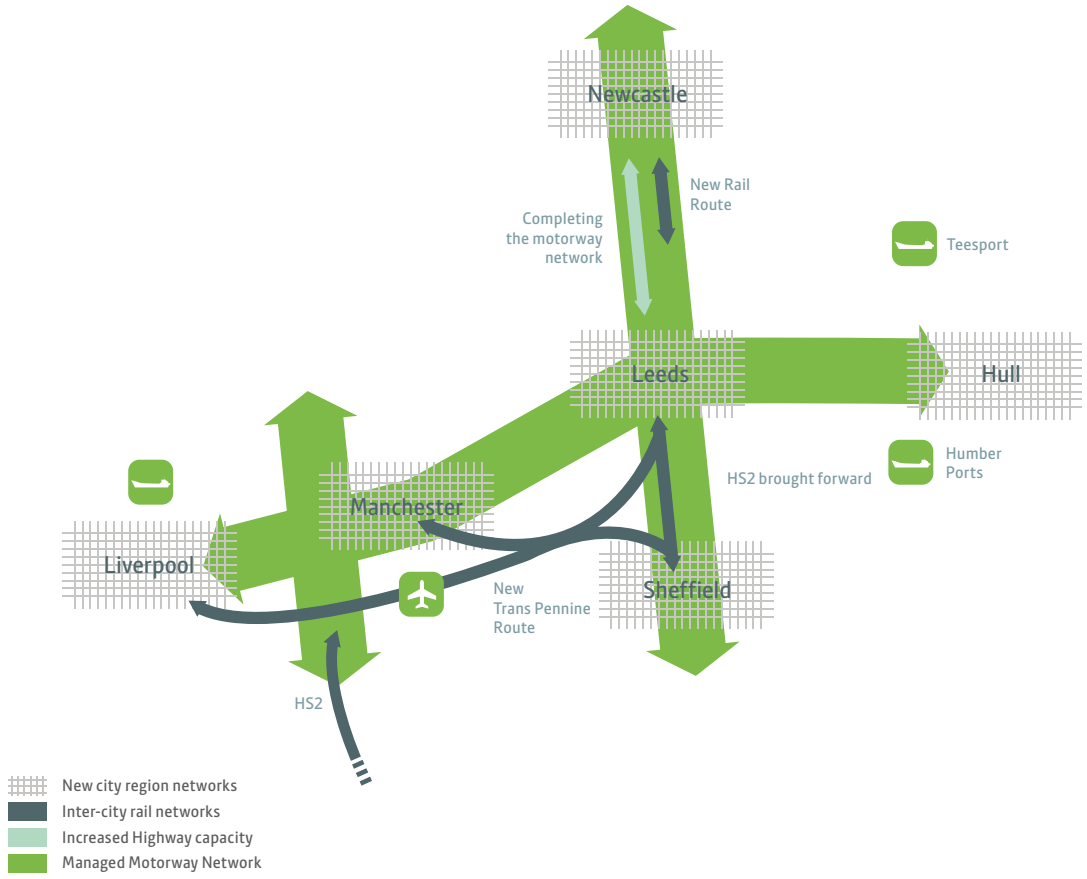
Transforming Connectivity Across the North

257. Through Transport for the North, Greater Manchester is working in close partnership with other key Northern City Regions and with Department for Transport, Highways England and Network Rail, to develop and deliver a comprehensive and multi-modal Northern Transport Strategy focused on the critical investments needed to transform city-to-city connectivity across the North of England with a view to delivering a Northern Powerhouse economy which is equal to or exceeds the UK's average growth rate.

Transport for the North

Transport for the North brings together Local Authorities across the North of England to enable the North to speak with a single voice on the important transport requirements to fully realise the potential of the 'Northern Powerhouse'. The Northern city regions are acting collectively as Transport for the North, working with the Local Enterprise Partnerships, Government, Highways England, HS2 Ltd and Network Rail to develop a Northern Transport Strategy and supporting Strategic Transport Plan.

This long-term strategic programme plans for rail, highways, freight, inter-city connectivity, and integrated transport services will deliver significant transformational benefits for commuters, businesses and the wider economy of the north.



Northern Powerhouse Rail (NPR) Network

258. Excellent rail provision is essential to enable large numbers of people to move quickly and easily to jobs and business travel destinations in our Northern city regions, as well as supporting the efficient movement of goods by rail. Transformational rail service improvements are a key part of the Northern Transport Strategy vision, linking Greater Manchester with the major cities in the North of England through development of a 'Northern Powerhouse Rail' (NPR) network.

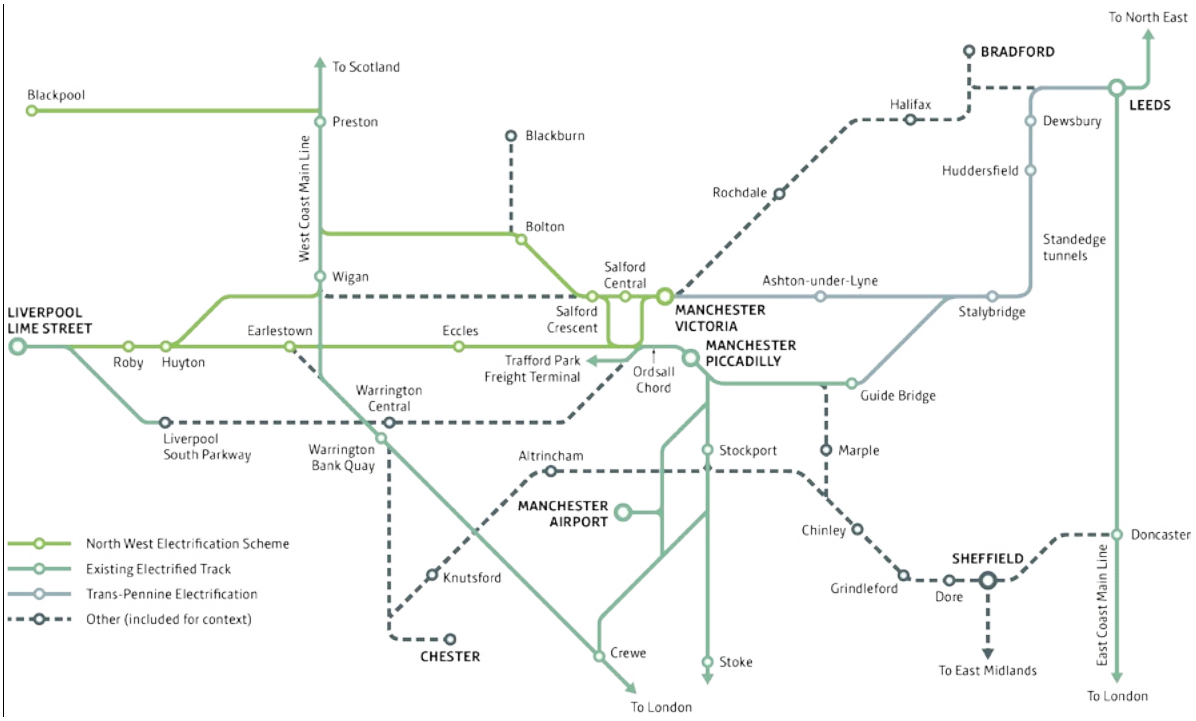
259. Greater Manchester is the focus of many of the rail bottlenecks on our northern rail network and significant investment is being made to deliver Northern Hub improvements, several of which are focused on central Manchester. A comprehensive electrification programme across the North of England will also deliver a wide range of benefits for rail users.

Northern Hub and Electrification Programme

Our rail networks will improve significantly over the coming years through major rail investment, such as the £600m Northern Hub rail development and £400m electrification programme.

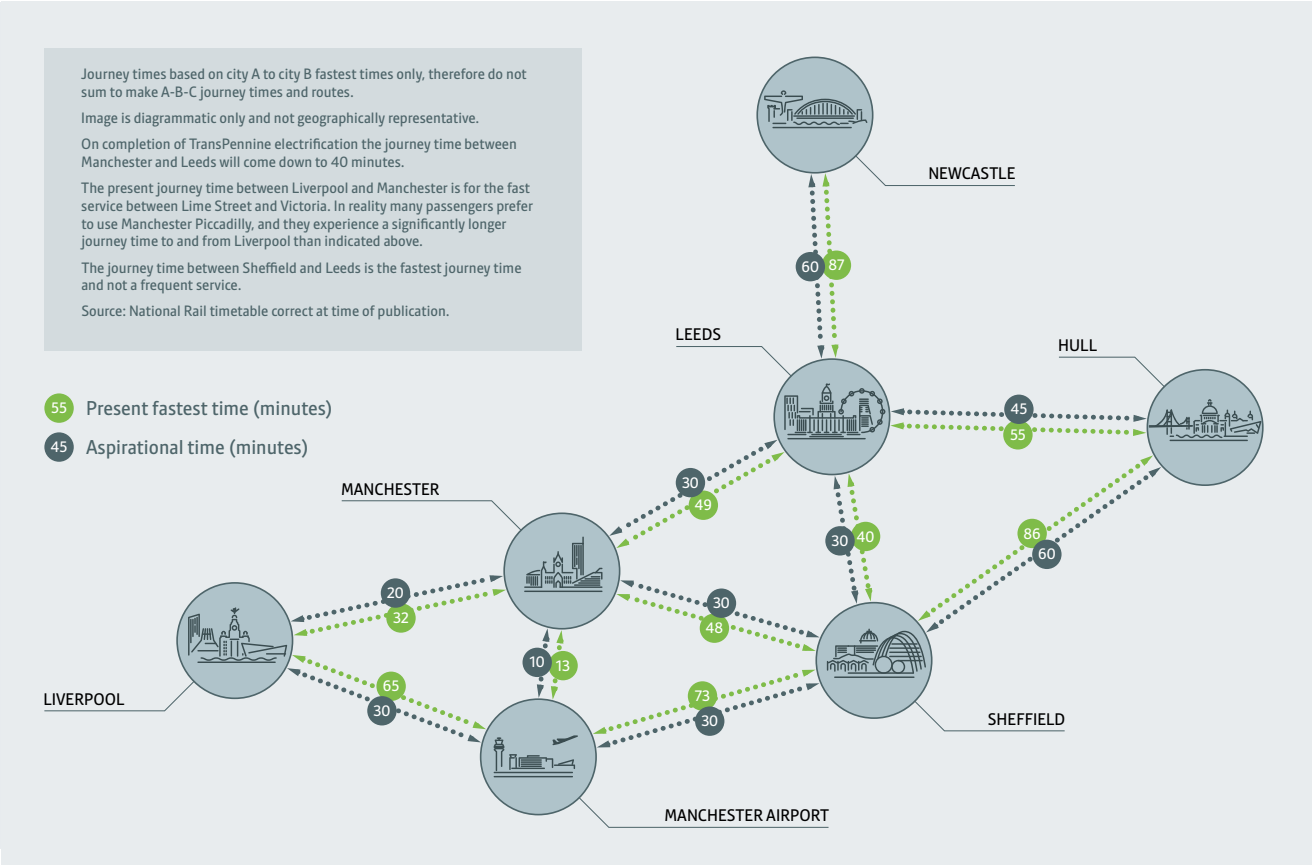
Northern Hub plans include significant capacity improvements at Manchester Piccadilly and Manchester Oxford Road and delivery of the Ordsall Chord viaduct. Northern Hub proposals will have a range of benefits for Greater Manchester including the ability to provide more rail freight capacity at Trafford Park and additional fast rail services to Liverpool, Leeds and Manchester Airport.

Electrification of our railway has a range of benefits, including lower carbon emissions and less noise and air quality impacts; better rolling stock with smoother, faster journeys; and improved reliability. Network Rail's ongoing rail electrification programme will play a major role in improving Greater Manchester's city-to-city connectivity, including improved links between Manchester Airport to Scotland; Manchester Victoria and Liverpool; and Liverpool and Wigan. Future electrification will lead to significant service improvements between Greater Manchester, Liverpool, Preston, Blackpool and Leeds.



260. Building on the Northern Hub schemes, the rolling stock and service improvements in the Northern and Trans-Pennine rail franchises, and HS2 proposals; the Northern Transport Strategy envisages transformational improvements to the frequency of trains, passenger capacity and to journey times across the North.

261. We are working with partners to achieve the Northern Powerhouse Rail target of achieving the following levels of service.



262. To deliver these ambitious journey times and aspirations for improved frequency, options are also being explored to deliver new lines or major rail bypasses as well as making use of proposed HS2 infrastructure. It is anticipated that significant sections of new line would be needed on routes between Manchester and Leeds and Manchester and Sheffield, for example. Existing rail infrastructure would then be freed up on our current rail networks to provide express, semi-fast, local and freight services.

Rail North

Rail North is a partnership of 29 Local Transport Authorities who will, alongside DfT, manage the new Northern and TransPennine Express franchises from April 2016. The Rail North partnership agreement includes important mechanisms to enable the local authorities to make decisions on changes to their local rail services and to make investments in these franchises to drive improvements. Responsibilities for Rail North will also relate to concessionary travel, multi-modal ticketing schemes and 'smart' transactions and to important performance management issues.

263. Delivery of a seamless public transport network across the North of England is also to be supported by a smart Northern ticketing system that will make it simple and easy to travel across the North by any mode of public transport. This will be enhanced by real-time travel information and a simplified fare structure. We will ensure that this emerging Northern smart ticketing system is fully compatible with our future Greater Manchester smart ticketing and fares system.

Future development of our national rail hubs

264. In Part 2, we set out our approach to improving interchange on our public transport system, highlighting different categories of interchange which are needed to support a seamless Greater Manchester transport network. Our Global Gateway at Manchester Airport and Greater Manchester National Hubs are critical in terms of supporting excellent city-to-city links and we will develop proposals to improve interchange facilities at all of these locations to ensure that national rail services are well integrated into our city region transport network.

265. With the introduction of HS2 and Northern Powerhouse Rail services, Manchester Piccadilly will become the most intensive strategic transport interchange in the North. An integrated strategy is needed to ensure that these connectivity benefits are spread across the city region and, critically, that the immediate area around the station delivers on its potential. We want to see the station environment and the surrounding area transformed in time for the start of HS2 Phase 1 operations in 2026, so as to maximise early city-to-city connectivity benefits and accelerate regeneration of the area. The adjacent Piccadilly and Mayfield areas have the potential for commercial development that could secure up to 30,000 additional jobs, alongside scope for greater housing opportunities and regeneration of the surrounding area. Our proposals will be set out in more detail in our Piccadilly Growth Strategy.

266. There are a number of other interchanges in Greater Manchester that are vital for the successful implementation of improved city-to-city rail links, including Manchester Airport, Wigan and Stockport Investment in high quality access and interchange facilities at these key hubs will be critical to ensure that travellers from across Greater Manchester have excellent access to city-to-city rail services, that are well integrated into our City Region transport system.

Transforming city-to-city highways connectivity

267. The Northern Transport Strategy has set out a vision for a core free-flow network of motorways and expressways increasingly offering reliable ‘mile a minute’ journey times. Central to achieving the vision is increased capacity and improved Trans-Pennine road links.

268. City-to-city links by road are provided primarily by the Strategic Road Network of motorways, supported by Greater Manchester’s Key Route Network of locally important roads. The Strategic Road Network is operated by Highways England and in Greater Manchester comprises some 180km of motorways and all-purpose trunk roads. This is shown on the map in section 123.

269. The M62 and northwest quadrant of the M60 also form part of the North Sea-Mediterranean Core Network Corridor within the European Union’s Trans European Network.

