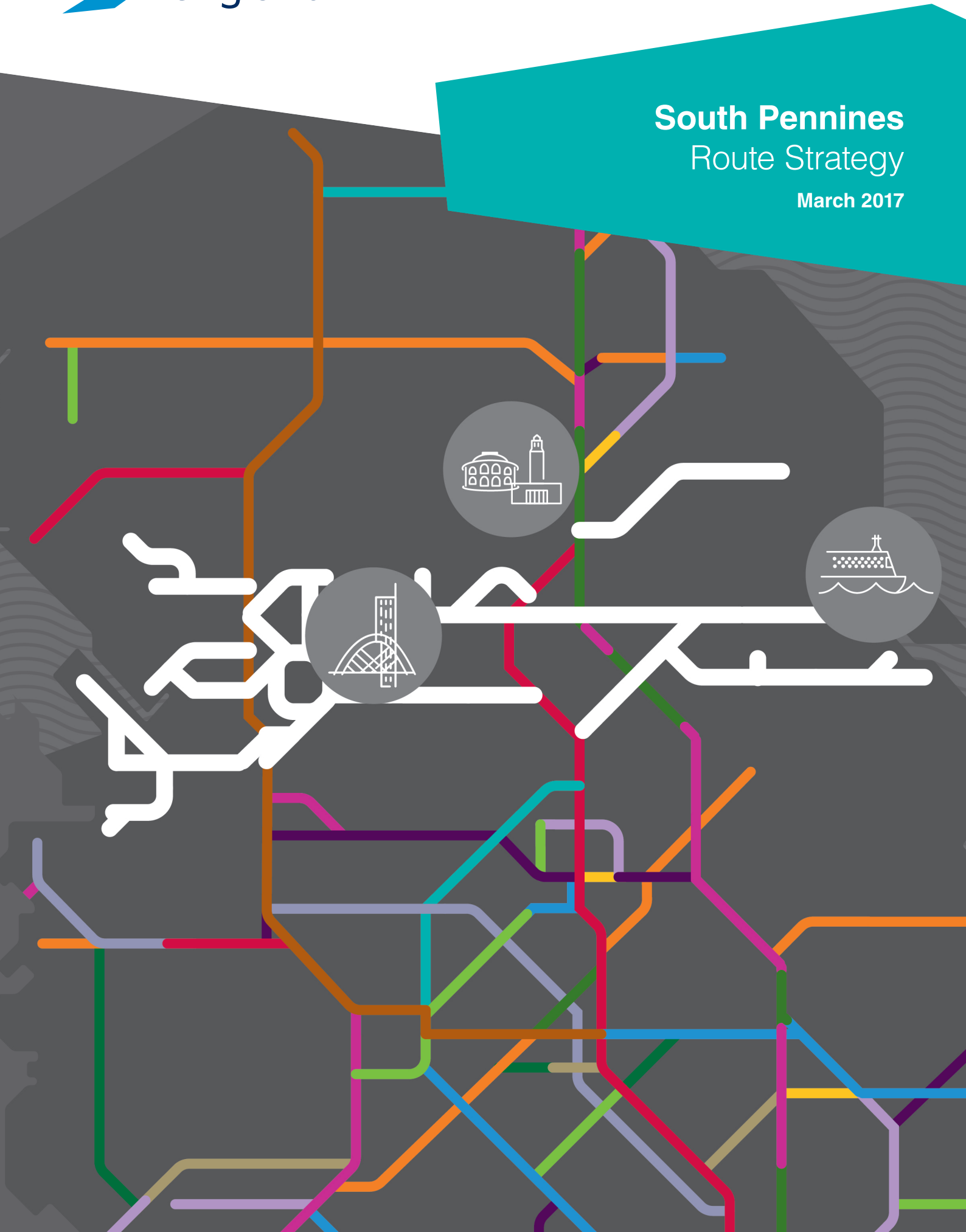
highways england

South Pennines
Route Strategy

March 2017



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Route strategies

The division of routes for the programme of route strategies on the Strategic Road Network

1. Introduction

The modernisation of England's motorways and major A roads, also known as the strategic road network (SRN), is making a vital contribution to economic wellbeing and growth. This Route Strategy – one of 18 such reports – provides a statement on the current performance of, and perceived pressures on, the South Pennines route to inform the planning of future investment.

The SRN supports national and local economic prosperity by:

- linking together major cities
- connecting with extensive local road networks
- providing links to major ports, airports, and rail terminals
- enabling good access to regions and cross-border routes between the nations of the United Kingdom

The establishment of Highways England through the Infrastructure Act 2015 has changed fundamentally the way we plan investment in the network. Funding is now determined every 5 years, in the Road Investment Strategy (RIS), which is set by Government. We are currently delivering on the commitments that were set out in the first RIS covering 2015 to 2020, which are already making a difference for road users across the network.

At the same time, we are working closely with the other 3 bodies with statutory responsibility for the RIS – Department for Transport, Office of Rail and Road and Transport Focus – on preparing for the next RIS (RIS2) for the period after 2020.

Purpose of Route Strategies

Route Strategies provide a high level view of the current performance of the SRN as well as issues perceived by our stakeholders that affect the network. They are one of the key components of research required for developing the RIS. This suite of Route Strategies builds upon the analysis underpinning the first set of Route Strategies undertaken between 2013 to 2015, which together provided the first comprehensive assessment of the entire network. This time the Route Strategies aim to:

- bring together information from key partners, motorists, local communities, construction partners, environmental groups and across the business
- achieve a better understanding of the condition and performance of our roads, and local and regional aspirations
- shape our investment priorities to improve the service for road users and support a growing economy
- help inform the next RIS[1]

Strategic themes

The Government's vision for transforming the SRN is described in the Road Investment Strategy post 2020: Planning Ahead document available on www.gov.uk. This vision builds on the 5 broad aims published in the Road Investment Strategy for 2015-2020: economy; network capability; integration; safety; and the environment. It also builds on Highways England's 5 strategic outcomes (see Figures 1.1 and 1.2). Using the evidence from this and the other 17 Route Strategies, we will develop proposals that can help bring the Government's vision for roads to life.

