

GREATER MANCHESTER FREIGHT AND LOGISTICS TRANSPORT STRATEGY



Contents

Chapter	Pages
1. Introduction	3
Background	3
The vision	4
Wider strategic objectives	4
2. Context	5
Our freight transport network	6
The origins and destinations of our freight	8
Our logistics sites	9
Our commodity types	10
Employment and GVA	11
Urban freight	11
Safety	12
Air quality	13
The changing nature of freight and logistics	13
New technologies affecting freight	15
Embracing opportunities and rising to the challenges	16
Issues identified	17
3. The future of freight and logistics	20
Overview of change over the next 10 years	20
The vision for freight and logistics	21
Key objectives	21
Our approach	22
4. Proposals and interventions	23
Strategy and stakeholder engagement	23
Safety and regulation	24
Operational activity	25
Infrastructure	26
Planning and research	28
Evaluating success	29
Tables	
Table 2-1	Origins and destinations of freight across Greater Manchester
Table 2-2	Euro engine emissions standards
Figures	
Figure 2-1	Areas of highways congestion in Greater Manchester
Figure 2-2	Greater Manchester rail freight network and terminals
Figure 2-3	Density of freight goods movements
Figure 2-4	Warehouses over 9,000 square metres in Greater Manchester
Figure 2-5	Logistics business employment
Figure 2-6	Manchester city centre cordon LGV and OGV trends
Figure 2-7	UK HGV and LGV registrations by year
Figure 2-8	Stakeholders

1. Introduction

Background

Greater Manchester (GM) is at the heart of the North of England and is the origin and destination of significant levels of freight distribution, delivery and servicing activity as well as acting as a through-route for logistics activities across the region. Freight passes through GM east-west across the Pennines and north-south via the M6. There are currently some 134 key logistics sites in GM, consisting of 86 industrial estates and business parks, 41 major retail centres or developments and seven waste disposal sites.

Logistics is essential to the functioning of the GM economy and touches the lives of all its residents, businesses, workers and visitors, either through the availability of goods and services or through the impact of goods vehicles on the transport network or the wider environment. The economy depends on the efficient movement of freight, supplying goods for manufacturing and stock for retailers. In GM the freight and logistics industry accounts for 3.9% of UK logistics firms, generating 7% of the total GM economy and provides employment to 60,400 people.

It should be recognised that the growth of the logistics industry in the region will align with the overall growth in population, employment, trade and distribution, and that the impacts of such must be considered alongside growth in travel demand and therefore increased pressure on the transport network as well as increasing productivity and changing consumer trends.

The purpose of this strategy is to consider current GM freight distribution, delivery, servicing and logistics activities and set out the ambitions of the region, balancing the often conflicting needs of freight and passenger demand for our transport network and systems. The supporting intervention plan will offer a way to achieve our objectives through a package of initiatives which carefully balances risk and reward for the region and the industries operating within it. The strategy will consider the activities of all modes of freight transport and, in relation to road freight transport, it will cover both Heavy Goods Vehicles (HGVs) (over 3.5 tonnes gross vehicle weight) and Light Goods Vehicles (LGVs). The latter are often used not only for freight activity (i.e. transporting goods between an origin and a destination) but also for carrying out servicing activities and as a means of personal transport. Due to the fast-changing pace of this industry and the relative lack of information regarding long-term trends, the strategy will focus on achievements up to 2025.

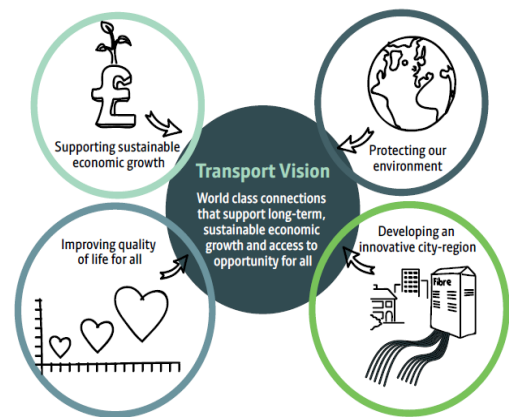
The logistics objectives and supporting package of measures are designed as a balanced approach in line with the vision and key themes of the overall GM Transport Strategy 2040. There are a large number of individual interventions and packages of measures related to deliveries, servicing and logistics which could be adopted for implementation within Greater Manchester, but these need to be assessed against and adapted to the specific problems, opportunities and aspirations of the conurbation.

The development of the GM Freight & Logistics (F&L) Strategy is a key priority to guide and focus the activities of Transport for Greater Manchester (TfGM) as well as local authority districts, partner organisations and private sector operators. Equally, a clear strategy will assist the private sector to invest in the appropriate assets and develop operations that reduce externalities.

The Vision

The Greater Manchester Transport Strategy 2040 identifies TfGM's view of what a successful transport system might look like in 2040 to support Greater Manchester's wider economic, social and environmental ambitions. The four key elements of the vision - sustainable economic growth, quality of life, environment and developing an innovative city region – will provide a focus for transport investment up to 2040 and beyond.

Whilst the vision focuses on opportunities for all, the efficient movement of goods is critical to meet the aspirations, given that passengers and goods share the same transport networks and infrastructure.



The following outcomes are also identified in the 2040 Vision:

To support sustainable economic growth we need:

- less congested roads and public transport;
- better access to skills and markets;
- more reliable journey times;
- a resilient and well-maintained network; and
- a transport system fit for a major European city, which is viewed as a great place to visit and invest.

To improve the quality of life for our residents we need:

- better access to jobs and training, and to healthcare and other essential services;
- a transport network that makes it easier to stay healthy through regular walking and cycling; and
- improved road safety and reduced crime; and
- local environments that are not dominated by traffic, noise and pollution.

To help protect our environment, we need:

- more people to travel by public transport, on foot and by bike;
- a reduction in harmful emissions from vehicles;
- to make best use of our existing transport infrastructure; and
- a reduction in the damage that transport can do to natural environments.

To develop Greater Manchester as an innovative city region we need to support investment in transport to:

- enhance the capacity, efficiency, resilience and safety of our transport networks;
- improve customer experience through easy to use, integrated payment systems and real-time information;
- understand better the needs of our travelling customers through 'smarter' data collection, trend analysis and forecasts;
- reduce environmental impacts through low-emission vehicle technology; and
- reduce the need to travel and transport goods through advances in digital communications

Wider strategy objectives

There are a range of visionary and regulatory policy documents across Greater Manchester which will guide our aspirations as we progress towards 2040.

The 2013 Greater Manchester Strategy sets out a compelling vision for the city region, supported by a set of principles to promote growth and to reform public services. This strategy, supported by subsequent Growth and Reform plans, paved the way for the ground-breaking devolution agreement with Government in 2014. The agreement will ensure that Greater Manchester has the necessary powers and resources to maintain long-term investment in transport infrastructure and services and to deliver transformational and innovative improvements.

Devolved and Local Government has a key role in safeguarding sites (and rail alignments) which have the potential to support sustainable freight distribution. The development of the GM Transport Strategy 2040 is closely aligned with work currently under way to produce a **Greater Manchester Spatial Framework** (GMSF). The GMSF will provide an important strategic framework designed to underpin the successful planning of the GM sub-region and the districts within it. It will provide the basis for an informed and integrated approach to spatial planning across GM, through a clear understanding of the role of places and the relationships and connections between them. This framework will ensure that local planning authorities have met their statutory duty to cooperate and have positively prepared local plans that meet the need for housing and employment land within GM. The GMSF has a key role in defining attractive logistics sites that can compete with other regions in the North West for regional distribution, and with activity in the current distribution and logistics 'Golden Triangle' in the Midlands for national distribution.

The Northern Powerhouse is a Government proposal to boost economic growth in the North of England. The Northern Powerhouse is made up of the North of England, including the city regions of Liverpool, Manchester, Leeds, Sheffield, Hull and the North East. Currently, the Northern Powerhouse region, accounts for 16.7% of the UK population and 13.3% of the UK's Gross Value Added (Centre for Cities).

The Northern Powerhouse: One Agenda, One Economy, One North (March 2015) document outlined a long-term transport strategy and investment programme. Manchester, being the economic and transport hub for the Northern Powerhouse, has an influence on the development of this agenda. The Northern Transport Strategy recognises the importance of freight to the Northern economy and identifies the requirement for a Northern Freight Strategy. This strategy aims to set the policy agenda and investment programme to support the sustainable development of this important sector of the economy.

Major city regions will continue to act as key drivers of the national and global economy, acting as critical centres of knowledge exchange and commerce. GM's position at the heart of a Northern Powerhouse economy is critical to its future success. Improved city-to-city connectivity will support business-to-business markets and access to wider and deeper labour markets. Better connectivity within GM will enable fast and affordable access to employment opportunities and efficient transfer of goods. Given the importance of the road and rail networks to the freight and logistics industry, this strategy will be aligned with and will support the delivery of the emerging TfGM highways and rail strategies.

GM has both a **Climate Change Strategy** (2012), aimed at tackling carbon emissions, and a **Low-Emissions Strategy**, aimed at reducing all major sources of emissions. It is recognised however that more can be done, and freight and logistics is a key area that can be targeted to assist in meeting the aims and objectives set out within these documents.

2. Context

The movement of freight is vital to our economy, and logistics is an essential enabler for many sectors. The goods that we produce and consume reach their destinations efficiently thanks to an effective logistics system.

Without an efficient freight transport network, the UK will be exposed, relative to our global competition, to increasing commodity, energy and consumer prices, reduced availability of goods and more expensive services. The UK ranks 10th in the World Bank global LPI logistics ratings and 11th in the Organisation for Economic Cooperation and Development (OECD) productivity rankings of the 30 OECD countries. Any improvement in efficiency offers a significant opportunity for economic growth, as an increase in UK productivity of 1% equates to £11 billion in additional GDP.