Partnership with Highways England

Highways England and TfGM have signed a Memorandum of Understanding (MOU) which provides a unique opportunity to establish complementary network management and development arrangements. The MOU aligns the management of the Greater Manchester Key Route Network with that of the Strategic Road Network to facilitate the most efficient utilisation and management of the highway network serving Greater Manchester; and provides a partnership approach to the development of investment priorities across the highways network to ensure that these support local and national economic growth priorities. We are working closely with Highways England to develop strategic priorities, better manage demand for travel by car, more closely integrate the operation of the Strategic Road and Key Route Networks, and deal with existing and potential bottlenecks on our key highway links.

270. The Strategic Road Network that links Greater Manchester to other northern cities contains some of the busiest and least reliable roads in the country. The M60, for example, which plays a vital part in the life of Greater Manchester, is ranked second only to the M25 in England with respect to peak period traffic flows. It is clear that the strategic highway network around Greater Manchester is particularly critical to the delivery of a more reliable northern highways network that can adequately support future movement of people and goods across the North of England.

271. Significant investment is already planned in Greater Manchester's strategic road network over the coming years, primarily through the Government's first 'Road Investment Strategy' (RIS1). In the period to 2020, RIS1 contains a number of improvements to the strategic road network to improve its performance and reliability. These focus on rolling out Smart Motorways on key sections of the M60, M62, M6 and M56 as previously mentioned; improving Junction 18 of the M60 (Simister Island); and delivery of the Mottram Moor Link Road and possibly the adjacent Hollingworth and Tintwistle bypass as part of a package of measures along the A57 and A628 which will improve connectivity to Sheffield City Region. Improved highway connectivity between the Manchester and Sheffield city regions is an important strategic transport priority for Greater Manchester. In the nearer term, we have welcomed the plans in RIS1 to deliver bypass enhancements to the wider Mottram, Hollingworth, Tintwistle area and the work to assess the feasibility of a road tunnel in the longer term. We will work closely with Highways England and TfN to ensure that these initiatives are developed as an integrated and sequenced strategy that fully addresses local connectivity and environmental concerns in this area of Tameside.

What are Smart Motorways?

Smart Motorways use a range of increasingly sophisticated technology-driven techniques to increase capacity and reduce delays on our motorway network by using variable speed limits, 'all lane running', and variable message signing to smooth traffic flows, provide more reliable journey times, provide better information to drivers, reduce collisions , and reduce noise and vehicle emissions. These techniques enable us to get much more capacity out of our existing highways infrastructure and improve the journey experience for drivers.

272. We will work with our key partners to help develop the Government's investment plans over the longer-term and define the content of future Road Investment Strategies, through work on major strategic studies of the Northwest Quadrant of the M60 and the Trans-Pennine Tunnel study, and through specific Route Strategies, including to ensure that strategic schemes do not impact adversely on the local road network. We will also work with key partners to identify the potential of travel

demand management measures (as discussed in section 133), including park and ride, to reduce congestion on the motorway network and KRN.

City to City Freight Movement

273. The Northern Transport Strategy highlights the significant and growing role that freight and logistics will play in the Northern Powerhouse and presents an emerging Northern "golden triangle" of warehousing and logistics activity. Greater Manchester lies at the heart of this golden triangle, with the Manchester Ship Canal providing a strategic western gateway to Greater Manchester and the Northern Powerhouse. Port Salford and other logistics developments in areas such as Trafford Park, Carrington and Heywood, will be a major asset in achieving the freight and logistics objectives of the Northern Transport Strategy.

274. The strategic resilience of the motorway network, with a major focus on delivering transformational improvements the M60, will be critical to supporting the reliable movement of goods. Improvements to our city to city rail connectivity are also becoming increasingly urgent, not just to support movement of people, but to help transport more freight by rail rather than road.

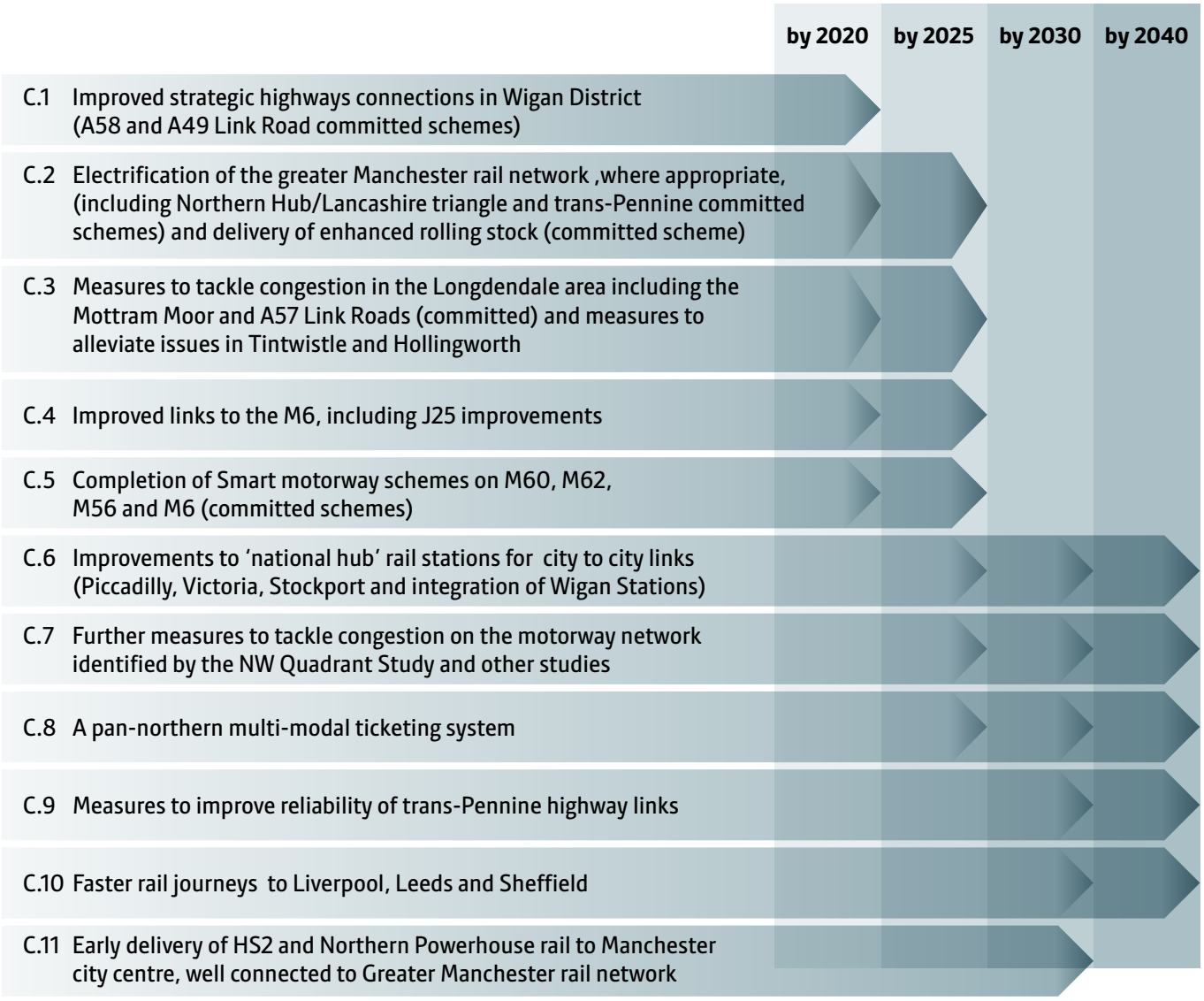
Logistics is a major sector in Greater Manchester, employing 90,000 people (including wholesale activities), a third of which work directly in the storage, handling and transport of freight by all modes, generating over £1bn of GVA.

275. Furthermore, Airport City and the World Logistics Hub will create significant opportunities for freight and distribution linked to the Airport, and there is potential for other new and enlarged sites across Greater Manchester, as identified in the GMSF.

276. Transport for Greater Manchester, alongside partners, will continue to cooperate on development and delivery of the Northern multi-modal Freight Strategy which looks at all aspects of this complex sector and will seek to deliver any interventions identified to improve connections between our city regions for the sustainable movement of goods.

Interventions

277. A summary of our priority interventions for improving City-to-City Links is shown below. A more detailed list is included in Part 4 of this document.



Travel To and Within Our Regional Centre

Our ambition is for fully integrated Regional Centre transport networks that support rapid economic growth: with HS2 and Northern Powerhouse Rail services serving the heart of the city centre; and road traffic levels held at or below 2016 volumes. There will be much better public transport, pedestrian and cycle connections across the wider Regional Centre, and key destinations will be accessible by public transport 24/7. We will create a more liveable Regional Centre by providing high quality and attractive pedestrian and cycle environments and by minimising the negative impacts of traffic (including freight vehicles) on residents.

278. Manchester City Centre and the adjacent areas of The Quays (Salford Quays and Trafford Wharfside) to the west and the Etihad Campus/Manchester Life to the east are, and will continue to be, major drivers of economic growth in Greater Manchester. Over recent decades these areas have been transformed from a prosperous core, surrounded by an area of poor urban quality and neglected former industrial areas, to a much larger and thriving focal point for knowledge-based and creative industries; retail and leisure; and education and healthcare. The number of people living here has grown exponentially over the past two decades, transforming it into an important residential, as well as employment and leisure, location. Further predicted growth will mean that this area will increasingly function as a single major economic driver at the core of the conurbation, and our transport strategy needs to help facilitate this.

279. The City Centre is also the major hub for our Greater Manchester transport network, and many of our public transport networks converge there, providing excellent connectivity from across the City Region and beyond. Around 7.2 million people live within one hour's travel of the Regional Centre.

280. The rapid growth in housing and employment experienced in recent years is set to continue over the period to 2040. From a transport perspective, concentrating high levels of compact development in such an accessible and well-connected part of Greater Manchester is welcomed, but there are significant challenges ahead in terms of managing traffic congestion, ensuring excellent connectivity across our Regional Centre, and ensuring a high quality of life for residents, visitors and workers.

Key Evidence

- 40,800 people live in Manchester City Centre.
- There could be 50,000 more homes by 2040
- 140,000 people work in Manchester City Centre, and there is potential for up to 110,000 more jobs by 2040
- In 2012, 72% of peak hour trips to the City Centre were by public transport, cycling or walking
- To maintain peak hour car trips to the city centre at current levels in 2040 we need to accommodate c.68,000 additional trips on public transport and by foot and bicycle.
- In 2012, 65% of peak hour trips to Salford Quays were by car
- By 2040 Salford Quays could have 15,000 additional jobs and 15,000 more homes

Regional Centre themes

281. Our transport strategy for the Regional Centre is focused around the three key themes, to ensure improvements are targeted towards meeting wider aspirations for the area, as set out below

Transport for a 2040 regional centre economy

Connectivity within a rapidly growing regional centre

A liveable regional centre

Transport for a 2040 Regional Centre Economy

Supporting a Northern Powerhouse Economy

282. In order for Greater Manchester to play its full part in the delivery of a Northern Powerhouse economy over the period to 2040, improved connectivity between our northern city centres is critical. The arrival of High Speed 2 (HS2) and Northern Powerhouse Rail services into the Piccadilly Hub will support transformational growth of our Greater Manchester economy and further boost the attractiveness of our Regional Centre as a focus for investment. Improved city-to-city connectivity, particularly by rail, will support growth of the Regional Centre's knowledge-based economy, enabling more rapid exchange of knowledge and ideas, improving access to skills and labour, and supporting greater levels of productivity and innovation in our great Northern towns and city regions.

283. We are already planning how we can fully integrate these transformational infrastructure improvements with our wider local and regional transport networks to maximise the benefits for Greater Manchester. While Manchester City Centre is well connected, regionally, nationally and

internationally (via its rail link to the Airport), there will be a need to ensure The Quays, home to the BBC and ITV, has the connections its businesses need.

Transformation of Piccadilly Hub

Piccadilly Station will be a major focus for our transformed city-to-city and City Region transport networks as well as being a major regeneration area in its own right. Through work on the Piccadilly HS2 Growth Strategy we are developing a carefully sequenced masterplan and supporting access strategy for delivering a major new transport hub at Piccadilly Station, that will encompass:

- a new HS2 station and access arrangements for Northern Powerhouse Rail and other heavy rail services;
- rapid transit access strategy, encompassing Metrolink, tram-train and potential rail tunnel proposals;
- transformed public realm and walking and cycling connectivity;
- improved bus and coach access; and
- highways and vehicular access arrangements for servicing, taxis and cars.

284. Our Regional Centre transport hubs will need to expand their role as key gateways to Greater Manchester, creating a crucial first impression of our City Region. They must be designed to meet rapidly evolving customer service and experience expectations. Our transport hubs must also allow seamless interchange between transport services and be well integrated with surrounding areas (particularly through local pedestrian and cycling connections). In addition to Piccadilly Hub; Victoria, Oxford Road Salford Central and Salford Crescent stations will all be important Regional Centre gateways, providing access to national, regional and local transport services, and will be major focal points for growth and regeneration in their own right over the period to 2040. The sheer growth in passenger numbers flowing into, through and out of these interchanges will require a step-change improvement in capacity, quality and legibility of provision for pedestrians in particular.

Accommodating growth in commuter travel

285. By 2040, the City Centre is expected to have an additional 50,000 dwellings over and above what exists today. There could also be 110,000 new jobs in the City Centre by this date. At The Quays, MediaCityUK will be double its current size. Our transport systems will therefore need to accommodate a dramatic increase in commuter trips into and across the Regional Centre. We must plan now for this growth to avoid the Regional Centre becoming more congested with traffic.

286. In a constrained urban environment, there is only limited opportunity to provide significant additional transport capacity on our road and rail networks. Hence, much of the additional capacity will need to be provided by making more efficient use of the transport networks we already have, to maximise the movement of people into and across the area.

287. In the City Centre, our aim is to deliver the desired economic growth without any further growth in peak period car traffic levels. We recognise that this is a major challenge, particularly as we estimate that we will need to accommodate around 68,000 additional commuter trips in the morning peak period by 2040. Car commuting to The Quays is currently much higher than in the City Centre, reflecting the sparser public transport network. Here, our aim is to reduce significantly the proportion of trips made by car. Our focus is on improving the quality and capacity of our public transport, walking and cycling networks to encourage as many people as possible to travel to the Regional Centre by these modes rather than by car. We must also ensure that our streets can cope with the huge increase in public transport passengers who will be walking or cycling from interchanges to their final destination.

288. We are undertaking a detailed review of the role of our Regional Centre highways network - with a particular focus on the relationship between our key orbital highways systems - Manchester and Salford Inner Relief Route (MSIRR), the intermediate ring road, and the M60 - to understand how we can make best use of the capacity that we already have and how we can minimise the negative impacts of roads and traffic on the quality of life within the Regional Centre. The highway network around The Quays is congested at peak times, with Trafford Road the only north-south route across the Manchester Ship Canal and Regent Road the main link between the City Centre, The Quays and the M602. Tackling congestion on corridors into and across our Regional Centre will be a major priority through a range of demand management measures, and measures to encourage modal shift, including targeted park and ride provision and bus priority.

289. We have also undertaken detailed analysis of the role of our rapid transit networks (including heavy rail, Metrolink and bus rapid transit) in delivering the additional capacity we need, and to complement proposed improvements to HS2 and Northern Powerhouse Rail services. The work we have done to-date has concluded that, by 2040, we will need significant additional cross-city capacity. This capacity may best be delivered through the construction of new rail tunnels beneath the City centre to enable us to deliver the excellent connectivity and faster journey times we need into and across the Regional Centre, without taking up valuable land or creating further severance by building new lines at street level.