RIS1 Strategic Vision as reiterated in "RIS Post 2020: Planning ahead"

Figure 1.1 - RIS1 strategic vision

Highways England Strategic Business Plan's key outcomes

Supporting economic growth through a modernised and reliable network that reduces delays, creates jobs and helps business compete and opens up new areas for development

More free-flowing network where routine delays are more infrequent, and where journeys are safer and more reliable

Safe and serviceable network where no one should be harmed when travelling or working on the network

Improved environment where the impact of our activities is further reduced, ensuring a long-term and sustainable benefit to the environment

More accessible and integrated network that gives people the freedom to choose their mode of transport and enable safe movement across and alongside the network

Figure 1.2 - Highways England strategic outcomes

[1]See Chapter 6 for more information on the next RIS

Stakeholder engagement

Building on the engagement we started in the first round of Route Strategies, we have continued to work closely with a wide range of stakeholders to enhance our understanding of the strategic road network, and identify where users and other stakeholders feel investment is needed.

We used a number of methods to collate information. For example, we launched an online tool for customers and stakeholders over the summer of 2016 to inform us of the issues and challenges on our roads that affected them. As well as information collated from a range of people within Highways England, more than 300 different stakeholder organisations provided important feedback on the network during the evidence collection period. There were also more than 370 individual members of the public who contributed information. In total, around 2,700 individual points were raised by external stakeholders.

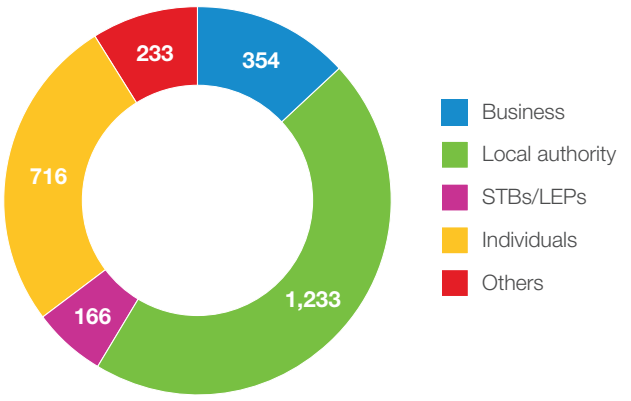

Figure 1.3 - External stakeholder responses

We are increasingly working with subnational transport bodies (STBs), including Midlands Connect, England's Economic Heartland and Transport for the North, so we can ensure that their developing strategies and planning are integrated into our thinking (and vice versa).

Transport Focus

We commissioned Transport Focus, the road user watchdog, to undertake research on road user priorities. More than 4,400 interviews were undertaken with drivers across the SRN. Figure 1.4 below shows the breakdown by user type and purpose.

	Completed interviews	
	3,487	79%
	322	7%
	407	9%
	206	5%
Commuting	501	11%
Business	1,367	31%
Leisure	2,457	56%

Figure 1.4 - Driver sample breakdown

250 fleet managers from a mix of industries, size and regions

The research found that the 66% of users of the South Pennines route rated their experience of the motorway sections as either extremely good or fairly good, while only 56% felt the same about the A road sections. As Table 1.1 shows, 40% of users experienced problems using the route, with congestion and roadworks cited as the two main causes.

The full report has been published on Transport Focus's website www.transportfocus.org.uk/research-publications/publications/road-to-the-future.
We will continue to work closely with Transport Focus to understand customer priorities to ensure that the next RIS reflects their needs.

Experienced problems %	Route impacted	Largest problem	Second largest problem
61%	M25 to Solent		
58%	London Orbital and M23 to Gatwick		
50%	South Coast Central		
46%	Solent to Midlands		
44%	East of England		
43%	Birmingham to Exeter		
41%	South West Peninsula		
41%	North and East Midlands		
40%	London to Scotland East		
40%	**South Pennines**		
39%	Kent Corridor to M25		
37%	London to Scotland West		
32%	Midlands to Wales and Gloucestershire		
30%	Felixstowe to Midlands		
30%	South Midlands		
28%	London to Leeds East		
27%	London to Wales		
17%	North Pennines		

Table 1.1 - Transport Focus summary

2. The route

The South Pennines route runs between the east and west coasts, supporting pan-regional travel across the north of England. The route offers important gateway access, including major ports in Liverpool, Bootle, Birkenhead and Humber, and Manchester Airport.

The route serves Leeds, Sheffield, Liverpool and Greater Manchester, which are among the largest urban areas in England, with each city at the heart of their city regions. The route includes SRN sections spanning from the Welsh border near Chester (with connections to tourist areas along the north Wales coast and further on for access to the Port of Holyhead and Ireland), Liverpool and the Fylde Coast through to Hull, Immingham and Scarborough.

The route comprises a mix of motorways and A roads. The motorway sections are predominantly 3- and 4-lane, while some sections of the M60 are 4 lanes with supplemental 2-lane collector and distributor roads running parallel. There are also a number of locations where the route is made up of dual 2-lane carriageways and single carriageways including the M65, M53, A55, A550, A585, A663, A5036, M602, A628, A63, A64, A1033 and the A180.

The route provides key gateway connections to Manchester Airport (which is the busiest airport outside of London) as well as the Doncaster Sheffield and Leeds Bradford international airports which both experienced growth in passenger numbers between 2014 and 2015.