Our freight transport network

Efficient logistics requires that the principal transport arteries, be that strategic roads, key rail freight routes or ports and airports, all work effectively, whatever the weather.

Road

The majority of freight in GM is carried by road. Goods vehicles make up almost 24% of traffic on motorways, 13% on A roads and 11% on B roads. Regional Distribution Centres (RDCs) and National Distribution Centres (NDCs) have traditionally been located close to motorway junctions in order to allow cost-effective inbound and outbound distribution by road to the surrounding region and beyond. The quality of the strategic highway network in GM is therefore an important element of the offer that the conurbation makes to potential occupiers.

GM is fortunate in having a well-developed strategic road network, consisting of the M6 to the Midlands and Scotland, the M62 trans-Pennine route between Liverpool and Leeds, the M60 Manchester orbital motorway and the M56 route to Cheshire and North Wales.

However, there is a significant network stress on the M60 during the morning and evening peaks, in particular the northern section from Junctions 9-18 and the southern section through Stockport. The level of congestion is one of the worst in the UK. A number of routes across GM suffer from high levels of congestion with all the key radial routes into Manchester subject to a difference of at least 90 seconds per km in journey time between overnight and peak periods.

Figure 2-1 Areas of highway congestion across GM



Highways England (HE) is seeking to address congestion on the strategic network around GM by planning to:

- Upgrade the A556 Knutsford to Bowdon single carriageway to dual carriageway status to provide additional capacity on the main route between Manchester and the M6 southbound.
- Develop managed motorway schemes on the M60 (Junctions 8-12, south west quadrant) and on the M62 (Junctions 18-20). These schemes will involve variable speed limits and hard shoulder running during peak hours.

Rail

Currently around 40 freight trains enter GM daily. The GM rail network is well utilised by freight traffic, both as a through route and also as an origin/destination for a number of flows which utilise the freight terminals in the area. GM is located next to and directly linked to the West Coast Main Line (WCML), the most important freight spine route in Great Britain.

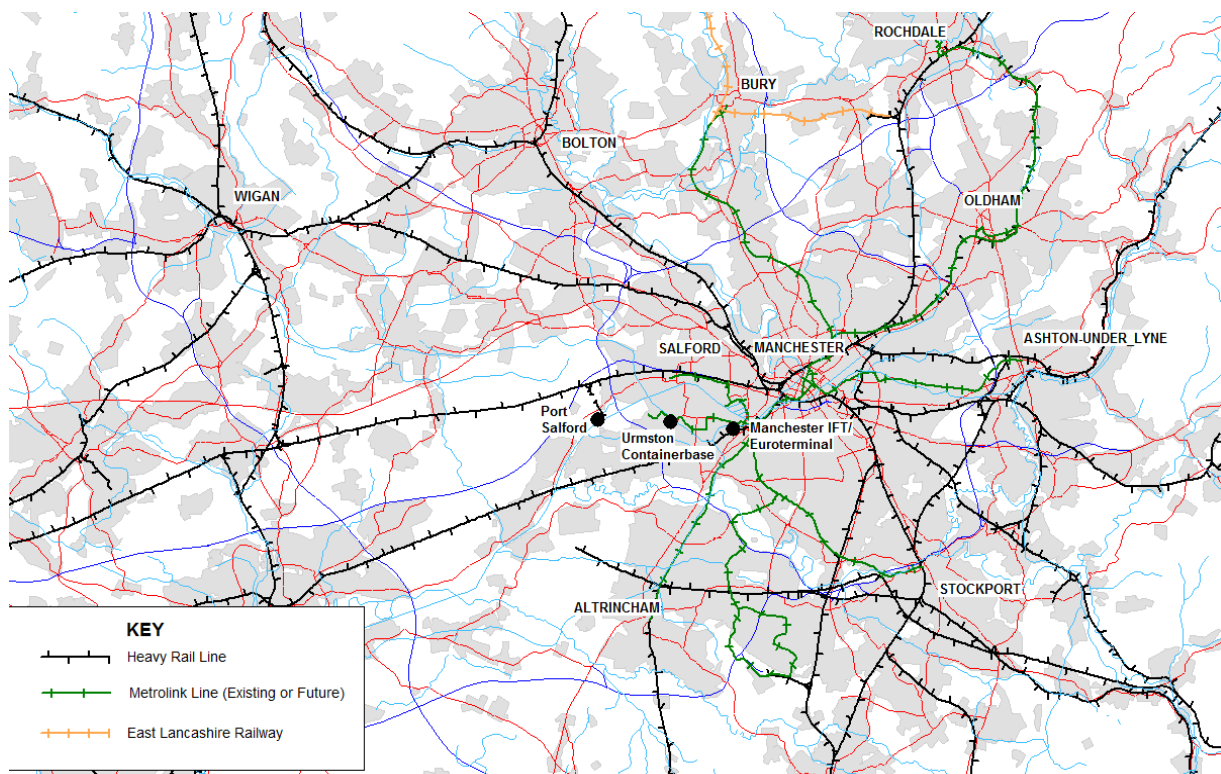
For the most part passenger and freight rail services share the twin-track railway network. The inflexibility caused by this, along with the combination of operating high-speed, long-distance/inter-urban services and local stopping trains, can result in performance problems when freight services are integrated into this mix of operations. There are also a few lightly-used freight-only lines in GM.

There are intermodal rail freight services from Felixstowe, Southampton and Tilbury to a terminal in GM at Trafford Park. These trains are currently pathed alongside passenger trains via platforms 13 and 14 at Manchester Piccadilly station, a known capacity pinch-point. There are other GM rail freight terminals at the Urmston container base operated by Freightliner and the Manchester International Freight Terminal (Euroterminal) operated by DB Cargo. Both are intermodal freight facilities.

The future tri-modal freight interchange at Port Salford, currently under construction, will be connected to the Chat Moss line and is likely to generate further freight movements by rail. It is anticipated that the number of freight trains by 2030 will increase by 50% to 60 per day.

The planned Northern Hub scheme should provide additional capacity for both freight and passenger trains in this area of the network, although the planned timetable for additional passenger services on the Chat Moss route could restrict capacity for rail freight services to and from Port Salford, while leaving excess capacity for freight to Trafford Park. The terminals in Trafford Park are most unlikely to absorb the two paths per hour (effectively 30 trains arriving per day) which the Northern Hub allows for. They have a current capacity of around 12 trains per day.

Figure 2-2 GM rail freight network and terminals



The HS2 line should free additional capacity for rail freight services on the WCML following the completion of Phase 2 in 2033. However, between 2026 (when Phase 1 is completed) and 2033, high-speed trains will continue north from Birmingham on the conventional line and will reduce the capacity available for rail freight services to and from strategic rail freight interchanges (SRFIs) in GM.

Water

GM benefits from the availability of the Manchester Ship Canal. The Port of Liverpool and Manchester Ship Canal handled more than 40 million tonnes of freight per annum and 15,000 ship movements in 2011, making the River Mersey Britain's third busiest estuary. This is likely to increase with post-Panamax changes to shipping patterns and the operation of deep water container terminal Liverpool2.

In addition, GM is connected to a global container shipping network via its proximity to the Port of Liverpool (about 60km from the centre of Manchester), with its existing deep sea services to North America, its feeder services to ports on the European continental mainland and its short sea services to Iberia. The port currently has, and has consistently maintained over the last 10 years, an 8% share of the UK container market. Potential occupiers of logistics sites in GM therefore have low-cost access to a regional deep sea container port, as well as access to Felixstowe, Southampton and Tilbury via Trafford Park and intermodal rail freight services.

The Port of Liverpool has no direct deep sea container services to the Far East. The mean capacity of vessels in this trade is at least double the capacity of the largest that can access the port. There are, however, six feeder services per week to deep sea transshipment ports, which have connections to the Far East. Their existence and growth demonstrates that they already offer savings to lines and shippers as compared with the same deep sea ships discharging in the South East and using rail to North West terminals.

GM logistics sites also enjoy easy access by road to Irish Sea ferry services via Liverpool, Heysham and Holyhead, to both Dublin and to Northern Ireland. This means that warehouses in GM can act as NDCs for Ireland, taking advantage of the range of overnight ferry services to Belfast, Warrenpoint and Dublin to make next day deliveries to retail outlets in Ireland.

Air

Air freight is a highly specialised niche sector of the logistics industry, which handles relatively low volumes of high-value freight, including time-sensitive documents and parcels. Manchester Airport adds to GM's overall offer in the logistics market by providing air freight services to niche markets. The airport is the UK's largest international passenger airport outside the London area and therefore offers significant belly hold capacity direct to key locations worldwide, such as Dubai, a major global freight hub.

The volumes of freight transported by air are low compared to those transported by sea and maritime transport is gaining market share at the expense of air freight in perishables' trades and lower value consumer goods.

The origins and destinations of our freight

The MDS Transmodal (MDST) GB Freight Model (2012) shows that 50 million tonnes of freight originate in GM, and that GM is the destination for 58.4 million tonnes of freight. GM is predominantly a net 'importing' region due to its high population and concentrations of retail and office-related employment which act as strong consumers of goods rather than generating outbound movements.

Figure 2-3 is a map produced for the Freight in the City Regions study for the Passenger Transport Executive Group (pteg) in 2013 and shows the destinations of freight in terms of freight tonnes delivered in each of the GM postcode districts and in relation to strategic road and rail links.