290. We have identified a phased approach to enhancing our Regional Centre rapid transit networks to meet the long-term needs of our rapidly growing economy as follows:

- **Short-term (to early 2020s):** Completion of Metrolink Second City Centre Crossing; completion of Northern Hub works and introduction of enhanced, higher-capacity heavy rail services; delivery of Trafford Park Line; and increased capacity on the busiest Metrolink lines by running more double-unit vehicles;

- **Medium-term (to 2030):** Develop and deliver tram-train to improve rapid transit connectivity into and across the Regional Centre and develop potential cross-city metro proposals; develop proposals for our suburban rail network to complement the Northern Powerhouse Rail network; and

- **Long-term (from mid-2030s):** Implement cross-city rapid transit capacity enhancements, potentially through tunnelled metro services, and deliver suburban rail enhancements to complement Northern Powerhouse Rail.

291. Buses will also need to play a much bigger role in accommodating the growth in trips into and across the Regional Centre. While bus is ideally suited to short journeys (up to 6 km), it needs to play an increased role on corridors where there is no rapid transit, especially for journeys of up to 10 km. We need to transform buses into a mode of transport that all travellers in Greater Manchester are happy to use (as is the case in London), through provision of high quality, reliable services and clean, comfortable vehicles (equipped with wi-fi and any other digital infrastructure which enables people to make productive use of their travel time), and supported by simple, integrated, affordable and smart ticketing products. At the same time we need to ensure that bus services are providing the links between deprived communities close to, but currently poorly connected with, the new job opportunities.

292. We will review bus routeing and termination points within the City Centre, to ensure that we have the right balance of cross-city bus services and buses which turn around at key locations on the edges of the City Centre core. For bus services that terminate at these locations, it will be important to achieve improved pedestrian/cycle connectivity as well as improved connectivity to cross-city bus and Metrolink services to destinations that lie beyond walking distance. This will help to minimise the negative impacts of very high numbers of buses travelling through the heart of the City Centre on pedestrian and cycle movements and air quality and safety.

293. Walking and cycling are both critical to the success of our Regional Centre. Investment in quality provision for pedestrians and cycling is relatively low-cost, enables the movement of high volumes of people in a constrained urban environment, and will help to create a healthier and cleaner City Region. We will continue to invest in high-capacity and high-quality pedestrian and cycle routes into and across the City Centre to enable higher proportions of trips to be made by active travel modes. Easy movement around the City Centre on foot is also important for those arriving by public transport or by car and this will bring economic benefits by improving access to key attractions and improving the image of the city. In The Quays, the Manchester Ship Canal acts as a barrier to pedestrian and cycle movement and better links across it will be needed, both to provide links with adjacent communities and to maximise the benefits of the planned Trafford Park Metrolink extension, which will provide additional commuter capacity.

294. We will also need to carefully manage demand for travel, to encourage people to think about how and when they travel into the Regional Centre. Smart, tailored customer information on travel choices will be a crucial part of this, as will managing the availability and cost of car parking. We will also have to make difficult decisions on how we make best use of the limited highways capacity we have within the

Regional Centre to maximise the efficiency of our transport networks. Without carefully targeted demand management measures (see section 133), we will simply not achieve the levels of growth that we aspire to, and the Regional Centre will become choked by traffic congestion and pollution. We are also developing detailed plans to determine when and how freight and servicing vehicles access the Regional Centre, to minimise negative impacts on congestion and quality of life.

Supporting the night time and weekend economy

295. Our Regional Centre already has a vibrant 24/7 economy; and leisure, retail and tourism activities are critical to the future economic success of Greater Manchester. Different parts of the Regional Centre have their own unique characteristics from a leisure and tourism perspective. The Etihad Campus area of East Manchester has established itself as a major sporting complex of international reputation, building on the legacy of the 2002 Commonwealth Games. The Quays is one of the main tourism destinations in Greater Manchester, with The Lowry theatre, galleries and shopping centre, Imperial War Museum North, the MediaCity complex, and the adjacent Old Trafford stadium and museum attracting significant numbers of visitors. And the City Centre itself has a variety of major retail, entertainment and leisure attractions.

296. The transport network must be carefully designed to support this economy, focusing on the needs of different markets at different times of the day and the week, and ensuring that the transport offer is as integrated and easy to understand as possible, particularly for visitors who are less familiar with the Regional Centre. As well as providing public transport services that operate for all or much of the night, both during the week and at weekends, travel by all modes of transport must be safe and secure, and we must make the right provision, through e.g. the allocation of pick up/drop off zones and parking/waiting areas, for crucial supporting transport services, such as chartered coaches, hackney cabs and private hire vehicles, which play a really important role in supporting our leisure economy. A carefully designed car parking management strategy will also be critical to the success of our night time and weekend economy.

Embracing innovation

297. In delivering our aspirations for the Regional Centre, there is a significant opportunity to embrace the latest thinking in transport innovation and technology to improve customer experience and to maximise the performance, resilience and safety of our transport networks. We want Greater Manchester to be recognised as a world leader in transport innovation, and the scale and nature of the Regional Centre provides the scope to use new technology to maximise the capacity, efficiency,

resilience and safety of transport networks and to deliver transformational change to the customer experience through technology-supported improvements to information provision, ticketing and payment systems, and wayfinding.

298. We want to ensure that the use of digital communication is widely adopted and that we utilise live information and data to monitor and respond to periods of peak demand and feedback on network performance and reliability. Our users will be able to access real-time information about their journeys so they can make informed choices on their travel options into and within the city centre.

Connectivity Within A Rapidly Growing Regional Centre

299. The areas immediately surrounding the City Centre core, and between The Quays and the MSIRR, will be a major focus for regeneration and economic growth over the coming years. We will continue to witness the transformation of a number of brownfield sites on the periphery of the City Centre, many of which are currently used for low-cost, informal car parks, into high-quality and high-density development. The loss of informal parking provision will be a major catalyst in reducing the attractiveness of car travel to the Regional Centre, but will need to be supported by provision of alternative attractive travel options.

300. There are regeneration frameworks already in place for many of these sites, containing ambitious plans for a variety of mixed-use developments, including significant volumes of new housing. As more peripheral Regional Centre sites are developed, we must ensure that they are carefully stitched into the fabric of the surrounding urban area and, in particular, ensure excellent connectivity to our major city centre transport interchanges. We will fully embed sustainable travel into new developments by ensuring that excellent walking and cycling facilities are provided (including adequate cycle parking provision); developing tailored parking and servicing management strategies; engaging with occupiers to encourage sustainable travel behaviour from the outset; and providing other supporting interventions, such as car clubs, to give people access to a car when needed without the burden and cost of owning and operating a private vehicle.

301. We will also focus on improving connectivity between the City Centre and both The Quays and the Etihad. The relatively short distances involved provide an excellent opportunity to promote higher levels of walking and cycling, through ongoing investment in pedestrian and cycle networks, including exploiting the potential of our waterways by providing better facilities along the River Irwell and our extensive canal network. This investment will be supported by comprehensive and consistent on-street and digital wayfinding infrastructure.

302. We are considering a range of potential improvements to rapid transit connections from our major city centre interchanges to key destinations across the Regional Centre, including Salford Quays, Media City and Old Trafford; and the Etihad Campus and Manchester Life areas of East Manchester. These will be further bolstered by increased bus coverage within the Regional Centre, which we will target towards areas with increasing residential populations such as the areas around Salford Central and Greengate.

303. The rapidly expanding City Centre will quickly extend beyond the confines of our existing major transport infrastructure, and particularly the MSIRR, which comprises the Mancunian Way, Miller Street, Great Ancoats Street and Trinity Way and which in some areas creates a significant barrier to movement between the City Centre and the wider Regional Centre. As this expansion occurs, we will continue to review the role and function of major highways, such as the MSIRR, and will seek to minimise the severance effects of such barriers for people moving into and out of the city centre on foot or by bike.

A Liveable Regional Centre

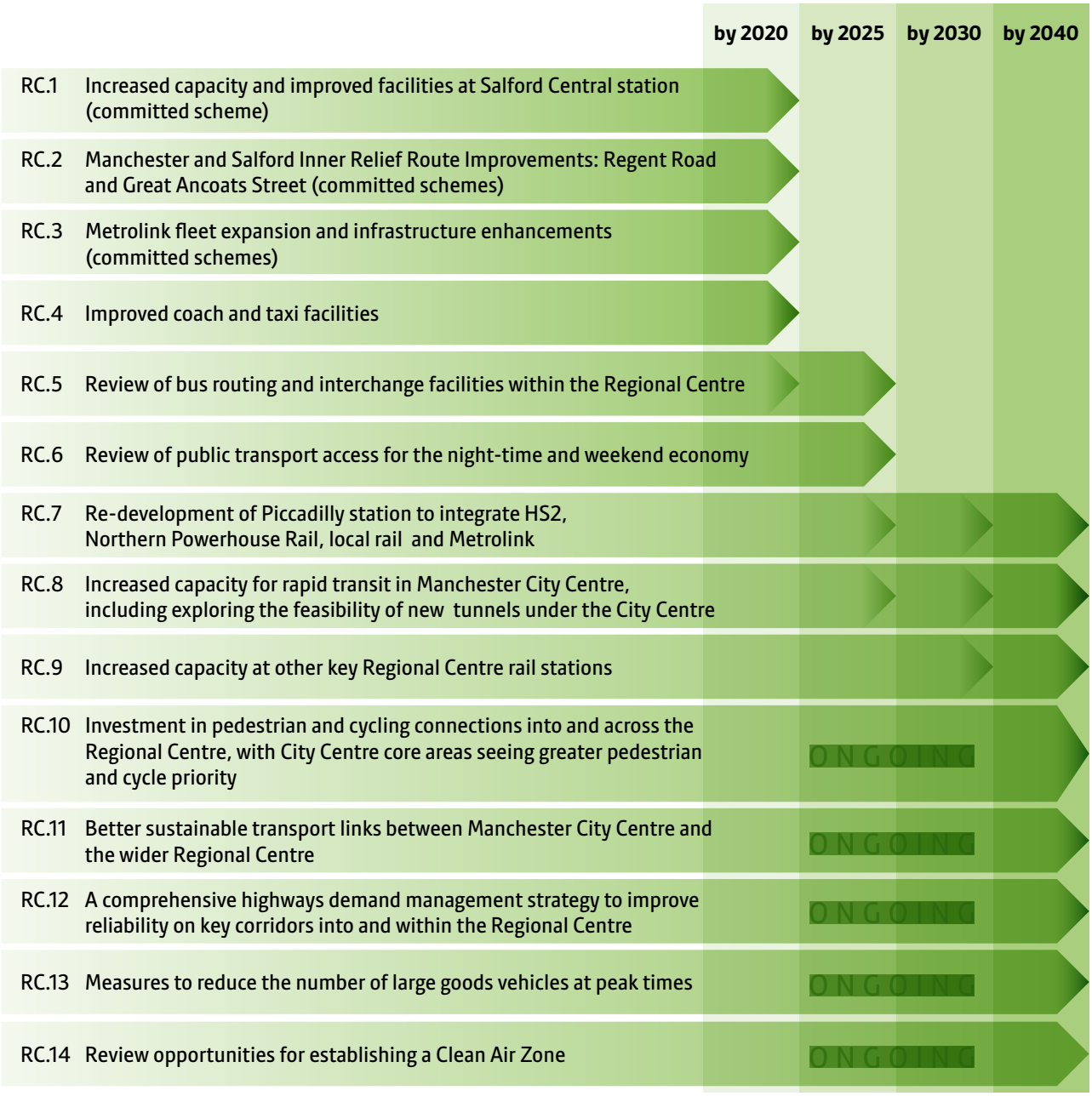
304. The economic success of our Regional Centre is closely linked to the quality of the urban environment. If we want it to be an attractive place to live and invest in, we must ensure that the urban realm is attractive and clean; that the city is not choked with traffic; and that we offer a safe and secure environment at all times of the day and night. A Regional Centre which offers a high quality of life will enable us to attract and retain the skills and talent that our city region needs to fulfil its long-term potential. It will also help to build on Greater Manchester's existing role as a major visitor attraction, by creating a strong, positive first impression to those visiting the city for business or leisure purposes.

305. As well as an attractive built environment, we must provide the right supporting green and blue infrastructure and open spaces, which enable the city to breathe and provide a welcome escape from the hustle and bustle of urban living. Such infrastructure will also provide active travel opportunities, enabling people to move easily and directly through the city on direct and traffic free corridors. This urban environment must be as inclusive as possible, to enable those of all ages and with a range of mobility impairments to enjoy the opportunities and facilities offered within our Regional Centre. Our extensive canal and waterway network offers particular opportunities for improving walking and cycling connections within the Regional Centre, with the right investment in the quality and attractiveness of these routes. All transport improvements must therefore be designed with inclusivity and accessibility in mind.

306. Creating a more liveable Regional Centre will also require concerted action to tackle our existing Air Quality problems and, over time, we want all vehicles entering the city centre core to be ultra-low emission vehicles (ULEVs). We will also be exploring the potential for introducing a Clean Air Zone within the Regional Centre.

Interventions

307. A summary of our priority interventions for the Regional Centre is shown below. A more detailed list is included in Part 4 of this document.