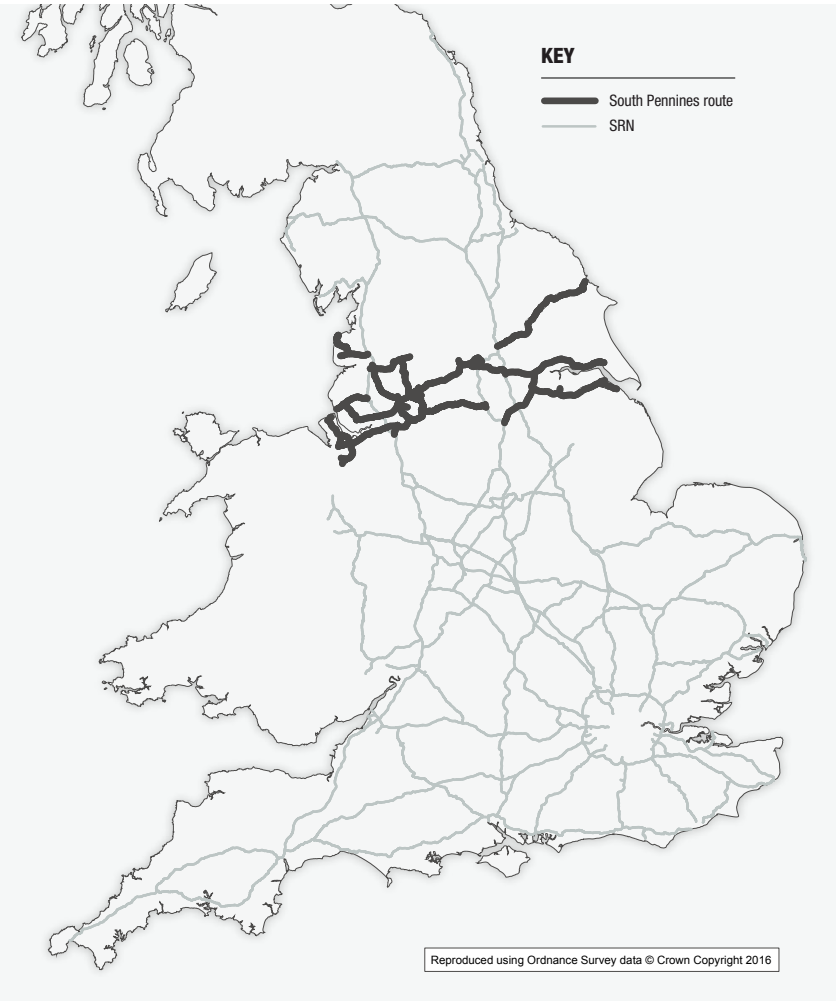

Figure 2.1 - Route overview map

The M62 forms a large part of the route and connects the cities of Hull, Leeds, Manchester and Liverpool. These distinct inter-urban sections generate short commuting trips between key locations, such as within the conurbation of West Yorkshire, but also serve long-distance traffic. In addition, the M60 orbital ring road and arterial links include long-distance east–west traffic from the M62 as well as short journey commuting trips from the 22 local authority areas in Greater Manchester, Cheshire, Merseyside and beyond to north Wales and Lancashire. The A628 provides an alternative crossing of the Pennines joining Greater Manchester and South Yorkshire albeit via a route which is not optimal for year-round fast or reliable road conditions due to the topography and exposure to weather conditions.

Smart motorways are in place on M62 junctions 25 to 30 with a RIS1 commitment to extend that west across the Pennines to junction 18 and onwards throughout the north-west section of the motorway around Manchester (M60 junctions 8 to 18).

As well as the inter-urban sections, there are large rural areas near the route. Some sections, such as the A628 and A64, pass by villages and hamlets. The rural parts across the Pennines can be disrupted by severe weather. The M62 (east of junction 22) is the highest point on the English motorway network.

At either end of the route are the A64, the M55 and the M53/A55, which are all affected by tourism that can cause large seasonal variations in traffic flow. There are events, such as the Blackpool Illuminations, which generate unusual traffic patterns outside normal holiday periods. There are also a number of key visitor attractions and major retail complexes alongside the motorway, including the Trafford Centre and Cheshire Oaks. These can each cause congestion outside normal peak periods.

The route, and particularly the motorway sections, plays a vital pan-northern function and is of key importance to the transformational economic change which is being promoted by Transport for the North (TfN) and other bodies. It is evident that the transport infrastructure will be a critical aspect in helping realise the opportunities to transform the north of England's economy.

There are a number of sources of freight traffic along the route, including ports and large logistics and warehousing developments. The M62 and part of the M60 are designated as part of the Trans-European Transport Network (TEN-T), connecting Ireland with northern Europe. The expansion afforded by the completion of the Liverpool2 container terminal will drive further demand to the port, with the A5036, M57, M62 and M58 providing vital highway access.

"The route covers key east-west highway connections, joining the Leeds, Sheffield, Liverpool and Greater Manchester areas."