Table 2-1 **Origins and destinations of freight in GM**

Million tonnes lifted

District	ORIGIN			DESTINATION		
	Road	Rail	Total	Road	Rail	Total
Bolton	4.36	0.01	4.37	4.69	0.00	4.69
Bury	2.51	-	2.51	3.15	-	3.15
Manchester	9.11	0.26	9.37	14.45	0.28	14.73
Oldham	2.69	0.00	2.69	2.54	0.00	2.54
Rochdale	6.14	-	6.14	6.30	-	6.30
Salford	5.59	0.06	5.65	5.76	0.66	6.42
Stockport	2.83	0.11	2.93	2.71	0.22	2.93
Tameside	1.68	0.02	1.70	3.20	0.13	3.33
Trafford	7.00	1.49	8.49	7.92	1.37	9.29
Wigan	6.12	0.03	6.15	5.00	0.01	5.01
Total	48.02	1.98	49.99	55.72	2.67	58.39

Source: MDST GB Freight Model

The volumes of freight that have an origin or destination in Greater Manchester are predominantly domestic freight, with 94% of outbound freight lifted and 90% of inbound freight being to and from the rest of the UK.

The MDST GB Freight Model (2012) identifies that the majority of the freight volumes move within the North West, which highlights the importance of movements between regional development centres and retail stores, or from storage to manufacturing sites. There are also significant volumes of traffic to and from neighbouring regions such as Yorkshire and the Humber and the East and West Midlands. The data used however does capture individual door-to-door transport movements, rather than end-to-end supply chains.

Figure 2-3 Density of freight goods movements



Our logistics sites

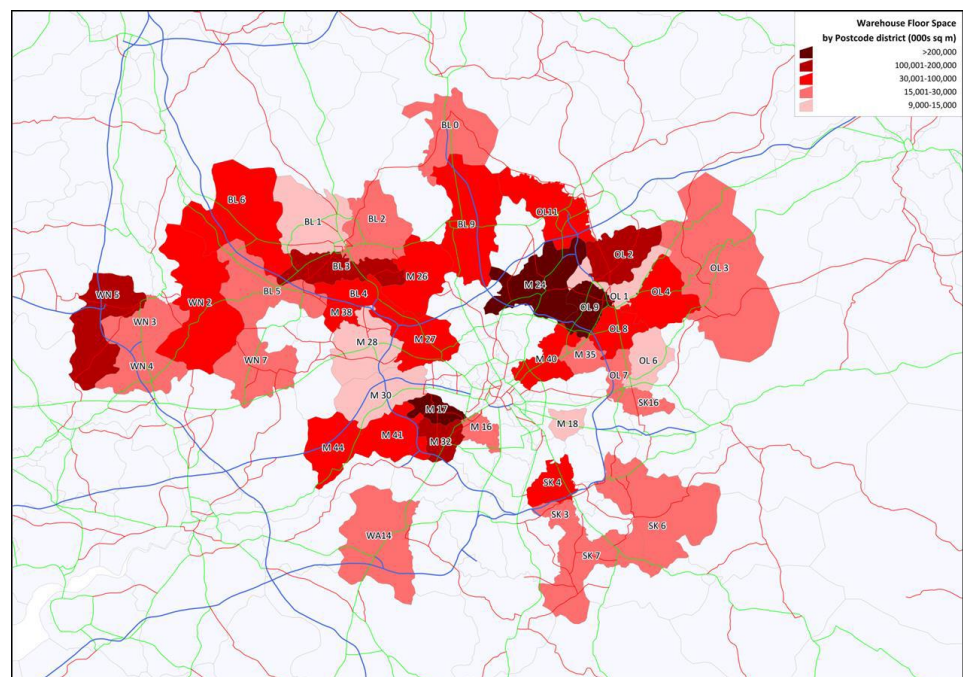
The space for logistics is driven by the need to distribute goods from a variety of locations to stores and other premises at the lowest possible cost, and is therefore heavily dependent on inbound and outbound transport costs.

There are 6.47 million square metres of large warehouse space in the North West of England. GM houses approximately 38% of this, with 132 warehouses with an average size of 18,677 square metres. The distribution of this logistics space is shown in Figure 2-4, which identifies the greatest concentration of this capacity is in Trafford Park, Oldham and Middleton areas, and also close to the M6 near Wigan.

Rental costs for high quality, modern warehouses in GM are significantly lower than in London and the South East. It is estimated that the rental cost per square metre is about 15% lower in GM than in the logistics 'Golden Triangle' and 34% lower than in the South East. However, sites in South Yorkshire offer still lower rental costs per annum.

GM's population of 2.68 million offers a large market for retailers and also offers a local supply of labour. Basic labour costs (excluding overtime) in GM for distribution centre workers are in the region of £8.50 per hour, which is significantly lower than in London/South East (£10.00

Figure 2-4 Warehouses over 9,000 square metres in GM



per hour). This makes GM, along with other locations in the North West, a relatively attractive location for NDCs compared to the 'Golden Triangle' which is the 'traditional' area for NDCs to be located.

Additional logistics space is already being made available through the planning system, with three key developments:

- The Logistics North development at Cutacre will provide space for up to 400,000 square metres of modern warehousing on a 100 hectare site, with direct access to the M61 at Junction 4. The site, which will be developed by Harworth Estates, has recently been given planning permission by Bolton Council but is not rail-linked.
- The airport is developing its Global Freight Hub at Manchester Airport City, which will provide additional logistics space with direct access to the regional motorway network for specialist air freight forwarders and express/courier operators handling urgent or perishable cargo. In addition, the potential for extending the Airport City South Enterprise Zone for high-value freight logistics capacity should be reviewed and further assessed.
- The Port Salford development at the Barton Strategic Site will provide about 150,000 square metres of logistics space in its first phase (which has planning permission) and will have a connection via an upgraded A57 to the M60, a rail link with an on-site rail terminal and a location adjacent to the Manchester Ship Canal. The site will therefore provide occupiers with access to low-cost rail and waterborne freight services, as well as access to the GM motorway network. A second phase is being planned to extend the site to a total, including Phase 1, of 500,000 square metres.

Apart from these three sites, there are also ten other strategic logistics sites in Greater Manchester that are at various stages of development.

Our commodity types

There are a wide range of commodities moved around the GM region. Trafford Park is a key distributor of maritime containers, but also exports household waste and imports construction materials. The road networks distribute a range of goods from distribution centres including manufactured goods, perishable and non-perishable foodstuffs and beverages, clothing and glassware and ceramics. There are also significant volumes of 'reverse logistics' relating to recycling including paper matter and packaging. These types of commodities reflect the profile of GM as a consuming area, while retaining some manufacturing activity.

In 2012 total air volumes handled at all UK airports were some 2.3 million tonnes, while the Port of Liverpool alone handled 32.9 million tonnes of cargo, including 4.7 million tonnes of containerised cargo and 6.3 million tonnes of roll-on roll-off freight to and from Ireland.

The shipping industry is increasingly offering technological solutions that allows the mode to shift traffic from air freight services, such as specialist controlled-atmosphere containers which slow down the ripening process and extend the shelf-life of perishable products. Previously perishable food products such as capsicum, fresh fish, lettuce, pineapples and tomatoes had to be transported by air on longer inter-continental trade routes to provide an adequate shelf-life for retailers.

Compared to the 11 million tonnes of unitised freight that was transported via the Port of Liverpool in 2012, Manchester Airport handled 98,000 tonnes of air freight. About 80% of Manchester Airport's air freight is carried as belly hold cargo on passenger services. The airport's long-haul connections to North America, the Far East and the Middle East (including the major air freight hub at Dubai) offer rapid access to these markets for shippers of very high value cargo. Air freight services are used by the textiles and garments industry, some of which are located in GM.

Manchester Airport provides an opportunity for very high-value manufacturing industries located in GM to import components and export finished products by air; it also provides facilities for express/courier operators for their high value and time sensitive shipments of documents and parcels. Future opportunities are more likely to be focused on belly hold cargo rather than a facility at the airport for integrator operations.

Employment and GVA

There are almost 34,000 logistics employees in GM, plus an additional 56,000 employees working in wholesale. 31% of the core logistics employees are attributable to the road freight sub-sector.

2.9% of all jobs in Greater Manchester are in companies working in the logistics sector – this is slightly under the North West average. Including wholesale, the proportion is 7.8%, matching the England average, but slightly lower than the typical level in the North West (3.1%). GM has a slightly higher concentration of logistics, including wholesale employment, compared to the whole of the North West and England.

There are approximately 1,350 logistics businesses in GM, with a further 3,300 businesses in the wholesale sector. Two-thirds are micro and small enterprises, rising to 93% including wholesalers. The 7% of firms that employ 50 or more employees tend to be postal, warehousing or road transport operators.

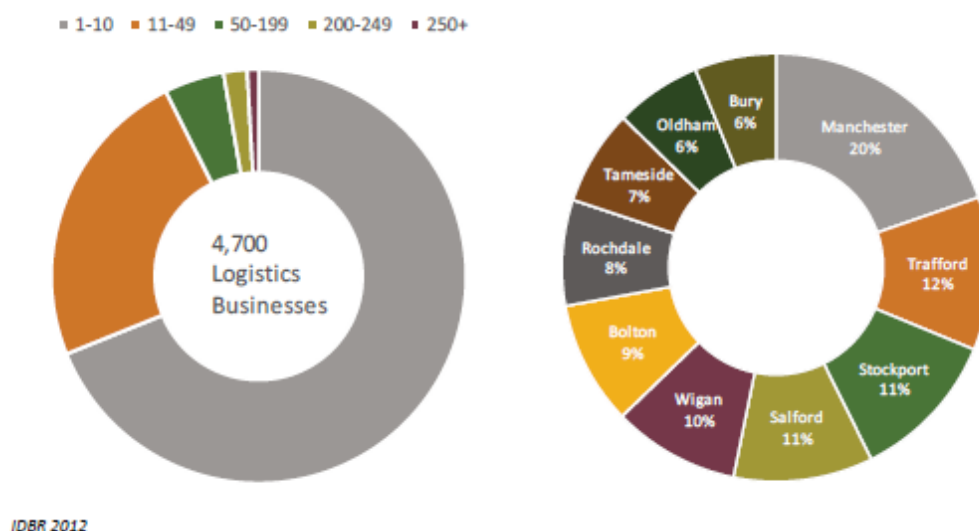
GM has a significant presence of wholesale and warehousing sub-sector businesses and employment. There are proportionally fewer employees in other sub-sectors compared to regional and national averages.