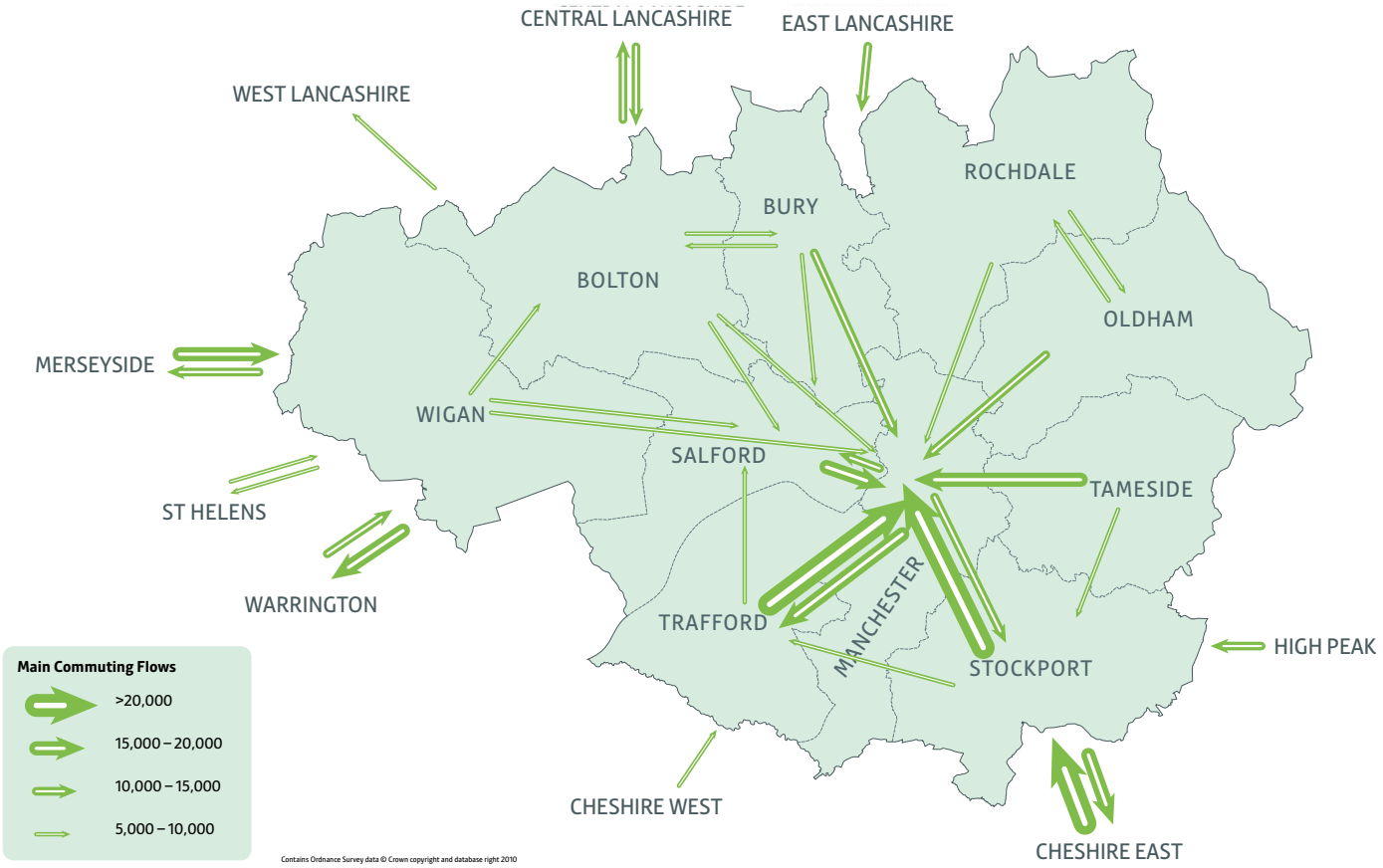
Travel Across the Wider City-region

Our ambition is that our regenerated town centres are easy to get to, particularly by sustainable modes, and pleasant to walk around and spend time in. Journeys across the area, between centres or to other major destinations will be made easier through better and faster orbital links, reduced congestion, a more reliable bus network, more effective interchange and better-connected cycle routes. Road collisions will fall, year on year, moving towards our goal of reducing deaths and serious injuries as close as possible to zero. The significant new development expected in Greater Manchester will be accessible by sustainable modes of transport, so that the impact of the extra trips on the road network is reduced.

308. Beyond the Regional Centre, Greater Manchester is polycentric, with a diverse mix of town centres, employment areas, major hospitals, educational establishments and visitor attractions, which generate highly complex commuting, business, logistics and leisure travel patterns across the city-region and to/from neighbouring areas.

309. There are specific and dense commuting flows to the centre of the conurbation, with 38% of employment located inside the M60. However, there are increasingly important local flows between adjacent Boroughs more widely, with all parts of the conurbation less self-contained than in the past and more reliant on flows to and from other parts of Greater Manchester. Specialisation in the provision of healthcare and education/training across the conurbation has further emphasised the importance of mobility across traditional municipal boundaries. The diagram below shows commuting flows between Greater Manchester local authority areas, and from neighbouring authorities into Greater Manchester, in 2011.

Main Commuting Flows, 2011



310. The range of work and business opportunities in Greater Manchester means that there are significant further flows to and from neighbouring areas to the south, west and north in particular; flows into the east are more limited, with the Pennines reducing connectivity. Increasingly, business and commuter travel patterns will also be influenced by strategic developments: the growth potential of the Atlantic Gateway in the west; the growth of Manchester Airport and the arrival of HS2 in the south; the potential of the West Coast Main Line to boost the economy of the north west, via its link to HS2; and the potential for the east to develop additional roles in relation to Leeds and Sheffield as a result of 'Northern Powerhouse' connectivity. Improving travel across the city region is therefore an integral part of improving city-to-city links and links to global gateways.

311. In addition, the leisure economy of Greater Manchester has continued to grow, establishing parts of the conurbation as major sporting, entertainment, heritage, retail and other event destinations with new patterns of leisure traffic both within and into the conurbation. This growth has started to blur distinctions between traditional peak and off-peak periods of demand for travel in some of the city region's most important corridors.

312. Our 2040 Vision identified the need for effective connections to make it easier to reach key destinations by public transport, to improve journey times on the busiest local roads and to make walking and cycling more attractive for short trips. It also highlighted the importance of supporting the economies of town centres through high quality public transport links and attractive walk and cycle routes, since these centres play a vital role in providing local services as well as well as acting as transport hubs.

Supporting Vital and Vibrant Town Centres

313. The eight main town centres (Altrincham, Ashton-under-Lyne, Bolton, Bury, Oldham, Rochdale, Stockport and Wigan) provide a critical mass of facilities and services and are the hubs of local public transport networks, making them highly sustainable locations. Significant investment has been made, or is planned, in improved public transport infrastructure and services in the form of new interchanges and Metrolink extensions. They are now facing a fundamental challenge due to changes in the retail sector (particularly the growth of e-commerce, which accounted for nearly half of all retail sales between 2003 and 2010).

314. All the centres have regeneration strategies aimed at widening their appeal through a better quality 'offer', broadening the range of uses by including housing, recreational and community facilities and so increasing footfall to the retail areas. Transport has an important role to play in supporting this regeneration through provision of good quality public transport infrastructure and services, safe cycle and pedestrian routes, secure and convenient car parking, and access for servicing and deliveries. In addition, a more pleasant environment can be created for visitors by reducing the dominance of the car in key areas and improving pedestrian linkages across the centres.

315. Each centre faces different challenges, with Ashton-under-Lyne, Oldham and Rochdale considered in 2012 (in the Javelin Group's 'Battlefield Britain' survey) to be within the top 20 most 'at risk' towns in the country. Each is responding to the challenge by creating a more distinct role. Oldham, through its Investment Prospectus, is investing in a comprehensive regeneration initiative to improve and diversify the town centre through investment in the leisure, retail and cultural offer. Major investment in the eastern gateway will bring new retail and residential development, and will need to be supported by an improved transport interchange. Rochdale is developing a riverside, heritage-based offer with tourism potential, along with major re-development, while Ashton-under-Lyne is delivering its 'Vision Tameside' strategy, focussing on serving its primary catchment area and providing a focus for shopping, access to transport, education and skills through the re-location of the college into the central area. There is a need to improve the public realm and unite different parts of the centres, making it easier for

pedestrians to move between retail areas, car parks, public transport interchanges, cultural and educational facilities.

316. Bury has become a very successful retail centre, attracting visitors from across Greater Manchester but with a catchment extending into East Lancashire. Parts of the expanded retail area are not well linked to the Interchange, and there is an opportunity to regenerate the surrounding area as well as redeveloping the Interchange to provide the standard of passenger facilities now available in other centres, and to improve access to the Metrolink platforms. Improvements to connectivity across the centre are also needed to help maintain its competitive position. In addition, pinchpoints at Bury Bridge and Rochdale Road/Heap Bridge lead to congestion on the approaches to the centre.

317. Bolton and Stockport both have potential to be the focus for office and commercial growth in the north and south of the conurbation respectively and this will need to be supported by an improved transport offer. Both require improved public transport interchanges, and links from the interchanges into the town centre. Stockport also needs improved connectivity across the centre, principally by taking traffic off the A6 and giving more priority to pedestrians, cyclists and public transport. In Altrincham, the emphasis is on developing a role as a modern market town, attracting visitors from Cheshire as well as locals so it can thrive alongside the Trafford Centre, and capitalising on the strong demand for town centre housing. For this there is a need to improve access and movement around the town centre, linking new development areas to the existing retail core.

318. Wigan has suffered less from competition than other centres, due to its more isolated position, and is considered to be less at risk from retail trends than other key centres. However, to maintain its position it needs to attract customers from adjacent parts of Lancashire and Merseyside. As well as better road links there is a need to improve integration between its two rail stations, which currently present a poor image, both as a gateway to the town and as a National Hub interchange, and to improve links across the centre to support regeneration.

Key Evidence

- The eight main town centres provide 11% of jobs in Greater Manchester
- Retail experts predict that nationally there will be 20% less retail floorspace on the high street by 2020
- 52% of morning peak trips to the main town centres are made by car. The equivalent figure for Manchester city centre is 24%
- 155,350 people travel in to Greater Manchester each day to work from other local authority areas, with 127,664 travelling outwards
- Over 23,000 people commute in from Cheshire East, with 16,000 travelling in the opposite direction
- 16,000 Greater Manchester residents work in Warrington, with 13,000

Access to Employment, Services and Leisure

319. Although Greater Manchester has an extensive public transport network, there are many locations where access to employment, services and leisure facilities is difficult without a car. Major out-of-town employment areas are often difficult to serve by bus, especially where shift working or 24/7 operation are prevalent, which makes the demand too dispersed for viable services. Affordability is also an issue for many people, as referenced in section 70.

320. While a number of major employment sites have good access from a local town centre, or from the Regional centre, they can be difficult to reach from many communities, particularly where orbital public transport links are unattractive**.** Jobs in the major employment concentrations of Trafford Park/Trafford Centre, Salford Quays, the Airport/Enterprise Zone and the future Port Salford are difficult to reach by non- car modes, particularly from the north and east of the conurbation, but also more locally where public transport may not easily connect disadvantaged communities to these locations. Other significant employment areas such as Logistics North in Bolton, Heywood Distribution Park and Kingsway Business Park in Rochdale, Ashton Moss in Tameside and Hollinwood in Oldham, as well as smaller sites across the conurbation, have similar problems. There is a need to improve access to existing and any future additional large scale out-of-centre employment areas by public transport, active travel links and measures such as car club /cycle hire as well as using Travel Choices interventions to make people aware of their travel options.

321. The re-organisation and centralisation of public services also presents people with access problems, leading to longer and more complex journeys to reach hospitals and colleges. For example the 'Healthier Together' health reorganisation has designated just five 'super hospitals' for the most serious cases. Colleges too are consolidating and becoming more specialised, leading to more travel. There is significant cross- border travel by students, e.g. from Lancashire to Salford and Manchester Universities, or from the Wigan area to colleges such as Myerscough.

322. The Peak District National Park, which extends into Oldham, is a natural and recreational resource of both local and national importance and a significant trip attractor. The former Robert Fletchers Mill in Greenfield has been identified as a location for tourism development in GMSF, recognising its importance as a gateway to the National Park. Leisure trips add to localised congestion in communities on the eastern fringe of the conurbation, where the roads also form part of vital trans-Pennine routes. Pressure on the road network in this area is increasing as incidents on the motorway cause motorists to seek alternatives. There is also a need to improve access for leisure without causing damage to the environment, and improved evening /weekend public transport services would be beneficial in this respect. We will work with the Peak District National Park Authority and High Peak council to bring forward improvements.

Delivering a More Reliable Highways Network

323. The Strategic Road Network around Greater Manchester performs a vital role in supporting movement across the city-region as well as providing regional and national links. It is at capacity in peak periods in key areas and its use for many local journeys reduces its availability for longer distance trips. Problems are particularly acute in Salford, which is at the confluence of motorways approaching the Regional Centre. An increase in traffic volumes has had a disproportionate impact on journey times in Salford

West, and this will be exacerbated by planned developments in the area. Congestion is also a serious problem on the M60 through Stockport town centre and around Denton Interchange, around Sharston on the M56, and on the M66 past Bury town centre and Heywood Distribution Park to its intersection with the M60 and M62 at Simister Island. The limited number of crossings over the Manchester Ship Canal also has the effect of increasing traffic flows and congestion on the M60 around Barton High Level Bridge. For trans-Pennnine journeys the lack of good quality alternatives puts additional pressure on the M62, adding to congestion on that route. The resulting congestion in these areas reduces connectivity across the conurbation and with neighbouring areas including Warrington, Cheshire East and East Lancashire, and leads to overflow onto local roads, with adverse effects on local communities.

324. There are also congestion hotspots and slow peak journey times on the local road network throughout the conurbation, particularly on the approaches to town centres, Manchester city centre and The Trafford Centre, and on routes leading to the motorway network. Traffic accessing motorway junctions results in congestion in adjacent communities, including those referred to above but also in other locations such as Milnrow. Commuter and through traffic is a major problem in some areas, particularly in the Longdendale area of Tameside where traffic from Glossop is added to longer distance traffic from the A57 Snake Pass route from Sheffield and A628 Woodhead Pass route from Barnsley, and on major routes through Stockport and Trafford, particularly the A34, which carry commuter traffic from Cheshire East and High Peak. The capacity issues across our road network give rise to issues of congestion, safety for vulnerable road users, poor air quality, high carbon emissions and unreliable bus journey times.

325. In addition, the nature of the road network is an issue in some areas. In Wigan the major roads wind through many small centres, resulting in slow journey times, while in the Pennine foothills the roads become rural in nature and many are unsuited to the volume of traffic they are now carrying. However major improvements, or new infrastructure, could have a damaging impact on the environment of the National Park through which these routes run. A further issue is that of resilience, with adverse weather conditions leading to the closure of Pennine routes in the winter. Roads in the Pennine fringe areas have particular maintenance problems due to the topography and the weather, with structures

such as dry stone walls and gullies essential to keeping key arteries open. As climate change continues, adverse weather is likely to become a more frequent and widespread issue.

326. The pressure to move increasing volumes of road traffic efficiently across the city region as the population and economy grows must be balanced with protecting local communities and maintaining the viability and accessibility of local centres along key routes, ensuring that they are places for people and not just for traffic. Our priority is to make the best use of the existing road network through a combination of using technology to better manage traffic flows and using Travel Choices interventions to encourage people to travel at different times, on different routes or to switch to public transport, cycling or walking for some of their journeys. Wherever feasible, the highway network should prioritise the movement of people, maximising capacity through the most congested locations to ensure that a fast and consistent journey time is achievable. However in some cases highway improvements will be needed to relieve congestion hotspots, to reduce congestion or improve safety on key freight routes, to facilitate new development or to mitigate the impact of traffic on local communities. We will need to ensure that environmental issues arising from new or improved highways are mitigated, particularly in terms of air quality.

327. As our economy expands, the growth in the logistics sector, through major new distribution sites across Greater Manchester and through growth in areas such as internet shopping, will potentially add to congestion on the network. We will work with businesses to develop re-timing strategies to support freight movements outside of peak hours and also consider pilots for different types of Urban Distribution Centre. Both of these measures will reduce congestion and improve air quality in town centres.

Providing Attractive Alternatives to Car Travel

328. Greater Manchester's public transport network is effective in linking people with the main town and city centres, and has been enhanced by recent investment in Metrolink. However this is not the case for many of the more orbital movements: between centres, or to out-of-town locations. Bus services may not exist, due to low demand, or may be unattractive because congestion results in long or unreliable journeys or because the lack of integration between public transport services and modes makes people unwilling to interchange. Cross-border journeys can also be a problem because of differing ticketing products and fares structures. This is a significant issue for communities living close to the Greater Manchester boundary, such as in the Pennine areas of Oldham, where people wish to access towns such as Huddersfield. Part 2 has set out our vision for integrated ticketing and a bus network that supports our economy and communities, as well as our approach to improving facilities at five classes of interchange.