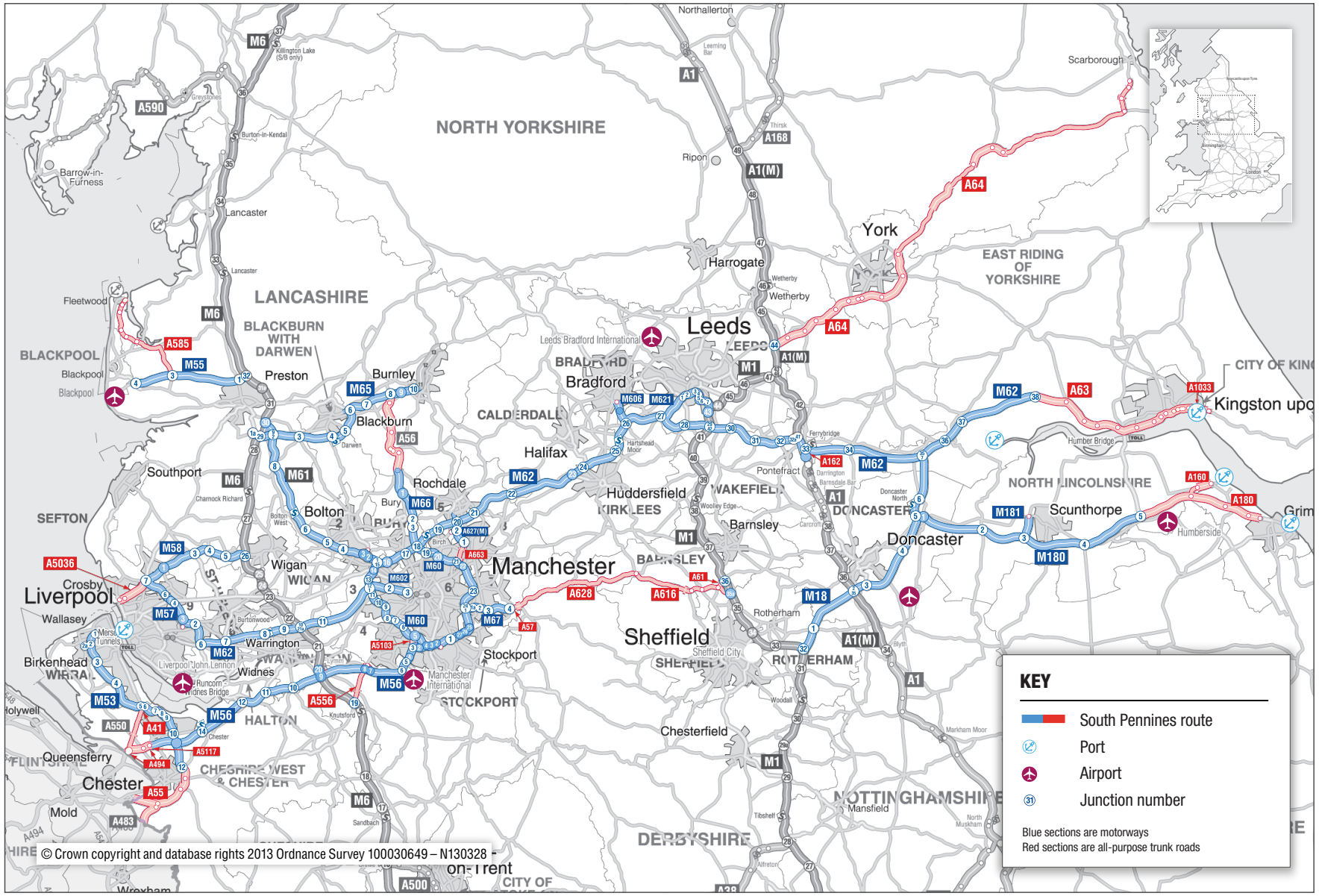

Figure 2.2 - Route Strategy overview map

3. Current constraints and challenges

This chapter outlines the emerging issues raised by stakeholders and is supplemented by Highways England information.

The following text and figures within this chapter provide a summary of the information collected and applied to our strategic themes.

A safe and serviceable network

Safety issues affect the network at a number of points within the route.

Many of the worst collision sites are around junctions where major routes meet, for example, the M65/A56 interchange near Burnley. On the eastern side of the route, the interchanges which the M62 forms with the M606 and M1 have a relatively high incident rate.

Other prominent locations with safety issues are on the M621 near to Leeds and along the M56 near Frodsham. Within Greater Manchester, the M60 is regularly affected by disruption from accidents, with junctions 10 to 13 one of the most regularly affected network sections.

Operational resilience is a key challenge for the Trans-Pennine crossings where the routes can be exposed to more hazardous weather conditions and where diversion routes are often unsuitable for high volumes of traffic.

More free-flowing network

As a key link between major northern cities and urban areas, the route suffers congestion across a number of sections. The Manchester North West Quadrant and the Trans-Pennine Tunnel strategic studies were developed to help consider the long-term solutions to relieve some of the worst congestion within the route. The congestion which affects the A5036 should be relieved by the planned improvement scheme which will improve highway access to the Port of Liverpool.

Congestion affects sections of the M56, M66 and M65 as well as around the M6/M62 Croft interchange. There is congestion on the M6 near to Preston where a number of motorways connect (junctions 30 to 32 being most affected). There are concentrations of delays around Leeds, as well as at the M62/M606 interchange and on the M62 near to Huddersfield and Castleford.

Within the route, there is also congestion and delays on the single carriageway sections of the trunk road. One example is to the east of York where the A64 is a rural single carriageway which can suffer with congestion at peak times and due to tourism variation. Similarly, flow on the A585 route towards Fleetwood causes congestion between Windy Harbour and the M55.

There are congestion issues as a result of the poor resilience on the A63 in the event of an incident. This is compounded by a lack of technology on the route to keep drivers informed of such situations.

Supporting economic growth

This route supports east–west travel across the north of England, and therefore has a critical economic function in facilitating the growth of the Northern Powerhouse, and the agenda being promoted by TfN. Improving connectivity between northern cities is at the centre of their ambitions, with road links between Liverpool, Manchester, Sheffield, Leeds and other major northern gateways seen as a vital element in bringing these hubs together.

The route joins a number of key economic centres, including providing vital roads access to the Manchester and Leeds city regions which are among the largest urban areas in England, and critical for jobs. There is a need for better multi-modal transport capacity to enable easier cross-Pennines travel. Rail investment programmes also aim to improve travel opportunities between northern cities.

The SRN performs a critical function in connecting the economic hubs across north Wales. There are growth aspirations across the Greater Manchester area, which includes HS2 high-speed rail connectivity in the city centre and near to Manchester Airport. The network also provides the interchange with the M6 north/south-western spine, providing strategic travel opportunities to the north-west (towards Cumbria and Scotland) and to the south (towards the Midlands).

The M62 provides the link between Greater Manchester and Yorkshire, formed around the Leeds city region. Manchester–Leeds travel is more prominent than Manchester–Sheffield travel, which is partly as a result of the higher standard of road link on the M62 compared to the A628. East of the M1, South Pennines includes 3 key routes to the coast at Scarborough (via York), Grimsby and Hull. Data from 2014 indicates that the Grimsby and Immingham ports operate as the busiest site in the United Kingdom in terms of their combined freight tonnage, emphasising the economic importance of that corridor, especially for freight movements. It is also understood that the rural nature of the SRN in North Yorkshire is seen locally to be restricting the region's economic prosperity, particularly on the A64.

An improved environment

The route experiences a number of environmental challenges.

Air quality is a concern in a number of locations designated as Air Quality Management Areas (AQMA). This includes much of the network around Greater Manchester and through Warrington, as well as eastern sections of the M62 (junctions 29 to 33), parts of the A628, A616, M67, A57 and the A63 within the centre of Hull.

Noise important areas are also identified at a number of locations, these are indicated on figures 3.1 to 3.4.

There are a number of sections within the route where the topography causes challenges that can lead to roads being closed in severe weather, such as sections of the M62 and A628.

The route also passes the Rostherne Mere National Nature Reserves, the Humberhead Levels Nature Improvement Area, Peak District National Park and Howardian Hills Areas of Outstanding Natural Beauty.

There are notable flood instances on the M62 around junctions 23, 25 and 28. There are also issues of flooding on the M606, the A616 south of Penistone and the M18 junction 5.

A more accessible and integrated network

The stakeholder evidence identifies a number of locations where walking and cycling are affected by the route, including sections of the A5036, M67 and M60.

The evidence review also highlights locations where local highway authorities see opportunities to open up new routes of access to the route. This could include alterations to existing junctions or the provision of additional junctions to improve the operation of the overall road network, including both SRN and local roads. Within the route, there are a number of potential opportunities identified that could be considered, including near Manchester, Huddersfield and Chester.