The logistics sector has contracted over the last 10 to 15 years and there have been large falls in employment in some logistics sub-sectors. In recent years however, the sector has seen a return to growth with the wholesaling and warehousing sub-sectors in particular growing their workforce considerably in some areas.

The logistics workforce is overwhelmingly male. More people tend to work full-time than in other sectors and employees tend to be less qualified than those working in other sectors.

Logistics businesses in GM contribute almost £1.2bn in GVA annually to the GM economy. The average GVA per FTE employee in the logistics sector is estimated to be around £32,200. Annual earnings in the sector average £21,200, slightly above the all-sector average, but slightly less than the North West average for logistics. Part-time employees tend to earn more than in other sectors.

Figure 2-5 Logistics business employment



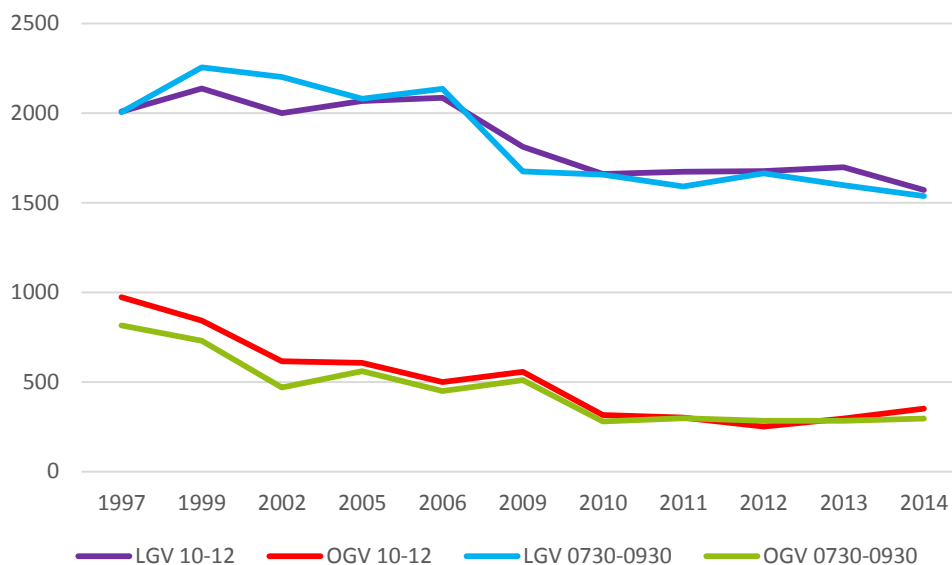
Urban freight

At the heart of the GM region is the city of Manchester. As the city region has rebuilt from its post-industrial past there have been enormous changes to both the physical make-up of the city and the experiences of the many people who live here. Nowhere has this been more evident than in Manchester city centre which has

been at the heart of GM's economic growth, the focal point for considerable investment and the site of the region's most intense repopulation.

Trend data has been analysed of vehicles crossing the city centre cordon (inbound) during the morning peak (7.30-9.30am) and off-peak (10.00am-12.00pm). The graph below shows the reduction in LGVs and OGVs entering the city centre area since 1997. However, there has been an increase in OGV activity between 2012 and 2014.

Figure 2-6 Manchester city centre cordon LGV and OGV trends



The peak movement time for HGVs is during the off-peak period – predominantly between 10am and 2pm. The figures indicate that in the off-peak, LGVs and OGVs make up a higher proportion of the vehicles entering the city centre during this two-hour time period. The van movements are less clear as they are combined with cars, also capturing the commuter traffic. Further analysis is required to understand the specific volumes of vans across the full 24-hour period.

Safety

There are particular concerns about the over-representation of large goods vehicles in collisions with cyclists and pedestrians that have fatal and serious outcomes, a particular issue relating to urban freight. Nationally, large goods vehicles over 3.5 tonnes are involved in approximately 15% of cyclist and 10% of pedestrian fatalities. Vulnerable road users and the large vehicles required for construction projects in particular are sharing the roads to a greater degree than ever.

As a result, Transport for London (TfL) commissioned a review of the construction logistics sector's transport activities with an aim of understanding the causes of collisions with vulnerable road users and how they may be prevented. The Construction Logistics and Cyclist Safety report was published in February 2013. The 'CLOCS Standard for construction logistics: Managing work-related road risk' is the direct result of collaboration between developers, construction logistic operators and industry associations. It draws together emerging practice and individual standards, policies and codes of practice into one standard that can be implemented by developers. It is being achieved through three industry-led workstreams:

- Improving vehicle safety through design and manufacture of safer new vehicles and fitment of appropriate safety equipment to existing vehicles
- Addressing the safety imbalance in the construction industry through ensuring road safety is considered as important as health and safety on site
- Encouraging wider adoption of best practice across the construction logistics industry through taking best-in-class examples, developing a common national standard and embedding a new cultural norm.

Actions already taking place in GM include the installation of 'Trixi' safety mirrors, which have been fitted at key road junctions across GM to give drivers of large vehicles better visibility of cyclists who can be caught in a blind spot and advance stop lines for cyclists which are being marked at some junctions, allowing cyclists to position themselves ahead of traffic and away from exhaust fumes.

Air quality

Manchester is among the most successful and fastest-growing cities in the UK. The increasing population has led to increasing delay and congestion on the roads, and with it consequential impacts on air quality and health. Several routes exceed national standards for nitrogen dioxide (NO₂) emissions.

In GM road transport contributes 75% of emissions of nitrogen oxides (NOx) and 81% of particulates (PM10). It also accounts for 32% of carbon dioxide (CO₂) emissions. On both motorways and major roads, OGVs contribute the greatest proportion of the NOx emissions, followed by cars. However, OGVs represent only 11% of the vehicle kilometres travelled on motorways and 4% on other major roads, showing that their contribution to NOx emissions is disproportionately large (Greater Manchester Emissions Inventory (EMIGMA), 2010). NOx emissions are expected to decline up to 2020 as more Euro VI engines enter fleets but this is not sufficient to meet National limits. GM is not forecast to comply until 2020, and only then if additional action is taken. This projection does not factor in growth.

Euro engine emission standards were introduced in the early 1990s to reduce other pollutants from vehicles. They have led to significant improvements in emissions of nitrogen oxides, particulates and hydrocarbons from passenger cars, vans and trucks. Euro IV and V engines have not delivered as big a reduction as was predicted; however, there is more confidence in newer Euro VI engines.

The introduction of Euro VI engines works to the following timelines and vehicle categories - heavy commercial vehicles registered on or after 1 January 2014, light commercial vehicle type approved from 1 September 2015 and all light commercial vehicles registered from 1 September 2016.

Table 2-2 Euro engine emissions standards

Euro standard	New type approvals	All new cars registered	Petrol NOx	Diesel NOx	Diesel PM10
Euro 0	1 Oct 1991	1 Oct 1993	1,000 mg/km	1,600 mg/km	(no limit)
Euro 1	1 Jul 1992	31 Dec 1992	490 mg/km	780 mg/km	140 mg/km
Euro 2	1 Jan 1996	1 Jan 1997	250 mg/km	730 mg/km	100 mg/km
Euro 3	1 Jan 2000	1 Jan 2001	150 mg/km	500 mg/km	50 mg/km
Euro 4	1 Jan 2005	1 Jan 2006	80 mg/km	250 mg/km	25 mg/km
Euro 5	1 Sep 2009	1 Jan 2011	60 mg/km	180 mg/km	5 mg/km
Euro 6	1 Sep 2014	1 Sep 2015	60 mg/km	80 mg/km	5 mg/km

The changing nature of freight and logistics

Britain has the highest rate of online shopping in Europe. In 2013, 72% of British adults shopped online, up from 53% in 2008. With the rapid growth of business to consumer (B2C) e-commerce, the distinction between retail and courier/post is becoming increasingly blurred as online retail purchases are being fulfilled by parcels operators. The Freight Transport Association (FTA) Logistics Report (2014) suggests that the B2C parcel market (including deliveries and returns) is expected to grow at a rate of 4.8% per year to 2018, driven by online retail. Deliveries (home delivery and click and collect together) will increase by 4.3% per year.

The global online retail market showed a 14.8% growth from 2007 to 2012, whilst the total retail growth was just 0.9% over the same period. In the UK, online shopping accounted for 10.4% of all retail spending in March 2013. This is equivalent to approximately £30 billion per year (ONS, 2013).

Freight transport is influenced by e-commerce. In the traditional distribution system, manufacturers, wholesalers and retailers make big-lot deals and the volume of freight transport between them is consolidated, resulting in efficient utilisation of trucks and other resources. The last mile transport is conducted by consumers' shopping trips. In the case of e-commerce however, consolidated transport is used in a limited way, while direct delivery to consumers covers all the other parts. Usually small-lot orders are consolidated by the parcel delivery companies. The inter-city freight transport is de-consolidated at its terminals and last-mile transport is conducted by small vans or trucks.

Since many e-retailers don't have physical shops, products purchased on the internet have to be delivered to homes or other appointed destinations. It is not currently clear whether home delivery means more traffic, as an internet shopping trip may replace a 'traditional' shopping trip. Potentially people do still go shopping, but buy less. On the other hand, parcel and food delivery services bundle different deliveries in one road trip, so more deliveries per round trip could result in fewer overall trips through more efficient delivery.