329. As a result of these issues, travel to work at locations such as Trafford Park, the Airport and many smaller business parks and industrial estates, is dominated by the car and people who do not have access to one are often unable to consider working there. This contributes to high levels of car use and congestion as well as creating a barrier to opportunity. There is no single solution to the problem, and we will need to identify the best way to improve orbital journeys on a case by case basis. Where there is a high demand and a fast route can be identified linking to a very major trip attractor (i.e. Manchester city centre or, in the future, Manchester Airport) it may be possible to develop new rapid transit routes, using either Metrolink/tram-train (see section 196) or bus. However given the very high cost, these are most likely to be justified where they can support significant new development. A number of routes have been identified as having potential for tram-train, for example: Manchester to Marple; Manchester to Glossop; Manchester to Wigan via Atherton; and Stockport to Altrincham. Work is also underway to identify the potential to provide rapid transit between Oldham/Ashton and Stockport, which is a national/regional transport hub.

330. Where demand would not support rapid transit, it may be possible to improve existing bus journey times through bus priority, which already exists on a number of major corridors, or through express bus services. We now need to support our ambitious growth plans by creating the right network that enables services to operate with a reliability that will be attractive to customers. We therefore need to make sure that bus priority and other bus infrastructure is in place to support existing and future jobs in the town centres and key employment areas and to give easier access to interchanges for onward travel. In some places it may be possible to introduce short sections of segregated route to bypass congestion. Bus priority will also benefit medium distance trips by bus to/from areas outside Greater Manchester such as East Lancashire, for which there is no viable rail alternative.

331. We will also need to work with the rail industry to improve rail services for local journeys, bearing in mind the fact that limited capacity often means that a choice has to be made between improving local stopping services and long distance ones. In the future, additional capacity may be released following the arrival of HS2 and through the Northern Transport Strategy. Improvements to rail services have the potential to relieve the road network for medium and long distance journeys both within Greater Manchester and to neighbouring areas. Increased capacity and speed on the line to Warrington central would make rail more attractive for journeys to the Birchwood and Omega employment areas, while improvements to the Clitheroe-Manchester rail line would benefit both commuters and students. The Preston-Bolton-Manchester line will become increasingly important for commuters with the growth of the Buckshaw Village major mixed use development near Chorley, while the proposed Skelmersdale rail link and station will reduce car traffic in the west of Wigan.

332. Interchanges in the major town centres function as City Region Hubs, facilitating travel across the conurbation and we will continue to make sure that these provide a high level of passenger facilities. We will also identify locations such as local towns and large employment or service sites (e.g. major hospitals) that can increase their role as Local Hubs, making interchange easier for a range of day to day journeys. Improvements to the rail stations and Metrolink stops that act as Neighbourhood Gateways are also vital in encouraging public transport use (see section 167).

333. Cycling can provide a healthy, low cost, alternative to car travel and can offer an alternative for short journeys. However cycle routes are often fragmented and whilst a number of strategic routes have been developed inside the M60, investment elsewhere has been more piecemeal. Lack of funding has meant that sections of cycle route are often improved as opportunities arise, e.g. as part of other highway works, or using developer funding. To encourage cycling we need to ensure that residential areas are linked to key destinations by continuous routes of a good standard throughout. 'Green and blue' corridors can offer traffic-free routes, but need to be better linked with the on-highway cycle network to provide continuity.

334. Improvements to infrastructure and services alone will not be sufficient to achieve a significant modal shift. Travel choices interventions will be needed, particularly to persuade people that journeys involving interchange have become easier. Our programmes will include: working with businesses and their employees to encourage them to use sustainable modes; informing jobseekers about how they could travel to employment opportunities, and providing support; promoting the use of new transport infrastructure and services; working with key healthcare and education sites and tourism venues to promote sustainable travel; and promoting sustainable transport to major new developments.

Supporting New Development

335. The Manchester Spatial Framework (GMSF) will establish the amount of, and strategic locations for, land needed for residential and employment development up to 2035. The likely scale of future development has already been identified, in Part 2, and this will generate a significant increase in trips as well as generating new traffic patterns. Whilst there is a strong and continuing emphasis on directing new development to brownfield land in urban locations, the scale of growth requires the release of some land from the Green Belt. The provision of attractive public transport and active travel alternatives, supported by Travel Choices promotional measures, to reduce the need to travel by car, will be crucial if we are to fulfil Greater Manchester's growth potential in a way that makes the conurbation a highly desirable place to live. In the case of employment development, it will also be vital to provide non-car access for workers, in order to spread the benefits of economic growth throughout the conurbation.

336. Some major development areas could potentially be served by new rapid transit links (including bus rapid transit), subject to the development of a good business case. However in most cases the key to improved public transport connectivity will be to improve access via interchange points, not only in the Regional Centre but increasingly through a network of Greater Manchester Hubs (see section 167), served by better integrated services, including orbital services. The Global Hub of Manchester Airport will have an increasingly important role in enabling improved public transport links across the south of the conurbation. Public transport, walking and cycling links to local stations close to development areas, which act as Neighbourhood Hubs, will also be important in extending the reach of the rail network.

337. The provision of attractive cycle routes linking into existing networks will also have an important role to play in providing an alternative to car travel. As well as reducing car trips, cycling can offer a low-cost and flexible alternative for access to work, particularly where a low level of demand means that there is no public transport.

338. While some additional road infrastructure, such as access roads, will inevitably be required to serve very large scale developments, improvements to the performance and resilience of our highways network will not be achieved simply through road building. Appropriate demand management tools and techniques will also be needed to manage traffic flows on our highways network, particularly during peak periods.

339. The levels of development anticipated across Greater Manchester over the period to 2040 will inevitably generate significant amounts of construction-related traffic and could potentially impact on the operation of our transport networks. For example, the levels and nature of road traffic generated could add to congestion and impact on the safety of vulnerable road users. We will seek to work with partners to minimise impacts and safeguard the operation of our networks during construction works through, for example, the creation of Construction Management Plans for new developments.

340. The draft Greater Manchester Spatial Framework (GMSF) has identified a number of development locations and corridors that are strategically significant in terms of their economic importance and role in meeting future development needs. Three of these: Manchester City Centre, The Quays and Airport Gateway, have been discussed in previous chapters, however a number of other areas have also been identified as strategic locations for development, as detailed below:

The Main Town Centres

341. The draft Greater Manchester Spatial Framework (GMSF) states that the role of the main town centres as local economic drivers will continue to be developed, providing the primary focus for office, retail, leisure and cultural activity in their surrounding areas and also providing complementary residential development. Future transport investment to support the role of town centres will therefore focus not only on improving access to the centre, in terms of public transport, car parking, loading/unloading facilities, cycle routes and signage, but creating a high quality environment for visitors, workers and residents to enjoy. This may include urban realm enhancements to improve the quality of pedestrian links and public spaces, or traffic management measures to reduce the impact of motorised vehicles in key areas.

Western Gateway

342. This area extends westwards along the Manchester Ship Canal and M62 motorway, forming part of the larger Atlantic Gateway growth corridor stretching to Liverpool. Key locations for development are at Port Salford (see Global Connectivity chapter), Carrington (residential and employment), Cadishead/Irlam (residential) and Trafford City (tourism, retail, leisure, residential and offices) along with the renewal and enhancement of Trafford Park. If this area is to fulfil its growth potential, we will need to deliver a more reliable and resilient highway network, particularly as traffic from The Quays and the western part of the City Centre also feeds into the motorway network in this area. In support of this, Highways England's Road Investment Strategy to 2020 includes the smart motorway scheme on the M60 J8 – M62 J20 section. However significant further improvements in transport infrastructure will be needed to accommodate the level of development envisaged. In addition to improvements around Port Salford (see section 239 above), the development of a major brownfield site at Carrington will require both additional road infrastructure and significantly improved public transport and active travel links.

Northern Gateway

343. The Northern Gateway is a significant growth area extending along the M62 motorway around its intersections with the M66 at junction 18, the A627 (M) motorway at Junction 20 and at Junction 21 in the north east of Greater Manchester. Its location on strategic transport corridors, east-west to Liverpool, Leeds and Hull and north to Lancashire, will make it an attractive location for employment (particularly logistics), building on the established facilities at Heywood, Pilsworth, Stakehill and

Kingsway, as well as delivering new homes. There is already a committed scheme for a link road into the area from M62 junction 19, and the HE plans to make improvements to Simister Island in the period 2020-2025. However further improvements will be needed: to improve the reliability of the M60/M62, reduce congestion at Simister Island, improve access to/from motorway junctions, and provide sustainable transport links to connect the area in to adjacent residential areas and town centres as well as to the wider public transport network.

Eastern Gateway

344. The Eastern Gateway is focussed on an expansion of employment and provision of new homes around Ashton Moss, the protection of the established Tame Valley industrial area, a new Garden Village at Godley Green and the expansion of Bredbury Park Industrial Estate. In the short term, Ashton Moss has been identified as the location for a Manchester Expo 2025 bid, offering the potential for direct access to the M60 and provision of a new rail station, in addition to the existing Metrolink stop. Transport improvements required to serve the wider area are expected to include improvements to motorway junctions on the M60, the provision of the committed Mottram Moor and A57 link roads and measures to alleviate the issues faced in Tintwistle and Hollingworth. These will need to be supported by improvements to the local road network, improved access to the rail network, public transport improvements and walking and cycling infrastructure to link employment and residential areas.

Corridors

345. The East Lancashire Road corridor through Salford and Wigan has been identified as an important growth corridor on the western side of Greater Manchester, linking through to Merseyside. Development opportunities here are complemented by the nationally significant RHS Garden Bridgewater in Worsley, opening in 2019. However GMSF makes clear that release of land in this location will depend on our ability to deliver major improvements in public transport to provide an attractive alternative to the car.

346. The M61 corridor provides a key economic and housing location extending through the north-west of Greater Manchester on the main route to Preston and Lancashire. Strategic opportunities have been identified at Hulton Park (outdoor leisure and recreation), west of Westhoughton (residential), around M61 junction 6 (employment) and, in the longer term, west of the Wingates industrial estate (employment) in addition to the completion of Logistics North and the planned Rivington Chase mixed use development on the former Horwich Loco Works site. Transport improvements needed will include improving the links to the M61 and reducing traffic in Westhoughton.

347. The M6 motorway, the primary north-south road between the south of England and Scotland, is an important growth corridor on the western side of the conurbation and the major opportunity for manufacturing and distribution in Wigan. Land at junctions 25 and 26 could provide significant floorspace in a location which is given increased importance by the direct link into Liverpool Docks, via the M58, from Junction 26.

Other Allocations

348. In addition to the strategic allocations, there are other locations across Greater Manchester where new transport infrastructure will be required, either to open up the site or to provide sustainable transport alternatives to reduce the number of car trips generated. In some cases new infrastructure may also provide a benefit to the wider area. We will work with Planning Authorities to identify suitable measures and to seek developer contributions as appropriate.

Neighbouring Areas

349. The Greater Manchester transport network will also be affected by planned growth in neighbouring areas. There are also major and growing employment centres just across the Greater Manchester

boundary: in Cheshire East, where an additional 6,000 jobs are expected by 2030 (including in the North East Cheshire Science Corridor, encompassing Alderley Park and Daresbury); at Birchwood and Omega/Lingley Mere in Warrington; and around the M65 in East Lancashire. Existing commuter movements will be increased by major residential development in Cheshire East (where 9,225 homes are planned in the north of the area), in the Buxton and Chapel-en-le-Frith areas of High Peak, at Buckshaw Village in Lancashire and in Warrington. Cross-boundary roads such as the A34 already suffer from congestion, and this will be exacerbated by these planned developments. There is a need to work with neighbouring authorities to provide high quality, high capacity sustainable transport alternatives in order to relieve pressure on the highway network.

Interventions

350. A summary of our priority interventions for the Wider City Region is shown below. A more detailed list is included in Part 4 of this document.

		by 2020	by 2025	by 2030	by 2040
W.1	South Heywood M62 J19 Link Road (committed scheme)				
W.2	Improve bus network in Salford-Bolton area (committed scheme)				
W.3	New/enhanced interchanges in Ashton, Bolton, Stockport and Wigan town centres (committed schemes) and in other prioritised town centres, including Oldham Mumps (covered interchange)				
W.4	Improve accessibility and connectivity to and around Stockport town centre (committed schemes)				
W.5	A new Metrolink line to the Trafford Centre (committed scheme), and potentially on to the AJ Bell Stadium and then Port Salford				
W.6	Studies into long-term transport challenges on southern approaches to Greater Manchester				
W.7	Establish a Greater Manchester Active Travel Network, particularly using 'green and blue' corridors				
W.8	Roll out the 'next generation' of rapid transit routes (tram-train and bus rapid transit), including orbital links, serving the Regional Centre, key centres and the Airport				
W.9	Provide transport packages to support delivery of new development areas, identified through GMSF				
W.10	Establish long term programme for improvement of facilities at, and access to, transport hubs				
W.11	Improve maintenance and resilience of our key route network and local highways		ONGOING		
W.12	Improve the flow of traffic on key roads through measures to release bottlenecks and better manage demand at peak times		ONGOING		
W.13	Faster rail journeys and increased capacity and frequency for local services		ONGOING		
W.14	Improve sustainable transport to major employment and residential areas within and immediately outside Greater Manchester		ONGOING		
W.15	Provide much better pedestrian, cycle and public transport links across town centres, including reducing severance by major roads		ONGOING		
W.16	Measures to reduce impact of goods vehicles in centres, with better loading/unloading facilities		ONGOING		
W.17	Improved road safety at accident blackspots		ONGOING		

Connected Neighbourhoods

Our ambition is for local neighbourhoods to be safer and more pleasant to walk and cycle around, with the impact of traffic on local roads reduced and a year-on-year reduction in collisions. Active travel will be the natural choice for many short journeys, with 10% of all journeys made by bike. Easier access to interchanges and to local centres will increase the proportion of journeys made by public transport and encourage people to use local shops and other facilities.

351. The places we live have a major influence on our overall quality of life. Neighbourhoods need to be places where people can be safe, healthy, interact with their neighbours and have easy access to facilities like shops, schools, healthcare, recreation and a range of job opportunities. Perhaps most importantly they need to be inclusive, so that all residents can participate in community life and access the facilities they need. Attractive living environments also play a role in the economy, by attracting and retaining the diverse labour market that is needed to support economic growth.

352. Neighbourhoods are also the starting point for many of our journeys, whether long or short, and local connectivity can have a major influence on our choice

353. of mode. If local public transport is poor, or pedestrian/cycle routes are seen as unattractive, longer journeys may well need to be made by car.

354. While it is certainly true that motorised transport has improved all our lives by allowing us to travel further and faster, accessing a wider range of opportunities, its impact on our local neighbourhoods needs to be carefully managed to improve safety and reduce noise, pollution and severance. In addition, there is now overwhelming medical evidence that more active lifestyles lead to better health outcomes and day to day activities like walking or cycling to school or the station can be as effective as going to the gym. As well as improving physical health, moderate activity can help to combat depression, particularly if it takes place in a pleasant environment. Active travel can also provide a low cost option for people on low incomes. The way transport is managed in our local neighbourhoods is therefore central to our quality of life.

Pedestrian and Cycle-Friendly Neighbourhoods

355. Areas that are easy for people to walk and cycle around also tend to be good places to live, with low traffic speeds, safe links to places like shopping centres, schools, parks, countryside and with interesting public spaces. Neighbourhoods that encourage pedestrian and cycle activity provide more opportunities for social interaction and can improve a sense of security through the presence of other people.

356. While bus or car are the best option for some people and some types of trip, if more journeys can be made on foot or by bike, the number of car trips can be reduced leading to fewer collisions, lower emissions and improved health. Most journeys are fairly short, at five miles or less, a distance that can easily be walked or cycled by many people. Even the longer commuting journeys can start with a short

walk, cycle or bus ride to a station or stop. However, for more journeys to be made in this way, we need to create the right environment for people to do this safely, conveniently and enjoyably and actively promote the benefits of walking and cycling.