South Pennines - Route Strategy: Map 1 of 4

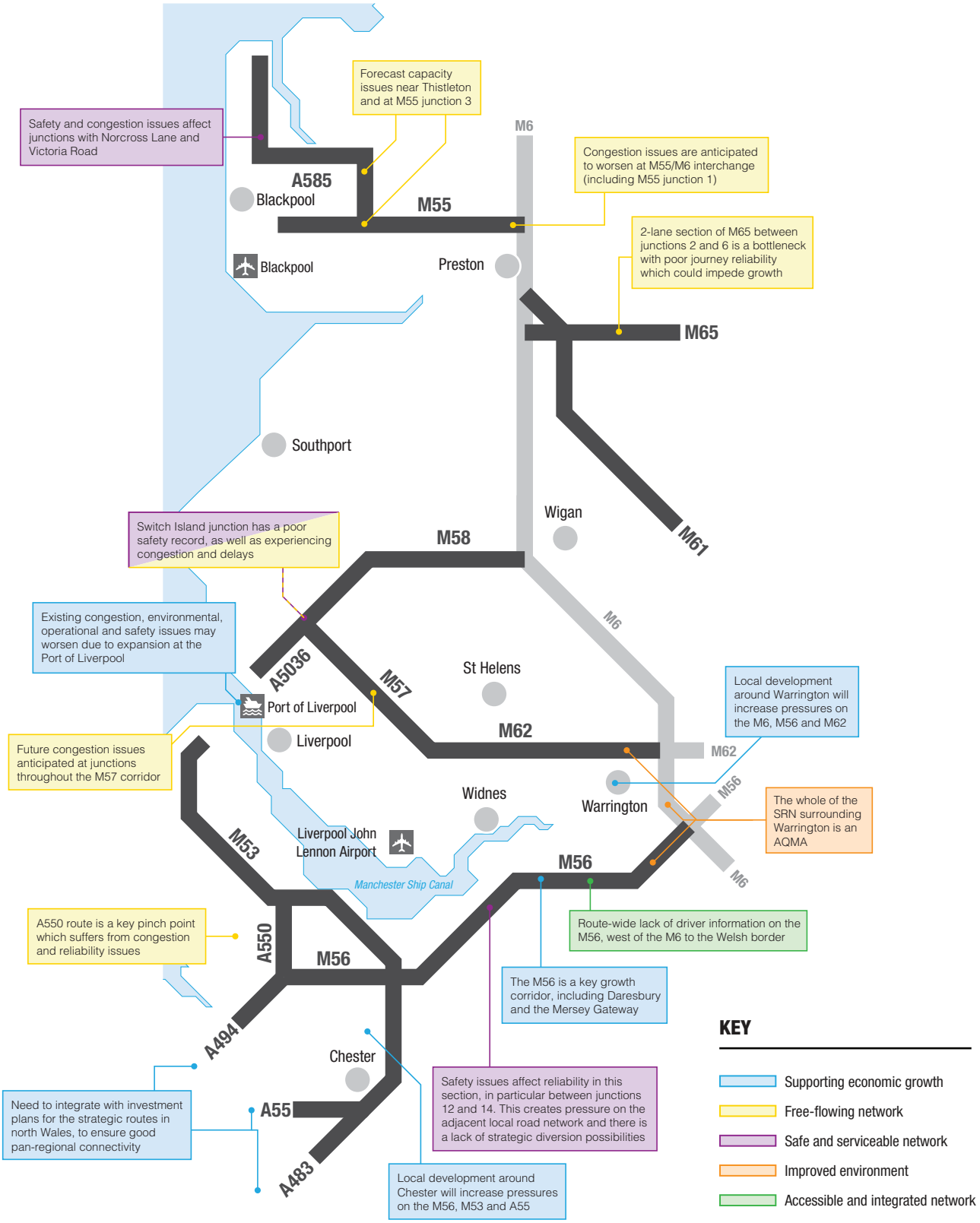

Figure 3.1 - Key challenges for the route

South Pennines - Route Strategy: Map 2 of 4