The increase in online shopping and consequent home deliveries goes some way to explaining the rise in van use in recent years. Around 1 in 10 vehicles on the UK's roads is now a van, with van traffic predicted to rise at twice the rate of cars and to almost double by 2040 (Road Transport Forecasts, 2013, Department for Transport). In the context of a growing economy, van and HGV registrations are recovering towards pre-recession levels (see figure 2-7).

There has been significant growth in van registrations during 2014 with reduction in articulated and rigid vehicles. Some growth has been noted in early 2015.

High-level research suggests that, when taking account of the quantity of goods moved and ease of access, the rigid HGV offers lower emission levels than LGVs or articulated vehicles.

A number of home delivery services only inform the customer on what day the goods are to be delivered and use a time frame typically between 9am-5pm. For deliveries of parcels that fit within a mailbox this is not a problem. For larger goods, national data indicates that such a large time frame leads to a 12% chance of delivery failure. To put this figure in perspective, the study estimated that UK retailers generated around 740 million online orders in 2012 and that approximately one billion parcels and packets were dispatched in the UK. It was estimated that failed deliveries cost companies and customers approximately £850 million in 2012. In addition, it is estimated that consumers returned 22% of orders received in 2011 (IMRG, 2012). Couriers and delivery companies are evolving more agile systems to tackle this issue, but there is still much scope for efficiency.

Historically, profit margins were the main driver for change in the majority of businesses; however, pressure from customers and changes to legislation have seen environmental awareness and sustainability become increasingly important. A large number of businesses take corporate social responsibility seriously and have specific improvement targets, particularly in relation to emissions levels and cleaner vehicle technology.

There is also a trend towards specialised logistics solutions. Large numbers of organisations are outsourcing their logistics operations to allow them to focus on core business activities. Not only does this lead to greater business efficiency, it offers the potential for increased environmental benefits and greater

Figure 2-7 UK HGV and LGV registrations by year



opportunity to influence operations, particularly in terms of consolidation, new technologies and reverse logistics.

New technologies affecting freight

The freight industry is undergoing a technological revolution as information and communications technologies are applied to optimise global supply chains. The future of logistics will be shaped through emerging technologies. Major trends in freight technology include:

- The use of enhanced logistics management systems to analyse demand and quickly adjust supply chains.
- Advances in automated vehicle, aircraft, and terminal technologies.
- Technological advances that will lead to continued improvements in safety, emission reductions, and productivity.

Recent technological advances in data analysis systems, automatic vehicles, container identification systems and satellite navigational systems will improve the efficiency of freight movement throughout the supply chain. These technologies will improve communication with customers, allowing for real-time decentralised access to location and operational data. For example, customers will know where a package is at any given time and when it is due to arrive.

Manufacturers and shippers are using enhanced data systems to access real-time information that allows them to analyse demand and adjust supply chains more quickly than ever before. The transition to just-in-time inventory systems (which move goods only as they are required for production or consumption) has contributed to leaner and more complex supply chains, allowing significant cost savings. Previously, companies held sufficient inventory for all scenarios. Just-in-time delivery coordinates supply and demand so that the chosen materials arrive when needed for use. Pull inventory systems can cut costs considerably for high-value goods, but depend on a constant and predictable flow of information and goods. Just-in-time supply chains may increase the frequency of activities, particularly in congested urban areas, and require increased focus on maintaining system reliability and efficiency.

Advances in information and communications technologies will improve data collection and analysis capabilities of logistics firms and freight planners, enabling faster and more accurate analysis of freight routes, travel times and infrastructure capacity. Information of this type is often private but, if business-sensitive components could be removed, it would be invaluable to public sector transportation planners in their efforts to identify and correct bottlenecks and first-and-last mile congestion.

Autonomous vehicles will not appear on our roads in the very near future, but automated features that promise to improve the safety and efficiency of freight movement are already being introduced. On trucks, these include sensor systems that combine adaptive speed control, automatic braking, lane-departure warning systems, and vehicle-to-vehicle communications. In time, autonomous trucks and cars that share information with each other stand to offer the potential of greatly increasing vehicle safety and throughput on existing infrastructure. Widespread deployment of autonomous freight vehicles would only occur after the safety of such vehicles has been thoroughly demonstrated.

Automation is already affecting ports. At major container ports around the world, the process of transferring containers from ships to docks, trucks and trains is becoming highly automated, reducing reliance on human operators. Major container ports will need to invest more in automation to compete; major terminals are in the process of doing so.

Advanced automation will increase productivity in the freight industry and change the skills needed to work in the sector. Technologies that affect driving, vehicle maintenance, warehousing and loading will alter professional development needs and employment levels. The labour required to load and unload vessels and freight vehicles has been decreasing since motorised equipment became available. With the advent of inter-modal containers and enhanced computer technology, even more cargo transfer functions have been automated across the modes. These trends continue to increase the efficiency of cargo handling operations and are leading to changes in the skillsets needed from the workforce.

Unmanned aircraft systems may present both opportunities and risks. The private sector sees a wide range of potential uses for unmanned aircraft, including freight delivery. Several large organisations have been evaluating delivery of packages by unmanned aircraft for several years. Remotely piloted drone deliveries could be used to provide high-value and urgent cargo to remote and hard-to-reach locations. For example, unmanned aircraft deliveries could be used to deliver medical supplies to remote areas after a natural disaster. Delivery by unmanned aircraft in dense urban environments presents significantly greater security, safety, and privacy risks, and will likely take longer to develop so there is unlikely to be widespread use within GM in the short-term.

Embracing opportunities and rising to the challenges

GM has already been shown to be a competitive location for regional distribution. With a catchment population of more than 3 million and growing, plus available land and workforce, it is a natural place to search for a site as part of a regional network. GM can also be shown to be good location for national distribution, especially for high-value goods that are not too transport-intensive and these can generate more intensive employment opportunities, provided local congestion can be avoided.

In order to highlight the key issues and challenges, as well as the sources of competitive advantage enjoyed by GM in attracting occupiers, below are the area's key strengths and weaknesses, focusing in particular on the way potential occupiers of logistics space are likely to view the conurbation.

Strengths

- Largest concentration of population in the North West, with a market of 2.68 million people;
- The largest number of brownfield sites for development in the country (based on data included in the National Networks National Policy Statement (NPS));
- Available labour pool with levels of unemployment above the national average at 7.9% (compared to the Midlands, where the unemployment rate is approximately 6.5%);
- A strong existing presence in the market as a location for both RDCs and NDCs for some sectors, with a local skill base;
- Manchester Airport, with its global connections, facilitating international travel and airfreight connections;
- A resurgent Port of Liverpool and the Manchester Ship Canal as core assets to facilitate cost-effective waterborne freight distribution to and from the conurbation, also providing access to the Liverpool 2 deep sea container development;
- Location adjacent to the M6, M62 and WCML;
- Pipeline of large sites that can provide new capacity for logistics space;
- Local authorities that are interested in exploiting the logistics opportunity and may therefore be prepared to work to bring forward suitable sites through the planning system;
- Strong pan-city region governance and collaboration, including co-ordinated management of the Key Route Network (KRN).

Weaknesses

- One of the worst areas for road congestion in the country. The major motorways are prone to disruption, which impacts on journeys to work for employees in distribution centres as well affecting journey times and journey time reliability for freight transport movements. Without action, levels of congestion are likely to increase;
- Current lack of rail and water-connected distribution parks, so that there are no sites at present that can take advantage of forms of transport that can often lower costs over relatively short distances (less than 100km if a rail-connected port is linked by an intermodal rail freight service to a rail-linked distribution park);
- Apparent short-term shortage of high quality logistics space, although the situation should improve with the availability of the Logistics North development near Bolton.

Issues identified

Overarching issues

Understanding of the freight industry by public sector organisations in GM is currently not comprehensive. The industry is almost entirely owned and operated by the private sector and is highly competitive. As such, while we have considerable information on the volumes of freight traffic using road and rail networks in GM, we have little information regarding the origins and destinations of goods vehicles on roads and the types of goods traversing the region.

The movement of goods is an activity undertaken as part of a range of commercial operations. Whilst there are similarities in terms of modes use and challenges faced, there are distinct differences in relation to specific operational requirements. One size does not fit all.

The road freight and logistics industry is highly competitive and operates with relatively low margins, so there is a strong reluctance to consider initiatives and interventions that would bear additional costs to businesses. Furthermore, congested networks resulting in low reliability impact significantly on attracting new business that seeks low-cost, on-time deliveries.

The structure of the economy is changing towards a greater focus on high value-added manufacturing and service industries. Technological advances are changing the ways we live and work. Retail activity as an example is more focused on e-commerce and convenience stores for food shopping. Whilst this does not replace traditional supermarkets, convenience stores are an expanding sector, particularly in city/town centres and district centres. These changing trends in consumerism have an impact on the location of warehousing and goods handling facilities, and the distribution of goods to individual residences, in addition to traditional goods distribution to stores.

In addition, the rise in e-commerce has resulted in changing trends in the vehicles used for distributing goods. For example, online shopping and the need to supply homes have 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.

There is a growing shortage of qualified HGV drivers, meaning more businesses could potentially be forced towards using smaller vehicles which have less stringent licence requirements and have a more significant negative impact on our road network.

Air quality is an overarching significant issue because of the impact on human health and the threat of fines from the EU for failure to meet air quality emissions targets. Compliance with air quality standards must be met by 2020 at the latest.

Freight is a significant contributor to poor air quality due to the dominance of diesel-fuelled vehicles. Additionally, HGV emissions are markedly worse at lower speeds, and thus highly congested areas contribute to this issue.