357. First and foremost, people need to feel that it is safe to walk or cycle. This is particularly important for parents deciding whether or not to allow a child to walk or cycle to school. Barriers to walking and cycling include road safety concerns and fear of crime, poor maintenance and unpleasant walking environments. People can also underestimate the time that a car journey will take: walking or cycling can be quicker in urban areas. The development of local cycle networks using a combination of off-road routes, on-highway cycle lanes (segregated from traffic where possible) and quiet streets, along with the provision of secure parking, will help to make cycling a natural choice. As well as parking at key destinations, space is needed in or close to homes for secure cycle storage.

358. For pedestrians, an extensive network of footways and Rights of Way already exists, but safe crossings are essential, particularly in local centres and where residential areas are separated from local shops, schools and other facilities, by busy roads. Street design is also important, and more attractive streets, public spaces and parks, with good natural surveillance, will all encourage more people to walk. For both pedestrians and cyclists, maintenance is important in ensuring that facilities are safe and remain useable in all weathers.

359. Traffic speed is a major factor in whether or not people feel safe to walk or cycle and lower speeds reduce the severity of casualties. There is evidence that where 20 mph zones have been introduced there can be an increase in walking and cycling. We will implement speed reduction measures where these are supported by local residents, prioritising: residential areas; areas around schools; areas adjacent to the local or strategic cycle network, where this will help to create a wider network of safer routes; and areas identified as having a high collision risk for vulnerable road users.

360. Where major roads border or pass through residential areas, the needs of through traffic clearly need to be accommodated but we will seek to mitigate the impact of that through traffic and ensure the safety of vulnerable road users, for example by providing safe crossings and segregated cycle lanes (where possible), as well as 'trixi' mirrors at key junctions to give HGV drivers greater visibility of cyclists, where appropriate and feasible. Our approach in individual locations will be considered through our Highways Strategy.

Key Evidence

- 49% of trips within Greater Manchester are of 2kms or less
- Around 40% of these short trips are made by car
- Commuting and business account for only 1 in 4 of all weekday trips- journeys are also made for purposes such as shopping, leisure and education
- 35% of primary school children are driven to school
- 31% of households in Greater Manchester do not have access to a car
- A pedestrian hit by a car at 20 mph has a 97% chance of survival. This falls to 80% at 30 mph and 50% at 35 mph
- Living Streets estimate that improving the walking environment makes people 25-100% more likely to walk

Environmental Quality

361. In addition to safety concerns, the pollution and noise from motorised traffic can impact on the quality of life in residential areas and deter people from walking and cycling. The Department of Environment, Food and Rural Affairs (Defra) has identified areas in all the major cities where noise is a problem, and although electric vehicles will reduce this problem in the medium term, we need to take opportunities to reduce noise through design (including the use of noise-reducing surfacing) or traffic management (smoothing traffic flow) where possible.

362. 'Green infrastructure' such as parks and roadside trees not only help to create much more pleasant places to live, but bring important environmental benefits through reducing temperatures, noise and pollution as well as absorbing run-off. 'Blue infrastructure' also contributes to our quality of life, and our canals and rivers can provide attractive, traffic-free routes for walking and cycling.

363. Most of our urban environments are already in existence, and improvements will need to be made over time as opportunities arise and as funding allows. However, new developments offer an opportunity to create environments where walking and cycling can become second nature for many people because the streets and public spaces have been designed with active travel in mind. Section 64 has described the principles that we believe should be followed for new development, and how we will work with developers to achieve this.

Improving Access

Access to local facilities

364. While for many people the daily commute is the journey they are most concerned about, the majority of journeys in Greater Manchester are not to work but for shopping, education, leisure, or to local services like healthcare. Everyone needs easy access to these facilities to meet their day to day needs.

365. Many of these needs are met within local town centres, which are also hubs of the public transport network. Travel Across the Wider City Region highlighted how transport can help the main centres to remain competitive by improving access to and around them, including for deliveries, while at the same time reducing the dominance of the car to provide a pleasant environment for visitors. The same principles apply to our smaller local centres and making them more attractive and easy for shoppers and visitors to get around on foot is vital. Our aim is to achieve centres that are walkable, with pedestrian-friendly spaces, which accommodate access by bike and by public transport but are still accessible by car and are viable for business.

366. Reduced traffic volumes and speeds can greatly add to the vitality of centres, enabling people to walk in a leisurely way, or stop at pavement cafes. Despite the fears often expressed by retailers, studies in London show that the spending power of pedestrians, cyclists and public transport users is at least as great as for car users and improvements in the quality of street design, including the reduction of 'clutter' can also increase both retail rents and residential prices. The benefits of traffic-free streets must be balanced with the need to maintain access for cars, buses and servicing. Many local centres are bisected by major roads, which create noise, pollution and severance as well as presenting a danger for cyclists and pedestrians, particularly children, disabled and older people. While the movement of traffic needs to be accommodated, greater emphasis must be given to the needs of 'the place',

prioritising pedestrians, cyclists and bus passengers through crossing facilities, improved links and signage from interchanges and car parks, and improved parking for cycles and motorcycles. Access is also needed for the servicing of shops and other businesses. This can add to congestion at peak times or in locations where there are no off-highway loading bays (as is often the case in older centres). We will promote the adoption of Delivery and Servicing Plans to mitigate these issues.

367. The school journey can have a significant impact on local traffic and transporting children to school by car also contributes to reduced levels of fitness and increasing obesity. For journeys to primary school, a switch to more walking or cycling would both reduce traffic in residential areas and improve the health of our young people. Journeys to secondary school are generally longer, but many could still be made on foot or by bike if safer routes and cycle parking were provided. To encourage more school pupils to walk or cycle to school we need to: work with the Health sector to promote active travel to schools, including the development of school travel plans; continue to provide 'Bikeability' training to primary school pupils, as funding allows; and work with secondary schools that are located close to local cycle networks to encourage cycling, including the provision of secure cycle parking.

368. Many secondary school journeys are made by public transport, particularly bus. Local authorities have a statutory obligation to provide free school transport for journeys over a certain length but in addition, fare-paying, dedicated school bus services are also provided to some schools by TfGM. In view of the rising cost of this provision, these journeys should be integrated as much as possible into the general local bus network, with shorter journeys made by cycling or walking where possible.

369. The location of services can affect people's ability to reach them without a car. The reorganisation of healthcare under the 'Healthier Together' programme will lead to more services being provided at the local level, rather than in hospitals, but this will be in a reduced number of 'super surgeries', rather than at the current GP surgeries. Good access is vital, as missed appointments can lead to poorer

health outcomes, and for the rising proportion of very elderly people, regular check-ups may prevent the need for a hospital stay.

370. For education, the recent growth in the under-fives population is feeding through into an increased demand for school places in some areas. In the past, falling school rolls resulted in school sites being re-developed, and there will now be a need to identify suitable replacements within easy reach of residential areas, either on foot/by bike, or with good public transport access.

Access to public transport

371. Access to public transport is vital to the quality of life for those who do not have access to a car. Various studies have shown that lack of transport can be a barrier to taking up work, while transport problems can lead to missed health appointments. At the same time, good access to public transport is also essential if we are to reduce car traffic in neighbourhoods.

372. Most people in Greater Manchester are within walking distance of public transport. However, in an ageing society, an increasing number of people may have difficulty in walking to a station or stop. The quality and safety of the route and the waiting environment also affect people's willingness to use the services on offer. Many local stations are therefore not used to their full potential. We need to make them more appealing as waiting environments, with a consistent standard of facilities and information provision, including signing from the highway and locations such as town centres. In addition, making them more effective as interchanges, through provision of cycle parking, bus links and, where appropriate, car parking will increase usage. However our stations are so much more than a gateway to the transport network and there is significant potential to create community hubs for the people of Greater Manchester. We will explore how stations, as community assets, can generate wealth and wellbeing, learning from best practice internationally where they have been developed to support local economic and social development.

373. The development of station travel plans can maximise access by sustainable modes and raise awareness of the station locally. The work of Community Rail Partnerships and 'Friends of Stations' groups is also important in this respect and greatly valued.

374. Park and ride facilities need to be carefully located, as they can lead to people driving further before they start their public transport journey. Small station car parks can, however, be important locally if on-street parking would cause a problem and can improve access for disabled people.

375. Our policies for the bus network are described in Part 2. Given financial constraints, we have to recognise that it will never be possible to provide all the services that people would like and will need to maximise the potential of local self-help and innovative solutions. Some parts of Greater Manchester have Community Transport schemes offering group transport in local communities where deprivation can limit access to transport. There are two broad types of operation: group mini-bus hire schemes aimed at charities, elderly or disabled groups, sports clubs etc. or; voluntary car schemes which use volunteers' cars to transport people to hospital etc. These schemes are usually part funded locally although are reliant on volunteer drivers and office staff and charitable contributions. In the future, the growth of smart technology will make it easier for groups of people to come together to provide their own transport through 'crowdsourcing'.

Inclusive Neighbourhoods

376. Truly connected neighbourhoods enable everyone to access work, local facilities and recreation and to interact with other people in a pleasant environment. Designing new infrastructure and services to improve accessibility for people with mobility problems will have the additional benefit of future-proofing the transport network to meet the needs of an ageing society. Our specific policies on improving accessibility are set out in Part 2, however we also need to make sure that other schemes do

not disadvantage people with mobility problems and that they make the most of opportunities to improve accessibility. TfGM already works with the Disability Design Reference Group to do this in relation to public transport infrastructure. Measures that need to be considered as part of transport schemes include the provision of tactile paving and raised bus stop kerbs, extended crossing times at signals, provision of seating (including informal seating opportunities such as low walls), toilets and dementia-friendly design such as clear signage and provision of distinctive landmarks to aid navigation. If 'shared space' schemes are introduced to give greater pedestrian priority in centres, these must be made safe for visually impaired people to navigate safely, by including or retaining tactile features.

377. People living in rural areas also experience specific transport problems. They generally have to travel further to reach key services and therefore may have less potential to walk or cycle. Public transport provision is limited due to the low demand, which means that these areas are more car-dependent. At the same time, their importance as locations for recreation or their position on strategic routes can lead to high traffic volumes on unsuitable roads. To improve access in rural areas we need to: improve interchange between rail and bus at rural stations; maintain Rights of Way and Bridleways as funding allows; support proposals for speed reduction, including 'quiet lanes' where this will provide safer walking and cycling links to local facilities such as schools and stations; and infill gaps in long distance walking and cycling routes that improve access to the countryside.

Interventions

378. Our policies for achieving better connected neighbourhoods will make it easier for people to travel by sustainable modes, particularly walking and cycling. However improvements in infrastructure and services need to be complemented by Travel Choices promotions to influence travel decisions at the local level. These need to focus on promoting active travel for short journeys, including journeys to school, encouraging the use of local stations, promoting sustainable travel in new developments and promoting the use of new transport infrastructure.

379. A summary of our priority interventions for Connected Neighbourhoods is shown below. A more detailed list is included in Part 4 of this document.

	by 2020	by 2025	by 2030	by 2040
N.1 Improved facilities at local stations		ONGOING	ONGOING	
N.2 More accessible 'public realm', including bus stops		ONGOING	ONGOING	
N.3 Better pedestrian and cycle links to stations and stops, as well as to local facilities		ONGOING	ONGOING	
N.4 Road safety measures where there is a high risk to vulnerable road users		ONGOING	ONGOING	
N.5 Speed reduction measures in prioritised locations		ONGOING	ONGOING	
N.6 Reduced noise levels in identified 'hotspot' areas		ONGOING	ONGOING	

Part 4
Strategy Delivery

Introduction

380. Realising our ambitions for 2040 will involve a range of partners. TfGM, the District Councils and the GMLEP will need to work together with the Department for Transport, Highways England, Network Rail, train and bus operators, as well as private developers, to deliver the interventions needed. This will be particularly important in ensuring that the transport network can support the growth identified through GMSF. In addition we will need to address the shortage in skilled workforce to deliver transport schemes, potentially through apprenticeship or graduate programmes.

381. We recognise that the policies and interventions contained in this document are at a high level. In some cases more detailed sub-strategies will be produced to develop more detailed guidance. Ongoing strategy development of this kind will be reflected in the Delivery Plan.

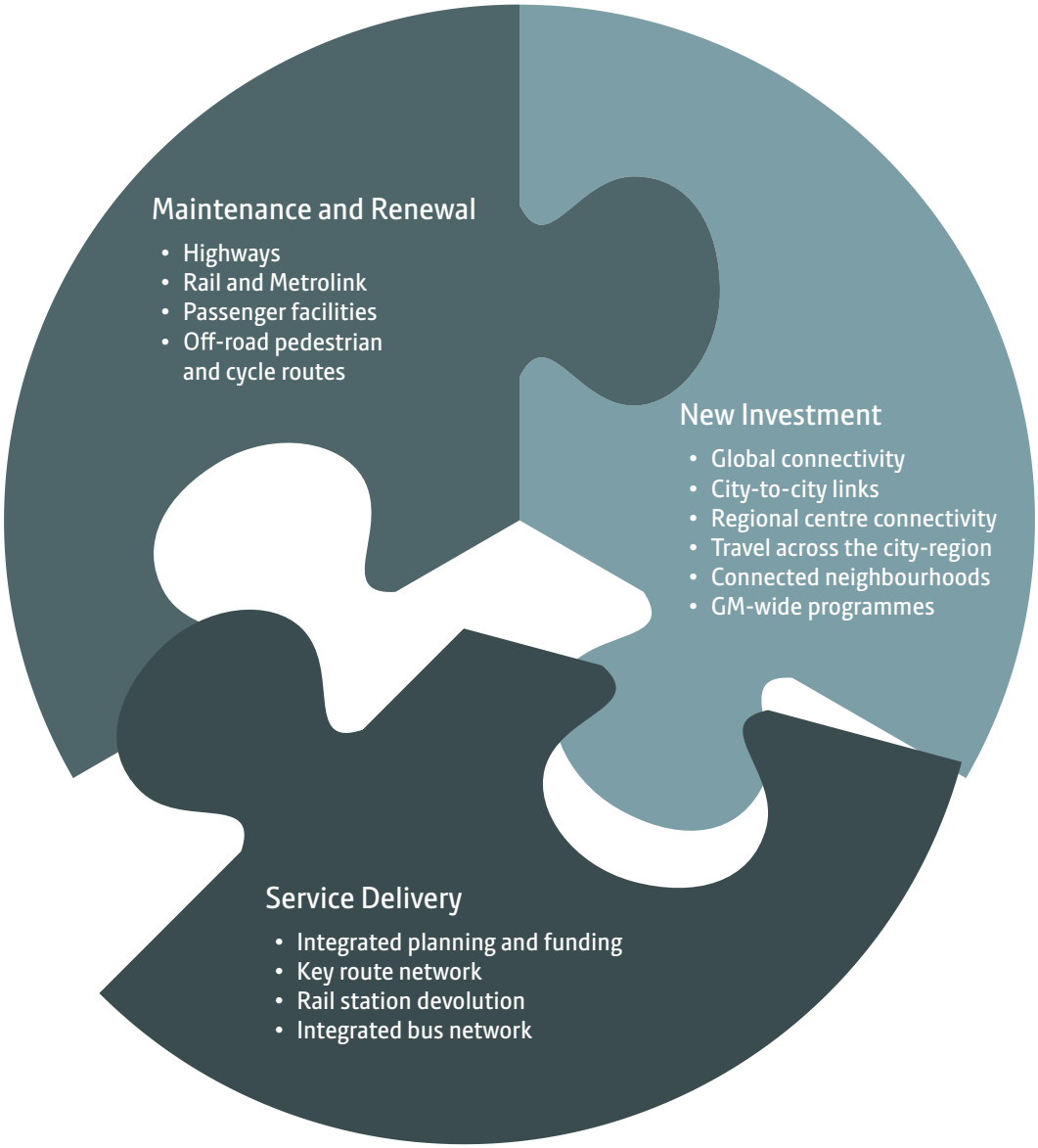
382. An effective transport system for Greater Manchester will require:

- the delivery of a strong pipeline of transport schemes, rigorously prioritised to support our local strategic objectives and delivered to the highest standard, building on our excellent capital programme track record;

- the establishment of best-in-class maintenance and renewal standards that ensure maintenance failings- from potholes to public transport breakdowns- are managed down and eradicated in the interests of a reliable network and productive economy; and

- world class customer service standards across our entire transport system, offering effective and attractive travel choices that support modern lifestyles and businesses throughout the week.