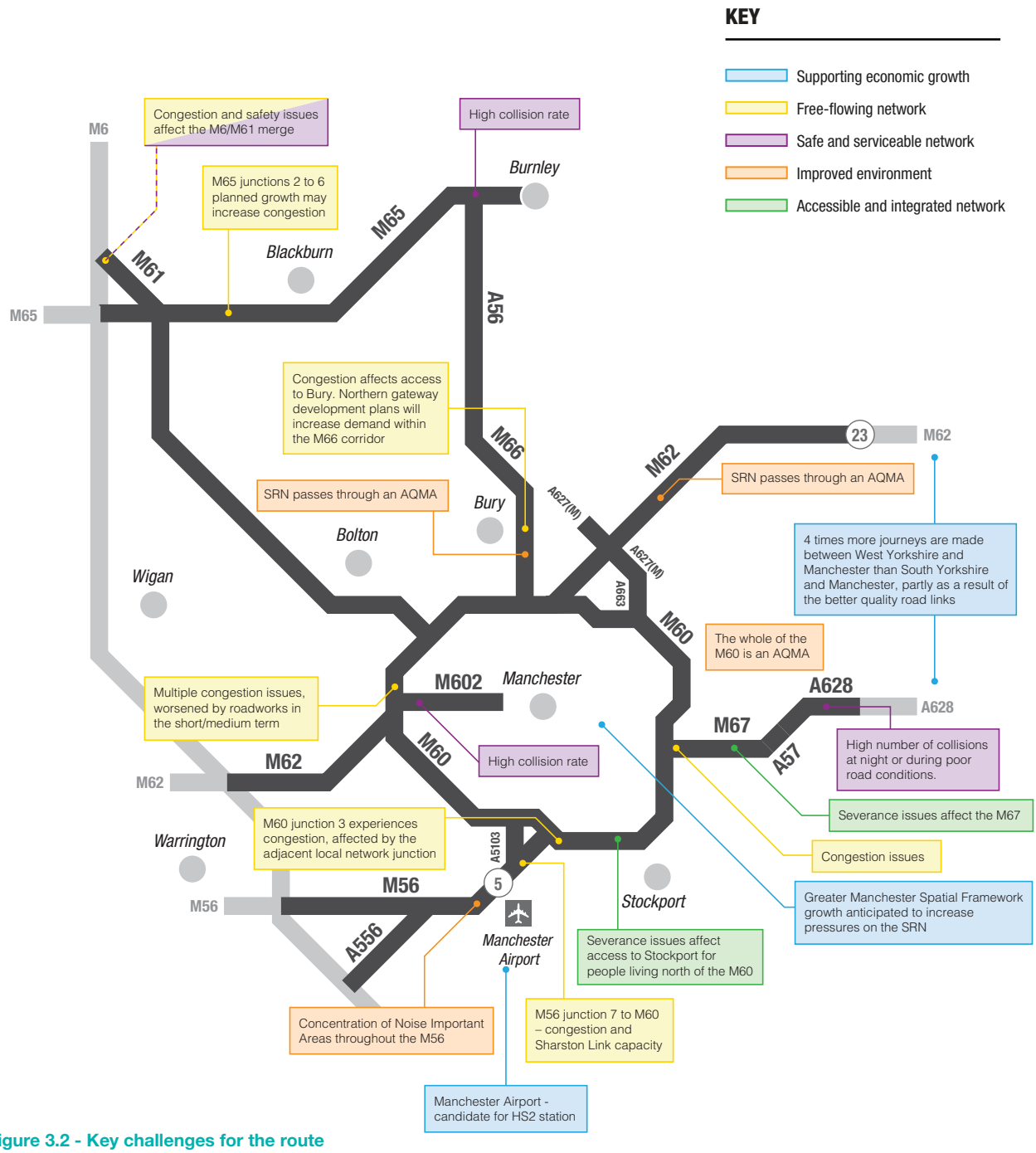

Figure 3.2 - Key challenges for the route

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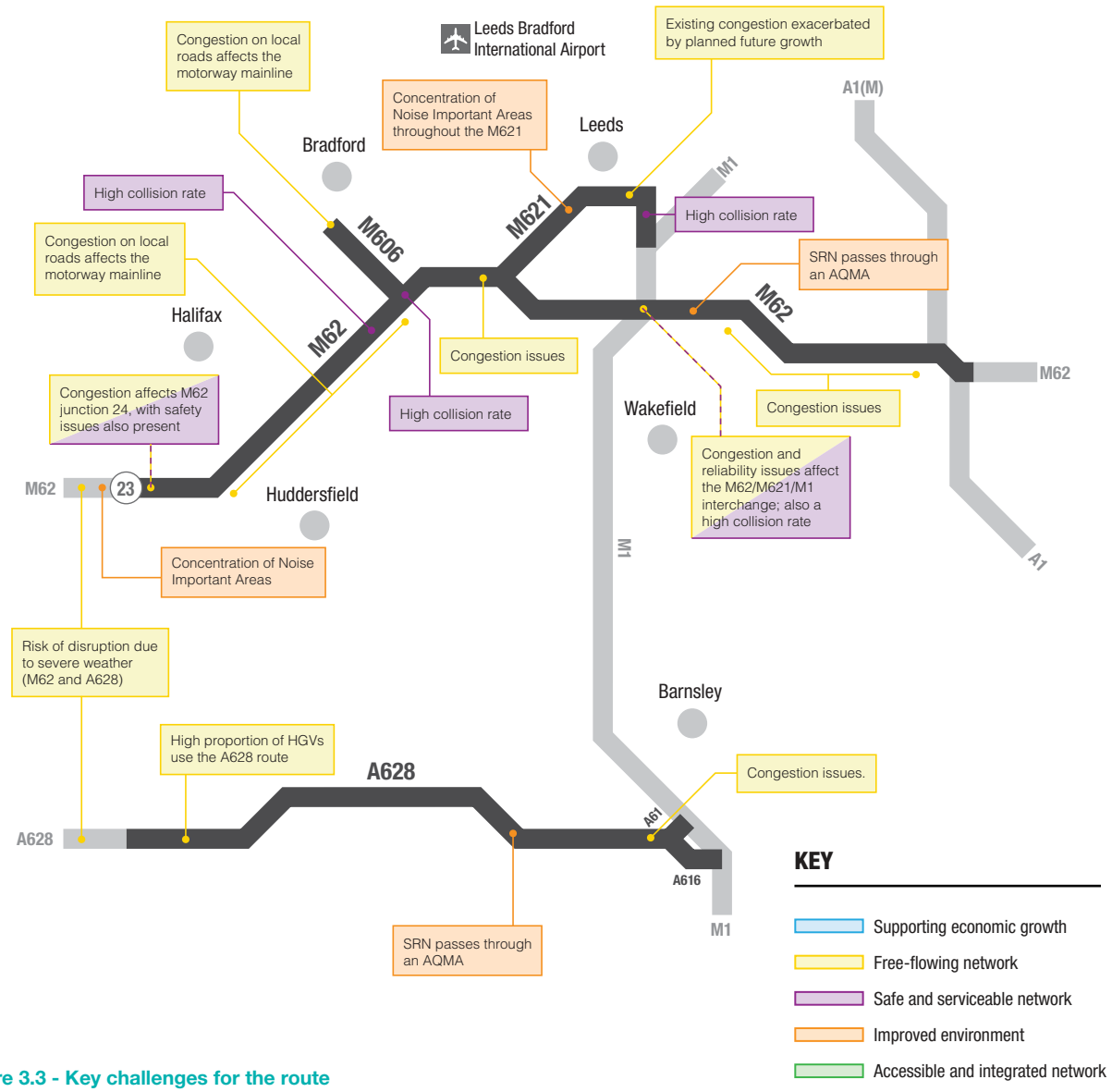