Carbon reduction is an equally important issue as greenhouse gas (GHG) emissions from freight movements contribute significantly towards global warming. At a national level, the UK's obligation is to reduce national GHG emissions by 80% relative to 1990 by 2050. GM aspires to lead the way in developing a low carbon economy and has set an ambitious target for a 48% reduction in carbon emissions from 1990 levels by 2020. This would result in a 41% reduction from 2005 levels by 2020.

The UK rail freight market has seen considerable growth over recent years, with 22.2 billion tonne km reached in 2014-15 (Office of Road and Rail (ORR) Freight Rail Usage Statistical Release, 2015-16 Q1, Table 13.7). Much of the recent growth has been in the inter-modal market, comprising container trains running between key ports in the UK and inland terminals. The traditional markets of coal and steel have seen a continued ongoing decline as the UK industries contract, but against this trend has been an increase in carrying of biomass replacing coal. The construction market (aggregates and cement) has seen consistent growth out with the recession.

GM generates and attracts between eight and 10 intermodal train journeys on an average weekday from the key Trafford Park terminal, linking Manchester to London Gateway, Southampton and Felixstowe. A very limited number of trains run cross-Pennine, these carrying either domestic waste or aggregates/cement, routed via the Calder Valley line. Finally, considerable quantities of aggregates are generated from the Peak District, with much of these heading south to the London area and not entering GM.

Rail network constraints pose problems for future freight growth. The access route to the Trafford Park terminal is along the already highly congested Castlefield corridor (Deansgate-Oxford Road-Piccadilly) and further franchise committed services will exacerbate this issue. Logistics companies often require rail services to meet key time windows for delivery and collection, timed relative to major port arrivals/departures and as such the solution of pushing intermodal services to run either early or late in the day at Trafford Park is not always possible, with the requirement for a regular interval freight train “path” throughout the day.

Cross-Pennine grading and pathing issues also pose significant constraints; with the South Trans-Pennine route via Edale effectively full, the North Trans-Pennine route via Huddersfield also full and likely to get worse with planned extra services and the Calder Valley route via Rochdale the best suited, but also expected to see passenger services increased. When combined with gradient restrictions and the inability to accommodate deep sea containers of 9'6" height rail currently has little scope to compete against the M62 trans-Pennine route. The electrification of key trans-Pennine routes could improve this position.

Further issues have been identified along the five spatial themes of the 2040 Strategy:

Global connectivity

Increased operations generated through Liverpool 2 will lead to increased demands of goods movements through the North West. This is likely to lead to an increasing demand for both WCML and cross-Pennine train paths, with clear conflicts to be faced with increasing passenger services. Rail links to Manchester Airport were provided during the construction stage of the second runway but have since been removed. The nature of air freight being high value, low volume, non-containerised products tends to mitigate against rail carriage.

There is a need to maintain connectivity to Manchester Airport not just from across the city region but also beyond to the wider northern region. The continued growth of the Airport, supported by its Sustainable Development Plan and £1bn transformation programme, and the adjacent Enterprise Zone, will generate significant additional demands on the road network. Plans have been submitted for a 24,150 square metres Airport City warehouse that will be important to the success of the Airport City Scheme. This accompanies the £100 million World Logistics Hub that will create significant economic opportunities for job creation and GVA from freight and logistics.

City-to-city links

There is a lack of high quality rail or water-connected (and connectable) logistics space for national and regional distribution centres which means that rail freight options are often not able to compete with road freight from a cost point of view.

There are limited strategic, high-capacity crossings of the Manchester Ship Canal which restricts orbital movements in the ‘Western Gateway corridor’. Further west, the M58 plays a crucial role in connecting the Port of Liverpool to logistics and industrial locations within GM, especially Wigan.

The WCML provides the key UK rail freight artery with the route cleared for maritime container traffic, with the route from Trafford Park to Crewe providing the network link. As already mentioned, cross-Pennine city to city freight links by rail suffer from the inability to convey maritime-sized containers and lack of track capacity to achieve a sensible service frequency during daytime hours.

It is vital that any intervention complements and supports the delivery of the Northern Transport and Northern Freight strategies.

Getting into and around the regional centre

Last-mile logistics can be the most inefficient part of goods movements predominantly related to congestion and low reliability on the highway network.

An increasing number of jobs in the regional centre adds to the congestion pressure and also results in additional demands for goods and servicing. The ongoing regeneration of parts of the area and construction of new infrastructure results in increased pressure from construction traffic, which impacts on the efficiency of the road network.

A city centre strategy focusing on providing for increasing numbers of employees and residents generates increasing demands for the existing road space – e.g. new Metrolink capacity, bus capacity and active travel provision (e.g. cycle lanes). This increased demand from passengers provides further conflict for the movement of goods. The rising population of the regional centre also increases the need to minimise disturbance caused by servicing and deliveries – through noise and emissions for example – and makes the design and placement of loading facilities at new commercial premises more critical.

Whilst alternative fuelled vehicles are seen as a solution for addressing air quality and emissions in the regional centre, electric battery operated vehicles are currently viewed as unsuitable for long-haul logistics operations due to the short effective range, weight of batteries, and overall cost compared to diesel-powered vehicles – which companies find difficult to recoup.

Existing traffic regulation orders which restrict servicing access to the city at certain times of the day have been in place for some time, often without review. While these can provide a benefit to pedestrians, they serve to limit the flexibility of logistics operators.

Travel across the wider city region

Planning for freight demand prior to the conclusions and recommendations of the GM Spatial Framework is challenging. The Northern Freight Strategy identifies: the need to improve the capacity of the network, with an emphasis on rail and water route investment; better connectivity for ports; the development of an integrated network of multi-modal distribution parks (MDPs); more streamlined policy development and decision making.

District local development framework (LDF) and local plan proposals have identified 31 future freight generating sites for development with a probable floor space in excess of 2.8 million square metres. All sites would be served by road, with only Port Salford offering alternative modes (water and rail). The initial work from the GM Spatial Framework has identified a shortfall of logistics sites so it is likely additional sites will be allocated. If all known sites come to fruition there is a potential to add up to 12,500 HGVs to GM's roads during a 12-hour period – for context, currently 8,400 HGVs use the M60 during this period and Heywood Distribution Park (the largest in GM) generates about 2,000 HGV movements. The greatest impact of future growth may be on the western side of GM between M60 J7 and M61 J4, which is the subject of a DfT/Highways England strategic study.

Connected neighbourhoods

There is often limited consideration of freight and servicing in the design and construction of new development. This can result in high freight generating activities being sited in poor locations or inappropriate design of loading/unloading facilities, which together can result in significant impacts on local communities.

The continuous Air Quality Management Area covers most of the major roads and town centres in the area where there is the greatest risk of people being affected by pollutants. The biggest concern is the level of NO₂, which has a significant impact on human health.

Noise impacts resulting from urban delivery and servicing activities detract from residents' quality of life. Restrictions on delivery times and increasing levels of congestion may force additional deliveries to take place during evenings or night-time, which could further impact residents' quality of life. However, the reverse situation could also arise, whereby evening and night-time restrictions could push operators to service premises during peak daytime periods leading to increased congestion. This situation needs to be carefully balanced.

As we seek to increase the use of active modes to access local services, transport interchanges and community facilities in our neighbourhoods, there is the potential for conflict with servicing and logistics vehicles, especially given the upward trend in e-commerce and home deliveries, which has increased the number of vans travelling around our residential streets.

Given the close proximity of Trafford Park to population centres and the need to maintain rail's competitiveness, pressures and conflicts exist in permitting the access by large HGVs with containers to this rail freight terminal.

Summary of challenges

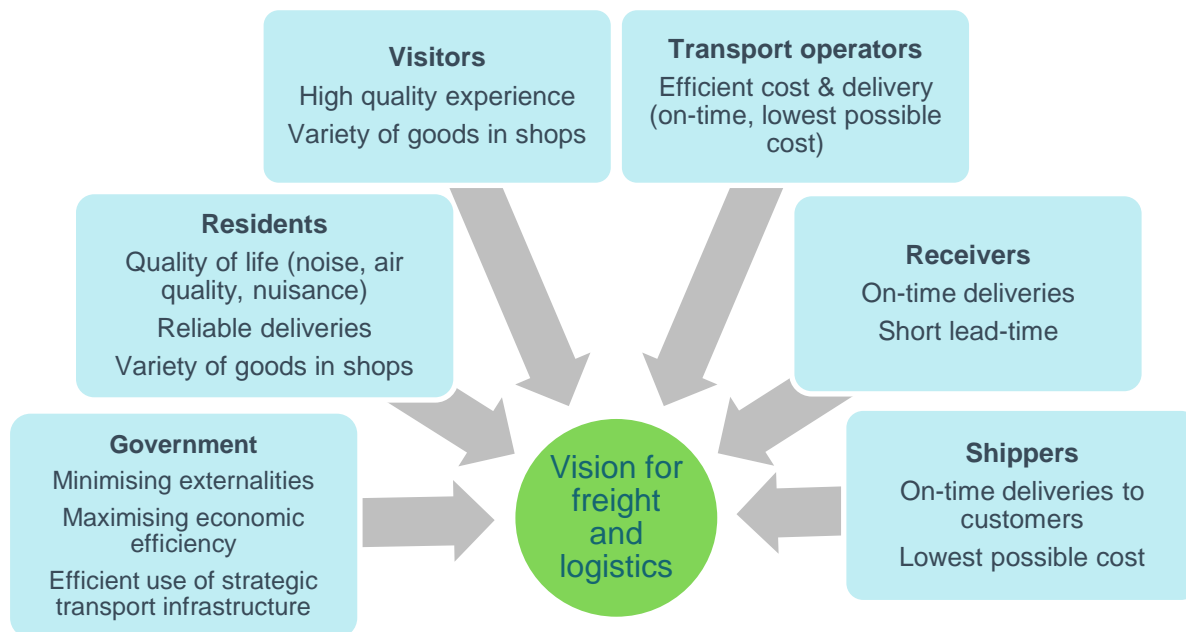
- Congestion – rising congestion relating to population and employment growth reduces network capacity and results in delays and unreliability on the key route network and within the city centre area;
- Air quality – levels of NO₂ in the city region exceed the EU annual mean limit value of 40µg/m³;
- Competing demands – for example requirements for servicing and deliveries must be balanced with the increasing use of road space by cyclists who are vulnerable users;
- Lack of information – lack of information on network performance for operators to improve day-to-day operations and limited sharing of business data with public sector to aid strategy and plan development;
- Loading restrictions – lack of consistency and clarity to users across the city;
- Growth – future residential and employment expansion in the regional centre generates high numbers of additional trips, particularly relating to the numbers of van movements linked with the rise in e-commerce;
- Number of operators – a high number of logistics companies operate in the city region, resulting in inefficient numbers of vehicles undertaking the same cross-city movements and making deliveries in the same area; and
- Policy and governance – servicing and delivery requirements require greater consideration at the development planning stage and better public/private sector coordination.