383. These three aspects will be equally critical to our success. However they all require long-term funding. Through the Greater Manchester Agreement, we have set out a clear strategy for a Multi-Year Funding Settlement for transport in Greater Manchester to achieve this outcome.



Prioritisation

384. Greater Manchester has a strong track record in prioritising investment in those transport initiatives that can most directly support the city region's wider strategic objectives. Through our experience in co-designing transport and economic strategies, we have a clear understanding of the role of effective and reliable transport networks in connecting businesses with their supply chains, their customers, and their labour markets; and in controlling costs, promoting competition and spreading opportunity.

385. This well-developed approach ensures that investment is prioritised in a manner that supports the economic performance of the city region first and foremost, whilst also ensuring that at a programme level, we are able to address the city region's wider environmental and well-being issues.

386. As the discussion of policy drivers, set out earlier in this document, demonstrates it will be critical for this clear and consistent approach to prioritisation to be maintained. This will enable Greater Manchester to achieve its objectives of raising prosperity for all, whilst establishing a sustainable growth path for the city region.

387. This prioritisation process will be overseen by GMCA and the GMLEP. All investment, service delivery and maintenance programmes will be challenged for their costs, deliverability, value for money, strategic fit (including environment and quality of life) and economic impact, to develop a prioritised programme that will offer a significant ongoing contribution to the Greater Manchester growth strategy.

New Investment

388. Significant new investment is either underway or planned. Current programmes include: the major expansion of the Metrolink network; a very significant bus priority programme; new transport interchanges; a number of highway schemes to tackle critical bottlenecks and relieve communities and town centres from through traffic; and extensive walking and cycling programmes. The increased use of mobile technology and the roll-out of broadband are transforming the way travellers search for and receive information as well as the management of our networks. At the same time, comprehensive travel choices programmes are encouraging higher levels of active and sustainable travel across Greater Manchester.

389. Massive investment in the rail network is in the pipeline, starting with the electrification of several key routes which is already underway. Following the Hendy review of Network Rail's investment programme the timescales for delivering the trans-Pennine upgrade have been put back and some other schemes do not yet have a firm delivery date. Whilst the scheduled updates and improvements will help to bring faster journey times and more capacity for Greater Manchester, we will need to work with the rail industry to make the case for all the previously announced schemes to be delivered as early as possible. The new Northern and Trans-Pennine franchises, announced in December 2015, will deliver longer trains, more frequent services and new carriages (allowing the withdrawal of Pacer units by 2020), as well as station improvements and new customer service standards. Along with Phase 2 of HS2, this investment will deliver significant economic benefits for the north.

390. Highways England is introducing Smart Motorway schemes on key sections of motorway to improve traffic flow, and such schemes are underway on M60 J8-18, and M62 J18-20 (which also includes hard shoulder running). The Chancellor's Autumn Statement, 2015, included a commitment to extend the Smart Motorway concept to other key stretches of motorway: M56 J6-8; M6 J16-19; M60 J24 (M67 Denton Interchange) – J27; M60 J1 (Stockport) -J4 (M56); M62 J20-25; M6 J21A (Croft Interchange)-26

(Wigan) and M62 J10-12. Combined with improvements to M6 J19 and the A556 improvement scheme under construction in Cheshire, this programme will provide a comprehensive improvement to Greater Manchester's southern access as well as creating a continuous Smart route across the Pennines and linking to the M6. Highways England is also committed to improvements to the Simister Island (M62/M60/M66) Interchange and to the delivery of a 'Trans Pennine Routes Package', incorporating a number of schemes including the Mottram Moor Link Road, A57 (T) - A57 link road and other improvements to the A628 between Greater Manchester and South Yorkshire. They have also committed, as part of the process of developing this package, to 'reach consensus on the scope and viability of further improvements and extensions to the Mottram Moor Link Road that would alleviate the issues faced in Tintwistle and Hollingworth'. We will work with Highways England to ensure that a comprehensive solution is found to the traffic problems of the whole Longdendale area, both in the short and long term.

391. Notwithstanding the levels of committed investment, this strategy document has demonstrated that further interventions will be needed over the period to 2040 if we are to achieve our vision of 'world class connections that support long-term, sustainable economic growth and access to opportunity for all'. We will work with partners to maximise the funding available to Greater Manchester and bring forward specific schemes in our five-year Delivery Plans (see section 29) accordingly.

Maintenance and Renewal

392. Maintenance and renewal are vital to the safe and efficient functioning of our highway network and we recognise that the significant ongoing investment in new infrastructure also increases the requirement for spending on maintenance. We need to:

- address a substantial maintenance backlog on the highway network;
- renew key structures such as bridges, retaining walls and culverts; and
- make all our networks more resilient to the effects of climate change.

To achieve this, it is even more essential that we both increase the level of funding for maintenance and increase the efficiency of maintenance operations.

393. This will require new funding arrangements, combining local and national funding sources to establish a consistent, long-term spending platform. In addition, it will require Greater Manchester to ensure that we manage the costs of maintenance and achieve economies of scale through collaborative working between the ten local authorities, TfGM and Highways England, at a city-region level. The highways reform measures in the Greater Manchester Devolution Agreement will support this approach. We will also continue to develop our delivery systems to ensure that Greater Manchester is established as a national centre of best practice for highways network maintenance and resilience.

394. Equally critical is a robust and resilient public transport network. We will establish a whole lifecycle planning and delivery process for the tram, train and bus networks that:

- ensures that timely and funded track/infrastructure renewal plans are built into our investment plans; and
- establishes a robust funding and delivery plan for vehicle renewal and fleet expansion across public transport modes to ensure that life-expired vehicles are replaced before they become a threat to the performance or attractiveness of our transport system.

Service Delivery

395. We are committed to transforming customer experience across the transport system. The transport governance and delivery reforms within this strategy and the Greater Manchester Devolution Agreement, alongside our investment programmes, will better enable us to target that investment towards our policy priorities and achieve greater efficiency in the use of resources. GMCA is continuing to increase the integration of planning and funding across economic development, public health, health provision, land use planning and transport.

396. The Greater Manchester Agreement in 2014 announced the first phase of significant devolution to Greater Manchester, including in-principle agreement on three areas of transport: highways, rail and bus. Collectively, supported by the long-term funding settlements, these reforms will allow GMCA to oversee the delivery of the integrated transport network at the heart of this strategy.

397. On the highway network, the creation of GMCA meant that TfGM was granted initial co-ordination functions to enable an efficient and co-ordinated approach in a number of areas, such as urban traffic control, cycling and road safety. Agreement has also been reached for TfGM to co-ordinate management of a Key Route Network of the strategically important local roads, which carry the critical mass of daily commuting and logistics movements. The aim of this is to: develop and promote one consistent highways investment pipeline; increase the reliability and consistency of service delivery and improve communication with, and information for, all road users. Building on this co-ordinated approach, a Memorandum of Understanding between TfGM and Highways England aims to ensure co-operation in terms of operational and tactical planning across the two networks as well as the development of future strategy. This reflects not only the importance of the SRN to our economy, but the need to integrate the planning and management of the whole road network, given that conditions on the SRN affect the local network and vice versa. We will need to work closely with both Highways England and Transport for the North to identify future investment needs across the SRN and ensure

that the opportunities for shared investment in infrastructure, to improve access to the SRN and between and across the northern City Regions, are fully realised.

398. On the rail network, we believe that the 97 stations in Greater Manchester represent a significant opportunity for customers, communities and the taxpayer. The lack of an integrated approach for station management and the absence of evidence-based decision making has led to poor investment choices and stalled the potential to create real step change in the quality of the experience at stations. The relatively short-term nature of rail franchises means that operators tend to focus on investments which provide a commercial return within these timescales rather than taking a longer term view of the needs of customers and communities served by that station. Work is now underway with rail partners to secure local management of rail stations, to be undertaken by TfGM on behalf of GMCA. We are also exerting greater influence over the rail network by working with neighbouring regions through Transport for the North and Rail North.

399. The Greater Manchester Agreement states that 'government stands ready to support legislation if Greater Manchester conclude, following consultation that they will take forward, that they wish to move to a franchised model of bus delivery'. The Bus Services Bill and other legislative proposals will give GMCA the opportunity to promote an integrated transport system. Through 2016, we will consider how the use of any new powers that are made available will better enable us to deliver our vision for bus, as the core integrating element of our future public transport system described in Part 2.

Policies and Interventions

Policies

400. Our policies are set out in Part 2 and summarised in the Table 2 below.

Table 2: Policies

No.	Policy	Section
Integrated		
01	We will work with partners to ensure that supporting modes of transport, including taxis, private hire, demand responsive services, car clubs and cycle hire, are available and fully integrated into the Greater Manchester transport network.	54
02	Working with partners, we will seek to deliver integrated pricing and payment systems, including integrated fares and smart ticketing for public transport, to support the development of 'Mobility as a Service'.	58
03	We will maintain a conurbation-wide programme of travel choices interventions, supported by journey planning tools and information, to encourage travel behaviour change and mode shift, in order to make the most efficient use of available capacity, particularly during peak periods.	62
04	TfGM will continue to work with planning authorities and developers to ensure the accessibility of new development by sustainable modes and to reduce the impact on the highway network.	69
Inclusive		
05	We will work with operators and Highway Authorities to ensure that all transport infrastructure, vehicles and information are as accessible as possible for all our customers, regardless of their age and mobility.	72
06	We will work with partners to better integrate the provision of Accessible Transport services, to increase availability and convenience for customers.	75
Healthy		
07	We will work with partners, including through Health Devolution, to deliver transport interventions that improve the health of Greater Manchester residents, including: increasing levels of physical activity; improving access to healthcare; and reducing social isolation.	80
Environmental Responsibility		
08	We will work with partners to reduce, as far as possible, the emissions from transport, particularly CO_2, NO_2, particulates and noise.	88
09	We will work with partners, including the Canals and Rivers Trust, to enhance green and blue infrastructure to provide a safe and attractive environment for walking and cycling.	92
10	We will aim to minimise the impact of transport on the built and natural environment, (including townscape, the historic environment, cultural heritage, landscape, habitats and biodiversity, geodiversity, water quality, pollution, flood	98

	risk and use of resources) and will seek to deliver environmental enhancements and biodiversity net gain where possible.	
Reliable		
11	We will seek to deliver measures, and put in place appropriate management systems, to improve the reliability of the transport network.	103
Well Maintained and Resilient		
12	We will work with partners to maintain the transport system to a good standard, adapt it and improve its resilience to the effects of climate change.	110
Safe and Secure		
13	Working through the Casualty Reduction Partnership, we will deliver measures to improve safety on the highway network, with a particular focus on the most vulnerable road users	111
14	We will work with operators and other partners to improve safety and personal security to tackle crime and anti-social behaviour on the transport network.	117
Highways		
15	We will establish a unified Greater Manchester approach to managing the Key Route Network (KRN) of roads and work with Highways England to co-ordinate this with the management of the Strategic Route Network (SRN).	124
16	We will work with Highways England and Transport for the North to identify, and seek funding for, joint future investment needs across the Strategic Route Network (SRN).	132
17	We will seek to manage the road network in accordance with its function in specific locations, balancing the needs of cars and other motorised traffic (including buses, goods vehicles and powered two-wheelers) with those of cyclists, pedestrians, residents, shoppers and local businesses.	142
18	Where feasible we will introduce appropriate bus priority measures on the highway network to improve reliability and will keep existing measures under review to ensure their effectiveness.	144
19	We will work to improve and maintain the condition of our road network drawing on best practice.	153
Walking and Cycling		
20	We will work with partners to improve pedestrian and cycle facilities across Greater Manchester, including development of a strategic walking and cycling network, wayfinding and cycle parking.	163
Public Transport		
21	Working with partners, we will seek to establish and promote one integrated Greater Manchester public transport network, making it easy and affordable for customers to plan, make and pay for their journeys using different modes and services.	166
22	We will seek to ensure a consistent standard of facilities at transport hubs, appropriate for their size and function, and will work with partners to improve access to them by all modes.	170

23	We will seek to make best use of any powers included in the Bus Services Bill, as well as our existing powers, to give effect to our vision for bus.	181
24	We will seek to ensure that accessible coach parking and set down/pick-up locations are available at key locations.	183
25	We will work with the Licensing Authorities and the taxi/private hire industry to develop more consistent standards for policy/regulation and operation across Greater Manchester.	186
26	We will seek to expand the coverage and capacity of our rapid transit network (Metrolink, rail and bus rapid transit) to deliver improved connectivity to employment and other opportunities within the City Region.	193
27	We will continue to work with DfT, Network Rail, train operators and with other local authorities across the North of England in order to secure our strategic priorities for rail.	206
28	We will continue to work with DfT, Network Rail and Rail North to secure greater local control of rail stations within Greater Manchester in order to improve the customer experience and facilitate a long term approach to infrastructure planning.	210
Goods and Servicing		
29	We will work, including through the Greater Manchester Logistics Forum, to improve journey times and reliability for deliveries, and to reduce the environmental impact of logistics, including the promotion of mode shift.	216

Interventions

401. The broad interventions we have identified to support the 2040 strategy are shown in Parts 2 and 3. In each case, there may be different ways of delivering that intervention. For example, congestion might be reduced by better traffic management, by encouraging a shift to other modes, or by providing additional highway capacity. Our preferred option to deliver a particular intervention may also be influenced by the legislative framework. For example, the Bus Services Bill will increase the options available to Greater Manchester to assist with the integration and harmonisation of standards across the network. The new legislative options will include the ability for mayoral combined authorities to implement bus franchising which would allow Greater Manchester to deliver a new uniformity of standards across the bus network.

402. For each intervention, we will need to identify which option best supports our strategy and shows the greatest benefits, in keeping with LTP Guidance. Further work will therefore be needed to refine these interventions and to identify and prioritise specific schemes, which will be shown in the Five-year Delivery Plans that will sit alongside this document. Before specific schemes can be included in Delivery Plans, we will need to ensure that they are deliverable and have funding in place.

403. A broad intervention (W.9) has been included to 'Provide transport packages to support delivery of new development areas, identified through GMSF'. As these development areas are determined we will identify the infrastructure needed to support them and will include specific schemes in the Delivery Plan, which will be updated on an annual basis.

404. Table 3 summarises the contribution that each of these interventions will make to the strategy, in terms of the themes of Economy, Quality of Life and the Environment, and to the Spatial Themes. It also includes specific schemes (denoted by '*'), where these are already committed.