Figure 3.3 - Key challenges for the route

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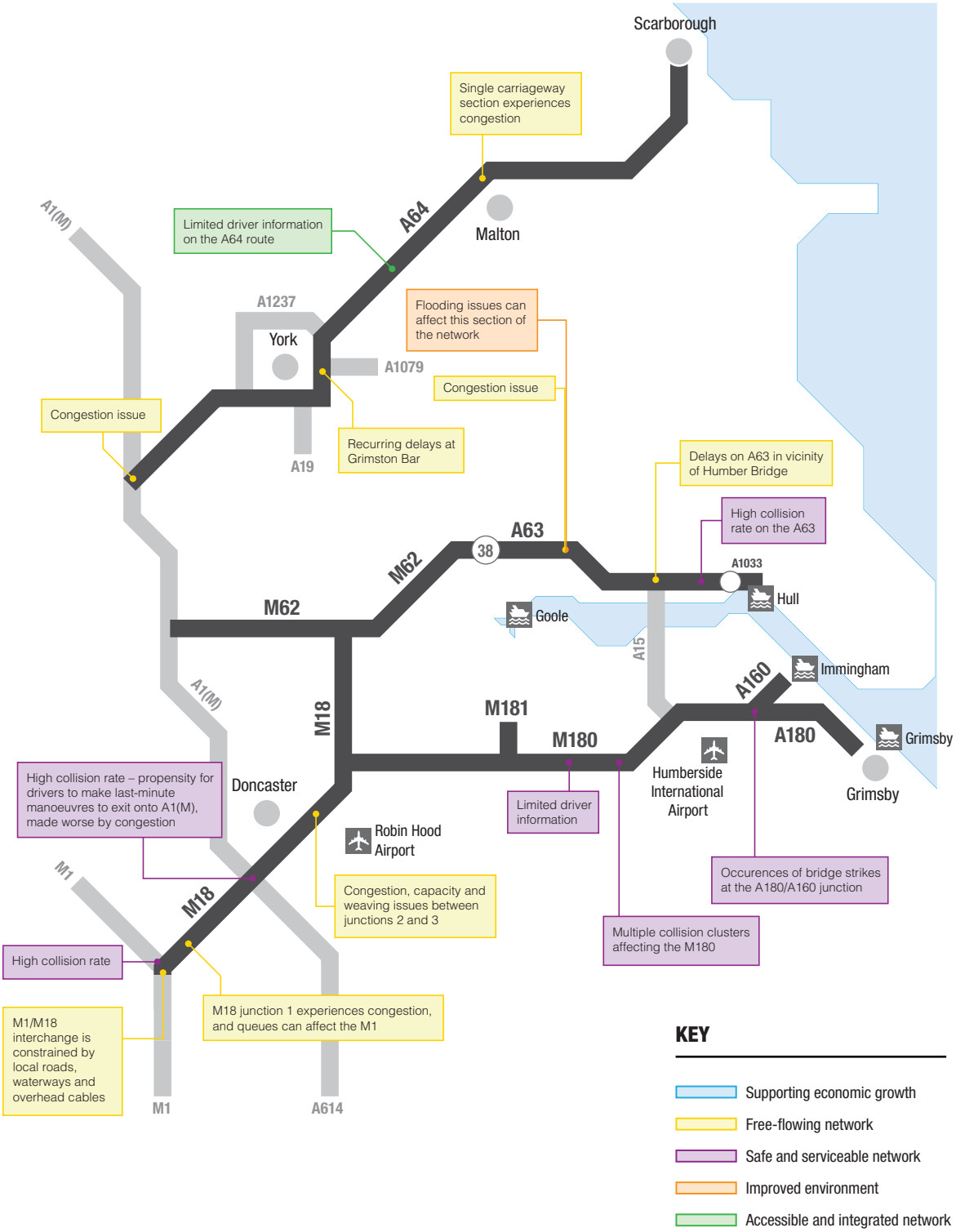