3. The future of freight and logistics

Overview of change over next 10 years

Freight and logistics is essential to the functioning of the GM economy and touches the lives of residents, businesses, workers and visitors, either through the availability of goods and services, or through the impact of goods vehicles on the transport network or on the wider environment. The vision is to harmonise the impacts of freight on society, the environment and the economy (as shown in Figure 2-8) and to ensure the delivery of efficient yet sustainable freight transport.

Figure 2-8 Stakeholders



The trends of the past alongside those of the present will lead us to a very different GM in the next 10 years, yet still with the need for people to receive goods, and therefore the associated transport and logistics systems still remaining a critical part of its success. The provision of capacity for growth is a key priority, but the existing transport networks and systems must adapt through advances in technology, providing more efficient freight, servicing and delivery activity.

Due to the rapidly advancing technology and operations within this industry, as well as the relatively limited certainty regarding future activities, the current GM focus is on the medium-term approach and the need to develop a longer-term, national approach. The purpose of this strategy is to consider current GM delivery, servicing and logistics activities and set out the ambitions of the region up to 2025. It also seeks to guide decision making in such a way as to support the anticipated longer-term ambitions for the region.

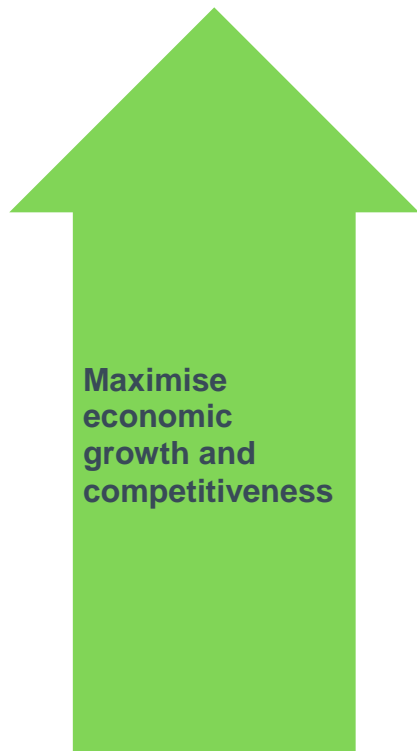
The vision for freight and logistics

The vision for GM is to provide **‘world-class connections that support long-term sustainable economic growth and access to opportunity for all’**. The specific aspirations of this relating to freight and logistics focus on two key aims:

1. To maximise economic growth and competitiveness by boosting the network integration and efficiency of freight transport in GM and across the North and creating employment opportunities.
2. To minimise the social and environmental impacts of the industry and encourage sustainable distribution.

Key objectives

The objectives of our strategy align with the two aims set out above which will support our vision for freight and logistics. Implementing the vision requires an efficient framework for both governors and operators which will build upon the objectives which must be set out to achieve in order to meet our vision. Our 10 key objectives are set out below. Action cannot be delayed; infrastructure takes many years to plan, build and equip and new technologies can take time to deploy.



1. To improve journey times and journey time reliability to create a more efficient environment for freight operating companies (FOCs) to operate in.

2. To keep the total cost of freight and logistics as low as possible for operators and society and therefore reduce the impact on the overall price of goods; supporting the local economy.

3. To ensure the regional infrastructure is capable of meeting future growth and demand.

4. To focus available funding for investment across the road and rail networks.

5. To increase network integration (rail/road/maritime/distribution centres).

6. To increase GM's share in the market for logistics space.

7. To measure and actively reduce carbon levels generated by road freight transport.

8. To reduce the impacts of freight to improve air quality in line with Government-set targets.

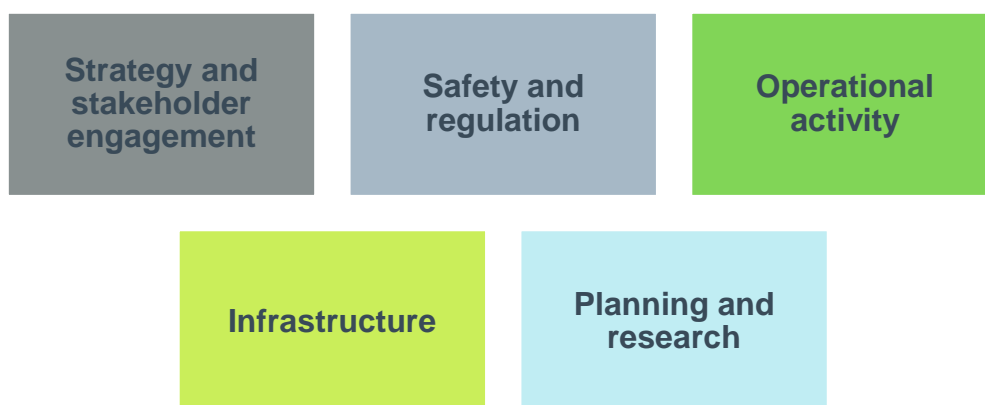
9. To reduce the impact of noise, traffic disruption and congestion on local residents.

10. To improve safety for, and reduce accident numbers involving, cyclists and HGVs.

**Minimise the
social and
environmental
impacts of the
industry and
encourage
sustainable
distribution**

Our approach

A wide variety of models and measures will be considered for implementation within GM. However, it is vital to ensure that any intervention is part of a balanced package of measures which focuses on achievable outcomes and maximising benefits within the specific context of the city region. Such interventions must provide a clear route to achieving the objectives set out. In the delivery of the interventions, consideration must be given to the unique characteristics and activities of each sector. How we get there is dependent on delivering a blend of interventions and measures, and these cover five main areas of focus:



4. Proposals and interventions

Strategy and stakeholder engagement

Regular engagement with the industry and other stakeholders will assist in building relationships with those best-placed to influence wider activity and generate change. From this we can position ourselves to embrace the outcomes of positive research projects, national policy change and progressive industry standards. In addition, we will build relationships to better understand the needs of freight distributors and operators, identify gaps in our data and understanding and develop plans to address these.

Through this engagement we will build strong relationships between the public and private sector and seek ways to support progress on areas of joint concern.

Ref	Short-term (to 2018)	Longer –term	Main rationale
1	Setting up a Logistics Forum Engage logistics industry representatives to act as a forum to: <ul style="list-style-type: none"> ○ Take forward practical operational initiatives of benefit to industry but which also reduce externalities; ○ Act as an initial source of communication on other initiatives that have an impact on the industry as the Logistics Strategy is implemented 	Continue to engage with the Logistics Forum and develop future plans for implementation	Generates a better understanding of freight operations in GM to better inform identification of future needs and development of potential interventions
2	Review of available data relating to freight activity and identification of gaps		Generates a better understanding of freight operations in GM to better inform identification of future needs and development of potential interventions.

Ref	Short-term (to 2018)	Longer-term	Main rationale
3	Development of action plan to collate required data		Generates a better understanding of freight operations in GM to better inform identification of future needs and development of potential interventions

Safety and regulation

In order to maximise the potential benefits of any action, a joined-up approach across the Greater Manchester Combined Authority (GMCA) will be required. TfGM will champion the agenda and develop and promote best practice regulation with regards to freight and logistics that address key areas of concern including safety and air quality.

The GM Low-Emission Strategy and supporting implementation plans already set out our ambitions to encourage uptake of low-emissions vehicles and an increase in cycle logistics activities. These measures are not repeated here.

Ref	Short-term (to 2018)	Longer-term	Main rationale
4	Undertake a full feasibility study for the implementation of a Clean Air Zone	Take forward to recommended actions from the feasibility study	Improves air quality within major urban centres to reduce pollutants and improve human health
5	Work in partnership with DVSA and GMP to develop appropriate mechanisms to improve safety in terms of HGVs, particularly in relation to vulnerable road users	Continue activity in the form of awareness-raising, education and enforcement	Improves safety standards and promotes safe distribution practices to minimise social impacts of HGV activities
6	Promote and encourage membership of the Fleet Operator Recognition Scheme (FORS) or an equivalent standard and alignment with the requirements of the CLOCS standard. Seek funding for the targeted delivery of more ECOStars roadmaps to reduce harmful emissions from fleet operations.	Seek to encourage local operators to embed national standards within their activities through industry engagement	Promotes and influences sustainable distribution practice and minimises the social and environmental impacts of the industry. Provides clear guidance for reducing emissions and contributes towards behavioural change and attitudes towards transport
7	Introduce cyclist and HGV driver safety toolkits and training	Ongoing implementation of toolkit and training	Improves safety standards and promotes safe distribution practices to minimise social impacts of HGV activities

Operational activity

Whilst freight and logistics is a predominantly private sector industry which operates on low profit margins, it is extremely agile in adapting to changes in its operating environment. TfGM will act to stimulate change by looking to influence the culture and behaviour of the main specifiers and procurers. Where we can intervene we will positively influence the operational activity that takes place in our region. This will include education and awareness raising, and the development of construction logistics plans and delivery service plans.