Table 3: Interventions

Ref	Broad Intervention	Contribution to Strategy Element							
		Econ.	Qual. of Life	Environmen	Global	City to City	Reg. Centre	City Region	Neighb.
G.1	Improved public transport access between the Airport, HS2 and the Enterprise Zone	✓	✓	✓	✓			✓	
G.2	Better rail services to Manchester Airport from Crewe and the south	✓		✓	✓			✓	
G.3	An improved Airport Interchange as part of the Terminal 2 redevelopment	✓			✓	✓		✓	
G.4	Tackling motorway congestion around the Airport and the north western part of the M60	✓	✓	✓	✓	✓		✓	
G.5	A6 to Manchester Airport Relief Route (committed scheme)	✓	✓	✓	✓	✓		✓	
G.6	A Ship Canal wharf, rail and road links at Port Salford	✓		✓	✓	✓		✓	
G.7	HS2 and Northern Powerhouse Rail services direct to the Airport	✓	✓	✓	✓	✓			
G.8	Better public transport links to the Airport and Port Salford areas from across Greater Manchester, including better orbital connections		✓	✓	✓			✓	✓
G.9	Measures to reduce levels of car use by workers at Manchester Airport and Port Salford		✓	✓	✓			✓	
C.1	Improved strategic highways connections in Wigan District (A58 and A49 Link Road committed schemes)	✓				✓		✓	
C.2	Electrification of the Greater Manchester rail network, where appropriate, (including Northern Hub/Lancashire triangle and trans-Pennine committed schemes) and delivery of enhanced rolling stock capacity (committed scheme)	✓		✓		✓	✓	✓	
C.3	Measures to tackle congestion in the Longdendale area including the Mottram Moor and A57 Link Roads (committed) and measures to alleviate issues in Tintwistle and Hollingworth	✓	✓	✓		✓		✓	✓
C.4	Improved links to the M6, including J25 improvements	✓				✓		✓	

Ref	Broad Intervention	Contribution to Strategy Element							
		Econ.	Qual. of Life	Environmen	Global	City to City	Reg. Centre	City Region	Neighb.
C.5	Completion of Smart Motorway on M60, M62, M56 and M6(committed schemes)	✓	✓	✓		✓		✓	
C.6	Improvements to key 'national hub' rail stations for city to city links (Piccadilly, Victoria, Stockport and integration of Wigan stations)	✓		✓		✓		✓	
C.7	Further measures to tackle congestion on the motorway network identified by the NW Quadrant Study and other studies	✓	✓	✓		✓		✓	
C.8	A pan-northern multi-modal ticketing system	✓	✓	✓		✓			
C.9	Measures to improve the reliability of trans-Pennine highway links	✓	✓			✓		✓	
C.10	Faster rail journeys to Liverpool, Leeds and Sheffield	✓	✓	✓		✓			
C.11	Early delivery of HS2 and Northern Powerhouse rail to Manchester city centre, well connected to Greater Manchester rail network	✓	✓		✓	✓	✓	✓	
RC.1	Increased capacity and improved facilities at Salford Central station (committed scheme)	✓	✓	✓			✓	✓	
RC.2	Manchester and Salford Inner Relief Route improvements: Regent Road and Great Ancoats Street (committed schemes)	✓	✓	✓			✓	✓	
RC.3	Metrolink fleet expansion and infrastructure enhancements (committed schemes)	✓	✓	✓			✓	✓	✓
RC.4	Improved coach and taxi facilities.	✓					✓		
RC.5	Review of bus routing and interchange facilities within the Regional Centre.	✓	✓	✓			✓		
RC.6	Review of public transport access for the night-time and weekend economy	✓	✓	✓			✓		
RC.7	Re-development of Piccadilly station to integrate HS2, Northern Powerhouse Rail, local rail and Metrolink	✓	✓	✓		✓	✓	✓	

Ref	Broad Intervention	Contribution to Strategy Element							
		Econ.	Qual. of Life	Environmen	Global	City to City	Reg. Centre	City Region	Neighb.
RC.8	Increased capacity for rapid transit in Manchester City Centre, including exploring the feasibility of new tunnels under the City Centre	✓	✓	✓			✓	✓	✓
RC.9	Increased capacity at other key Regional Centre rail stations	✓	✓	✓			✓	✓	
RC.10	Investment in pedestrian and cycling connections into and across the Regional Centre, with City Centre core areas seeing greater pedestrian and cycle priority		✓	✓			✓		✓
RC.11	Better sustainable transport links between Manchester City Centre and the wider Regional Centre		✓	✓			✓		
RC.12	A comprehensive highways demand management strategy to reduce congestion on key corridors into and within the Regional Centre	✓	✓	✓			✓	✓	
RC.13	Measures to reduce the number of large goods vehicles at peak times.	✓		✓			✓	✓	✓
RC.14	Review opportunities for establishing a Clean Air Zone	✓	✓	✓			✓	✓	✓
W.1	South Heywood M62 J19 Link Road (committed scheme)	✓		✓			✓	✓	✓
W.2	Improve bus network in Bolton-Salford area (committed scheme)	✓	✓	✓				✓	✓
W.3	New/enhanced interchanges in Ashton, Bolton, Stockport and Wigan town centres (committed schemes)	✓	✓	✓				✓	✓
W.4	Improve accessibility and connectivity to and around Stockport town centre (committed scheme)	✓	✓	✓				✓	✓
W.5	A new Metrolink line to the Trafford Centre (committed scheme), and potentially on the AJ Bell stadium and then Port Salford	✓	✓	✓	✓			✓	
W.6	Studies into long-term transport challenges on southern approaches to Greater Manchester	✓	✓	✓		✓		✓	✓
W.7	Establish a Greater Manchester Active Travel network, particularly using 'green and blue' corridors		✓	✓				✓	✓

Ref	Broad Intervention	Contribution to Strategy Element							
		Econ.	Qual. of Life	Environmen	Global	City to City	Reg. Centre	City Region	Neighb.
W.8	Roll out the 'next generation' of rapid transit routes (tram-train and bus rapid transit), including orbital links, serving the Regional Centre, key centres and the Airport	✓	✓	✓	✓		✓	✓	✓
W.9	Provide transport packages to support delivery of new development areas, identified through GMSF	✓	✓	✓			✓	✓	✓
W.10	Establish long term programme for improvement of facilities at, and access to, transport hubs	✓	✓	✓				✓	✓
W.11	Improve maintenance and resilience of our key route network of highways	✓	✓	✓	✓	✓	✓	✓	✓
W.12	Improve the flow of traffic on key roads through measures to release bottlenecks and better manage demand at peak times	✓		✓				✓	✓
W.13	Faster rail journeys and increased capacity for local services		✓	✓				✓	✓
W.14	Improve sustainable transport to major employment and residential areas within and immediately outside Greater Manchester		✓	✓				✓	✓
W.15	Provide much better pedestrian and cycle links across town centres, including reducing severance by major roads	✓	✓	✓				✓	✓
W.16	Measures to reduce impact of goods vehicles in centres, with better loading/unloading facilities		✓	✓			✓	✓	✓
W.17	Improved road safety at collision blackspots		✓				✓	✓	✓
N.1	Improved facilities at local stations		✓	✓				✓	✓
N.2	More accessible 'public realm', including bus stops		✓		✓	✓	✓	✓	✓
N.3	Better pedestrian and cycle links to stations and stops, as well as to local facilities		✓	✓	✓	✓	✓	✓	✓
N.4	Road safety measures where there is a high risk to vulnerable road usrs		✓		✓	✓	✓	✓	✓

Ref	Broad Intervention	Contribution to Strategy Element							
		Econ.	Qual. of Life	Environmen	Global	City to City	Reg. Centre	City Region	Neighb.
N.5	Speed reduction measures in prioritised locations		✓	✓					✓
N.6	Reduced noise levels in identified 'hotspot' areas			✓			✓	✓	✓

Funding Mechanisms and New Ways of Working

Funding Mechanisms

405. The main source of funding for transport is from central government and in 2014 Greater Manchester was awarded funding from the Local Growth Fund (LGF) of £314 million for major schemes (costing more than £5 million) and £15.2 million for small schemes (costing less than £5 million) for the period 2015/16 to 2020/21. With this funding assured, an initial investment programme was developed, covering a number of major schemes and a programme of minor works for 2015/16 and 2016/17. This is set out in the Greater Manchester Capital Programme 2015/16-2020/21 (http://www.tfgm.com/ltp3/Pages/Capital-Programme.aspx). As part of the Greater Manchester Devolution Deal we have secured Government commitment to establishing a multi-year transport settlement for the medium-term that reflects the growth potential of the conurbation. This will enable us to plan ahead and use resources more effectively than is possible with short-term funding streams.

407. A further source of Government funding is via funding competitions targeted at specific policy objectives. In the past we have been successful in obtaining funding from a number of these, e.g. Local Sustainable Transport Fund, Cycle City Ambition Grant, Pinch Points, the Green Bus Fund and the Pothole Fund. We will continue to put forward strong investment cases for this type of funding, alongside additional future Local Growth Fund resources. The Referendum decision for the UK to leave the European Union will clearly impact on funding, given that Greater Manchester has previously benefitted from a number of European programmes. We will work with the Government to identify alternative means of funding for strategically significant projects.

408. In recognition of the contribution of transport to the wider Greater Manchester Strategy, particularly in terms of economic growth, urban regeneration and improved health, we have developed mechanisms to use local resources to lever in additional funding. The Greater Manchester Transport Fund (GMTF), which was established in 2009, demonstrated this by committing almost £800 million of local borrowing as part of a £1.5 billion fund targeted at schemes that will contribute to economic growth. This is funding the significant expansion of the Metrolink light rail network; a major bus priority programme; new town centre transport interchanges; additional park and ride facilities; and targeted highway network enhancements. This programme is scheduled to continue until 2019.

409. As part of the 2012 City Deal, GMCA agreed the principle of an Earn Back model with Government, which builds on the GMTF approach of increasing our self-sufficiency in delivering infrastructure investment. The Earn Back model uses a formula to provide a long-term revenue stream to support further long-term investment, subject to additional GVA being created as a result of our primary GMTF commitments. Funds have already been agreed through Earn Back for re-investment into the A6 to Manchester Airport Relief Road and the Trafford Park Metrolink extension.

410. Funding for specific projects may also be sought from partners where they meet a shared objective – for example the Health sector has contributed to the introduction of 20mph zones. Developer contributions will also be sought for access improvements or measures to mitigate the impact of traffic associated with new developments.

411. The scale of growth envisaged for Greater Manchester means that major new development sites will be brought forward and we will work with Government to develop funding packages to bring forward the key infrastructure required. There is a need to establish a new Greater Manchester Transport Fund in order to deliver our 2040 ambitions and to meet these future challenges. Private sector contributions will also be required, e.g. through the pooling of contributions from Community Infrastructure Levy or other planning obligations.

New Ways of Working

412. The Greater Manchester authorities have a long history of joint working, but the creation of GMCA in 2011 has provided a framework within which all ten local authorities can work together at the strategic level to achieve shared objectives, as set out in the Greater Manchester Strategy. This is leading to changes in the way we work. Increasingly authorities are working together to provide shared services, where this brings efficiency savings, and some functions are being delivered at the Greater Manchester level to ensure both efficiency and consistent standards. This approach also ensures that major investment is targeted where it will bring the greatest benefit, and new scheme proposals are rigorously assessed to ensure that they are helping to achieve shared objectives and providing good value for money.

413. From 2017, it is expected that Greater Manchester will have fully established its new governance model through the election of a city-region mayor, who will chair the GMCA. This governance model will oversee the further development of this Transport Strategy, alongside a statutory Spatial Plan for the city-region, and the wider public sector reform programme.

Measuring Performance

414. We need to know whether our policies and measures are having the desired effect and are helping to deliver our strategy.

415. In Part 1 we identified a number of challenges that we face in achieving our vision and for each of these challenges there is a particular outcome that we would like to see. We will measure the extent to which we are achieving these outcomes through a number of 'key performance indicators'. These challenges, outcomes and indicators are summarised in Table 4 overleaf. More detail about these indicators, including the current values against which we will measure performance, can be found in the Delivery Plan.

416. The information from these indicators will allow adjustments to be made to the strategy if it is not working as well as we hoped. Our progress in relation to each of these indicators will be reported in each annual update of our Delivery Plan.

Table 4: Performance Indicators

Vision	Challenge (from Part 1)	Desired Outcome	KPI
Supporting sustainable economic growth	Growth could result in increased congestion	Reduced congestion	Journey speed by mode
	Growing economy requires access to wide pool of labour	Better access to skills & markets	Sustainable transport catchment population of the Regional Centre & other major employment locations
	Businesses require reliable journey times for deliveries and workers	More reliable journey times	Journey reliability by mode
	Networks need to cope with adverse weather, ageing infrastructure and increased demand	Resilient and well maintained network	Satisfaction with road maintenance
	Developing a transport system that compares well to that of leading European cities	People see GM as a good place to visit & invest	Perceptions of GM as a place to live, visit, do business
Improving quality of life	Good access is needed to jobs and training so that transport is not a barrier to opportunity.	Better access to jobs/training	Sustainable transport catchment population for key locations - employment / colleges
	Centralisation of services and changes in retailing can make it harder for some people to access education, healthcare, shopping etc	Better access to services	Sustainable transport catchment population for key locations -town centres/hospitals
	Encouraging people to improve their health through greater levels of activity	More people travelling actively	No. of walking & cycling trips

Vision	Challenge (from Part 1)	Desired Outcome	KPI
	Reducing the number of serious casualties on the roads and the amount of crime and anti-social behaviour on the transport network.	Improved safety and personal security	KSIs split by vulnerable groups, Perception of personal security by mode
Protecting the environment	Increasing the use of sustainable transport to reduce the negative impacts of car use.	More people travelling by non- car modes	Mode split Traffic growth levels
	Economic and population growth will increase the demand for travel, and increase harmful emissions	Reduced emissions of CO_2, NO_2	CO_2 emissions, NO_2 emissions
	Making the best use of existing infrastructure to help reduce environmental impacts.	Accessible locations prioritised for new development	% of new homes having >level 4 accessibility to the public transport network[8]
	Protecting the natural and built environment from the impacts of transport.	Infrastructure designed and maintained to minimise environmental impact	N/A – assurance is via approved Project Management Procedures

8 Based on Greater Manchester Accessibility Levels (GMAL) in the AM Peak period. See http://www.gmtu.gov.uk/gmbusroute/GMAL%20Calculation%20Guide.pdf for further information.

Final Conclusions and Next Steps

417. This strategy document sets out how investment in new transport infrastructure, delivery of services and maintenance of existing assets will be focussed to support growth in the widest sense, recognising that improving access to jobs and training and improving the health of the population are essential aspects of improving productivity, while improving the quality of many of our urban areas will be a pre-requisite for attracting investment. The innovative focus of the strategy on the requirements of different types of journey, rather than the needs of different modes, means that we have been able to take an holistic view of the investment needed: to improve connectivity to global markets; transform journey times to other major cities; capitalise on the potential of a rapidly growing Regional Centre, create better linkage between jobs and homes across the wider city-region and provide 'first and last mile' connections within neighbourhoods that will make sustainable travel an attractive option.

418. The Delivery Plan, which sits alongside this document, provides the detail of the schemes to be delivered in the period 2016/17-2021/22. The initial five-year period will largely see the delivery of committed schemes funded through the Local Growth Fund. As additional funding is secured in the future, subsequent updates of the Delivery Plan will identify the schemes that provide the detail for the interventions identified in this Strategy document.

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