We recognise that retailers (including online retailers) and consumers are the main drivers for freight and are therefore best placed to directly influence freight activities. The behavioural change activities will seek to engage both the source and end user, as well as working with operators.

Recognising the strategic importance of the highways network to the industry and the regional economy, activities will be aligned with and will compliment those set out in the Highways Strategy.

Ref	Short-term (to 2018)	Longer-term	Main rationale
8	Produce guidance on Delivery & Service Plans (DSPs)	Roll-out in specifically targeted areas across the region, including wider engagement with retailers and consumers to influence delivery options and choices	Promotes and influences sustainable distribution practice and minimises the social and environmental impacts of the industry
9	Ascertain support for retimed deliveries	Produce guidance and establish at least one pilot Engagement with retailers (including online retailers) and consumers to influence delivery options and choices	Provides clear direction and regulation for the timing of goods movements around the region Supporting movements outside of peak hours to improve journey time reliability and maximise the efficiency of servicing and deliveries
10	Continue current activities to develop initiatives for the intelligent use of road space, optimised signalling and automation, with a particular focus on the KRN	Explore new technologies and funding options for pilots and full implementation	Generates a better understand of freight operations in GM to better inform development and implementation of potential interventions. Minimises the social and environmental impacts of HGV activities
11	Produce guidance on construction logistics plans (CLPs) for planning authorities	Roll out to developers and construction companies and explore implementation in public sector procurement	Promotes and influences sustainable distribution practice and minimises the social and environmental impacts of the industry
12	Identify and implement opportunities to encourage accelerated uptake of low-emissions vehicles and operational practices, such as the use of cycle logistics and local consolidation.	Assess the environmental costs and benefits of the various click and collect models and facilitate and encourage uptake where appropriate	Promotes and influences sustainable distribution and minimises environmental impacts

Ref	Short-term (to 2018)	Longer-term	Main rationale
13	Review suitability and usefulness of freight routes and signage and produce improved freight maps if deemed appropriate	Implementation of freight routes, where appropriate	Generates a better understand of freight operations in GM to better inform development and implementation of potential interventions. Minimises the social and environmental impacts of HGV activities
14	Develop a one-stop shop website for use by freight operators	Utilise website to promote best practice and provide information to industry in order to influence practices	Provides opportunity to directly connect with and influence the activities of the industry to minimise externalities
15	Develop suitable guidance on loading and unloading to guide public authorities, retailers and operators		Enhances efficiency of servicing and deliveries which maximises freight's contribution to economic growth and competitiveness
16	Work with neighbouring authorities to reduce freight emissions and improve safety regulations, and seek to agree common strategies and thinking on traffic regulation orders and enforcement	Work with neighbouring city regions, Core Cities, Urban Transport Group and DfT with the aim of establishing a northern (and ideally a national) position on alternative fuels (for all modes)	Ensures a consistent approach to regulations which promotes simplicity and benefits to the operators on our network whilst supporting sustainable distribution practice that minimises the social and environmental impacts of the industry

Infrastructure

We will work with Transport for the North (TfN) to establish and implement a Northern Freight Strategy which encourages and enables economic growth whilst aiming to minimise the externalities of such growth through facilitating opportunities for modal shift and more efficient operations. We will develop targeted interventions to improve the management and capacity of the transport network for freight and logistics activities.

In addition, we will work with Highways England, through the Joint Highways Strategy Board, to align priorities and investment strategies for the Strategic and Key Route Networks in order to maximise the economic and environmental benefits to the region.

We recognise the many models and variations of consolidation (centres, procurement, collaboration, mobile models, etc.) and understand the difficulties and restrictions associated with their development and uptake. The city region is still keen to promote and facilitate the development and use of a range of consolidation options, suitable to the specific circumstances of the area and activities. These might include local, new development, construction, mobile and pan-GM consolidation.

Ref	Short-term (to 2018)	Longer –term	Main rationale
17	Pursue and actively promote consolidation practices through analysis of freight profiles and the investigation of appropriate models, and funding options, at the different spatial scales	Work with industry to implement, using sustainable transport options where possible.	Enhances efficiency of servicing and deliveries and reduces the number of empty and redundant trips. Potential to reduce congestion and improve air quality and network efficiency
18	Work with the northern city regions and Transport for the North to develop a Freight Strategy for the North	Work with the city regions and partners to implement the strategy	Maximises freight's contribution to economic growth and competitiveness and ensures regional infrastructure is capable of meeting future growth and demand
19	Review the network of on-street loading and unloading bays and overnight HGV parking options	Identify options to implement improvements and consider opportunities for intelligent management mechanisms	Enhances efficiency of servicing and deliveries which maximises freight's contribution to economic growth and competitiveness Provides safe and secure locations for freight operators to rest which allows for safety in operations. Ensures HGVs do not wait in unsuitable (i.e. local residential) environments
20	Explore options for the increased use of existing assets (such as waterways and trams) to support delivery and servicing activities	Encourage uptake of any options deemed appropriate by the feasibility work Assess potential to develop links from the Port of Liverpool and along the Manchester Ship Canal to Port Salford to support water-borne freight movements	Promotes and influences sustainable distribution practice and minimises the social and environmental impacts of the industry. Encourages freight modal shift from road to other modes, with the associated congestion, air quality and emission benefits
21	Support the implementation of the GM Air Quality Action Plan and Climate Change Implementation Plan	Identify and deliver supporting interventions as set out in the plans	Supports uptake of less polluting vehicles which will benefit improved air quality and reduced GHG emissions

Ref	Short-term (to 2018)	Longer-term	Main rationale
22	Work with Highways England to utilise the outcomes of the NW Quadrant study and other wider work to prioritise improvements to the SRN and KRN		Maximises freight's contribution to economic growth and competitiveness and ensures regional infrastructure is capable of meeting future growth and demand

Planning and research

This will include the consideration of land use planning measures and research to influence the long-term development of the freight and logistics activity in GM, with the aim of encouraging a shift to more sustainable distribution modes, investment in key infrastructure and increasing the GM market share for national and regional distribution centres.

Ref	Short-term (to 2018)	Longer –term	Main rationale
23	Review of sites for Strategic Rail Freight Interchanges (SRFIs) in GM, in line with the ambitions of the Northern Freight Strategy	Promote development of new multi-modal connected (or at least connectable) distribution sites within the GM Spatial Framework and protect against development which might render future connections unfeasible	Promotes and influences sustainable distribution practice and minimises the social and environmental impacts of the industry
24	Review of rail freight capacity to, from and through GM and ensure that future passenger route planning takes account of freight demands Work with partner organisations to promote and encourage the trans-Pennine rail route upgrades to facilitate a greater degree of shift from road.	Work with Network Rail and rail freight operators to encourage modal shift and an increase in the volume of freight transported by rail	Maximises freight's contribution to economic growth and competitiveness and ensures regional infrastructure is capable of meeting future growth and demand
25	Work with neighbouring and other UK city regions with the aim of establishing a standardised approach to alternative fuel infrastructure for HGVs	Work with private and public sector bodies to encourage and facilitate development of alternative fuel infrastructure for HGVs in line with the agreed strategy	Promotes and influences sustainable distribution practices and minimises environmental impacts
26	Review of planning regulations and policies for freight deliveries	Agree and implement changes	Promotes and influences sustainable distribution practice and minimise the social and environmental impacts of the industry. Encourages freight modal shift from road to rail and waterborne movements, with the associated congestion, air quality and

		emission benefits
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Evaluating success

Objectives	Theme					Assessment criteria	Baseline	Target
	SSE	SR	OA	INF	PR			
1. To improve journey times and journey time reliability to create a more efficient environment for freight operating companies (FOCs) to operate in						KRN average journey speed		
			✓	✓		KRN reliability		
						Rail journey times (key nodes to Manchester)		
2. To keep the total cost of freight and logistics as low as possible for operators and society and therefore reduce the impact on the overall price of goods, supporting the local economy	✓	✓	✓	✓		Additional costs directly applied to operators		
						Rail freight track access charges		
3. To ensure the regional infrastructure is capable of meeting future growth and demand	✓			✓	✓	As measured by modal shift and market share measures		
4. To focus available funding for investment across the road and rail networks	✓			✓	✓	Annual investment in road and rail networks		
5. To increase network integration (rail/road/maritime/distribution centres)		✓	✓	✓		% of GM freight carried by road		
						% of GM freight carried by rail		
						% of GM freight that is waterborne		
6. To increase GM's share in the market for logistics space	✓				✓	GM share in logistics space market		
						Jobs in freight and logistics across GM		
7. Measure and actively reduce carbon levels generated by road freight transport.	✓	✓	✓	✓	✓	% of emissions in GM related to transport		
						Number of electric charging point sessions per year		
8. Reduce the impacts of freight to improve air quality in line with Government-set	✓	✓	✓	✓	✓	Annual average concentrations of PM10		

Objectives	Theme					Assessment criteria	Baseline	Target
	SSE	SR	OA	INF	PR			
targets						Annual average concentrations of NO ₂		
9. Reduce the impact of noise, traffic disruption and congestion on local residents			✓	✓		Number of noise complaints related to delivery or servicing activities		
						Local routes average journey speed		
10. Improve safety for and reduce accident numbers involving cyclists and HGVs		✓	✓	✓		Number of cyclist accidents involving HGVs in GM		