Figure 3.4 - Key challenges for the route

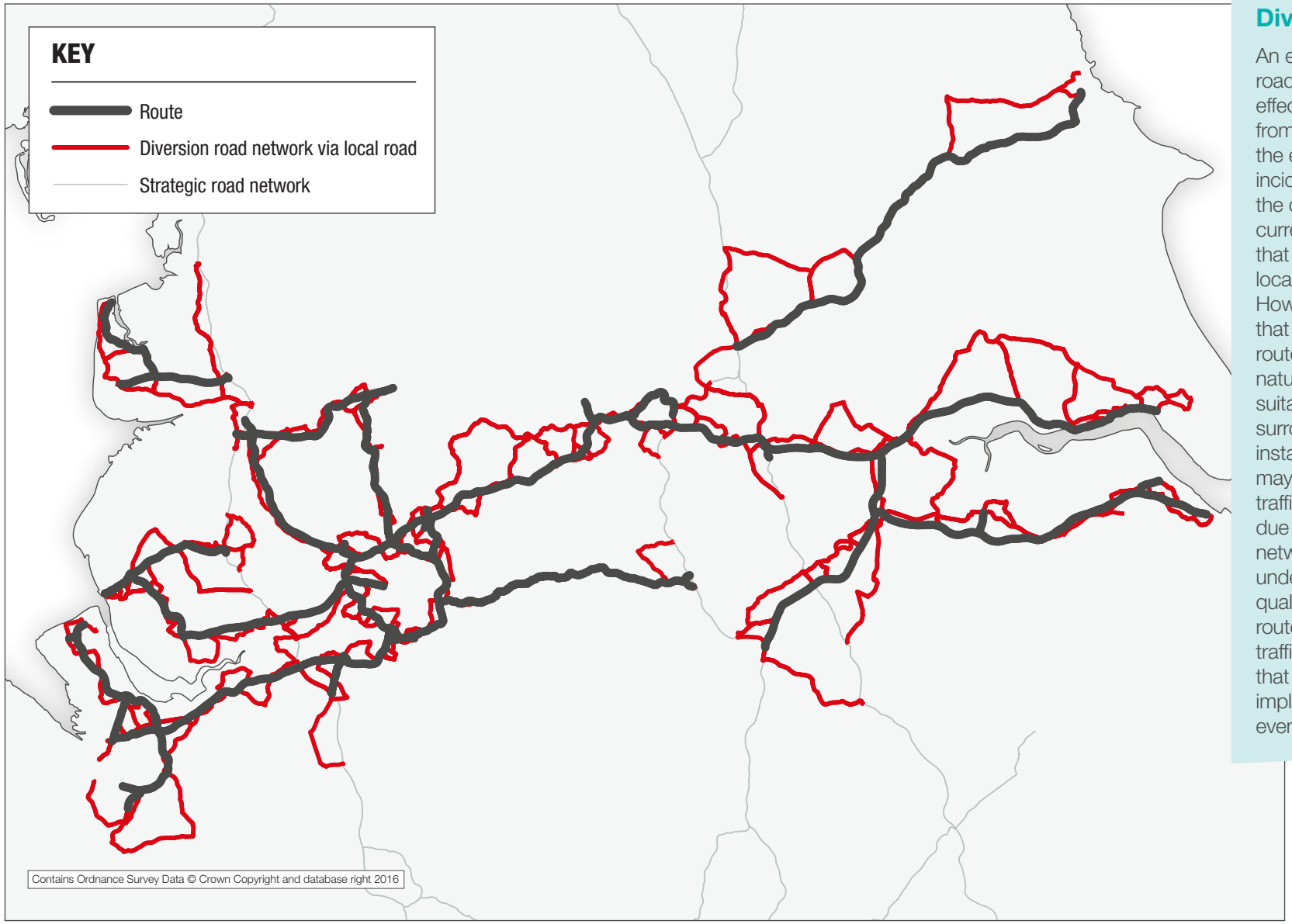

Figure 3.5 - South Pennines diversionary routes

Diversionary routes

An essential facet of a resilient road network is the ability to effectively divert traffic away from closed carriageways in the event of an unplanned incident. The map indicates the diversionary routes that currently exist on this route and that have been agreed with the local road network operator. However, it should be noted that the provision of these routes is dependent upon the nature of the incident and the suitability and availability of the surrounding network. In some instances, the diversion route may not be suitable for HGV traffic or might not be available due to events on the local road network. A review is currently under way to improve the quality and coverage of these routes, and to improve the traffic management procedures that are relied upon to implement these routes in the event of a carriageway closure.

Maintaining the strategic road network

We carry out routine maintenance and renewal of roads, structures and technology to keep the network safe, serviceable and reliable. We also ensure that our contractors deliver a high level of service on the SRN to support operational performance and the long-term integrity of the asset.

The heavy year-round use of all our routes means that they require regular maintenance and inspections for repairs to keep them fully operational, in order to support economic growth. Our maintenance regime focuses on 4 key aspects of the routes: road surfaces, bridges and structures, drainage and earthworks. The summary condition of each on this route is set out below:

Road surface

The surface condition across the route is considered to be sound or having some deterioration with less than 0.5% having severe deterioration that would require focused investigation.

Bridges and structures

The structures across the route are mostly in very good or good condition. According to an analysis of current data, fewer than 2% of our structures are in poor or very poor condition.

Drainage

Drainage assets are represented by both linear assets (for example pipes, channels, ditches, drains) and non-linear assets (for example gullies, chambers). Across the route, drainage assets are considered to be in fair condition for linear assets and very good condition for non-linear assets. Of those assets inspected, over 60% of the linear assets have been assessed as having no defects or only superficial defects, while over 95% of non-linear assets falling into those same categories.

Earthworks

The geotechnical earthworks across the route are considered to be in fair condition, with the total length of earthworks that require further investigation amounting to less than 4%.

New assets have an operational 'life', during which, under normal conditions and maintenance, the risk of failure is expected to be low. Beyond this period, the risk of asset failure is expected to increase, although for many types of asset the risk of failure remains low and we do not routinely replace assets solely because they are older than their expected operational life. We use a combination of more regular maintenance and inspection, along with a risk-based approach to ensure that assets remain safe while achieving value for money from our maintenance and renewal activities.

Future developments

We have taken steps to transform our approach to maintenance by establishing an asset management programme that develops and implements the Asset Management Framework for Highways England.

The framework aligns strategic objectives with regional asset management plans and lifecycle asset management plans. It also includes the analysis required to plan the investment and expenditure on the strategic road network during the next road period, developing the business case options for capital renewals. It will provide a clear articulation of the total value that will be delivered by investment in RIS2, including the costs and benefits of delivering the capital renewals programme.

Operations

We are establishing a nationally consistent approach to the management of our operational capability through our Operational Excellence change programme. This will deepen our understanding of how our interventions impact on the performance of the network and on the journeys of our customers. We are using the latest analytical software to process traffic data and gain insight into:

- how our operational services can improve safety and provide security to road users
- how the attendance of a traffic officer has an impact on incident durations
- how information provided by Highways England can benefit road users who plan their journeys beforehand and then while on their journeys

By better understanding our current operational performance, we can create a baseline from which we can identify opportunities for improvement.

4. Current investment plans and growth potential

Investment in the strategic road network can make areas more attractive for inward investment, unlock new sites for employment and housing and facilitate regeneration.

From servicing the UK's logistics needs, linking our manufacturing heartlands and connecting to our international gateways, supporting services-driven activity in high-growth towns and cities, to meeting the needs of our visitor economy, the SRN is critically important to servicing the UK economy.

Economic context

Highways England has been working with a wide range of stakeholders to develop a strategic economic growth plan, which we are calling *The Road to Growth*. This plan explores the economic role of the strategic road network, and aims to explain how we will further increase our contribution to the UK economy. As part of the evidence base for *The Road to Growth*, over 400 economic hotspots – or economic opportunity areas (EOAs) – around the SRN have been identified in consultation with Local Enterprise Partnerships (LEPs). The figures in this chapter highlight the EOAs which most closely align and are supported by the route.

To inform the development of *The Road to Growth* and assess the relationship between the SRN and economic growth, a suite of evidence reports were completed. These reports were published alongside The Road to Growth discussion paper and were subject to public consultation from November 2016 to January 2017. Alongside the engagement we have undertaken with all LEPs across England, the following evidence reports have ensured we have a more comprehensive economic evidence base and a better understanding of future challenges and opportunities:

- economic growth and the SRN – an evidence review of the relationship between transport investment and economic growth
- commercial development – an assessment of the relationship between the main property sectors and the SRN
- international gateways – a review of principal international gateways (ports and airports) and their contribution to the economy
- socio-economic analysis and future forecasts – mapping of socio-economic data (population, deprivation and employment) and sectoral forecasts up to 2030. This included identification of the likely growth forecasts for all sectors with a particular focus on those sectors heavily dependent on the SRN

The Road to Growth sets out our evidence findings to date and the steps we will take to enhance our enabling role in supporting economic growth.

Innovation

In April 2016, we published our Innovation, Technology and Research Strategy which set out how Highways England will use pioneering behaviours to help support our strategic objectives and create value for customers and stakeholders.

The £150 million Innovation Designated Fund was established to support innovative capital projects and to support developing the use of emerging technologies, new materials and ways of working.

Investment plans

The following figures show the location of Highways England major improvement projects which have previously been announced to help tackle some of the issues on the network. The Highways England website and delivery plan updates should be consulted for the latest information.

The figures also show strategic studies which have been progressed during RIS1, innovation projects and economic opportunity areas.

South Pennines - Route Strategy: Map 1 of 4

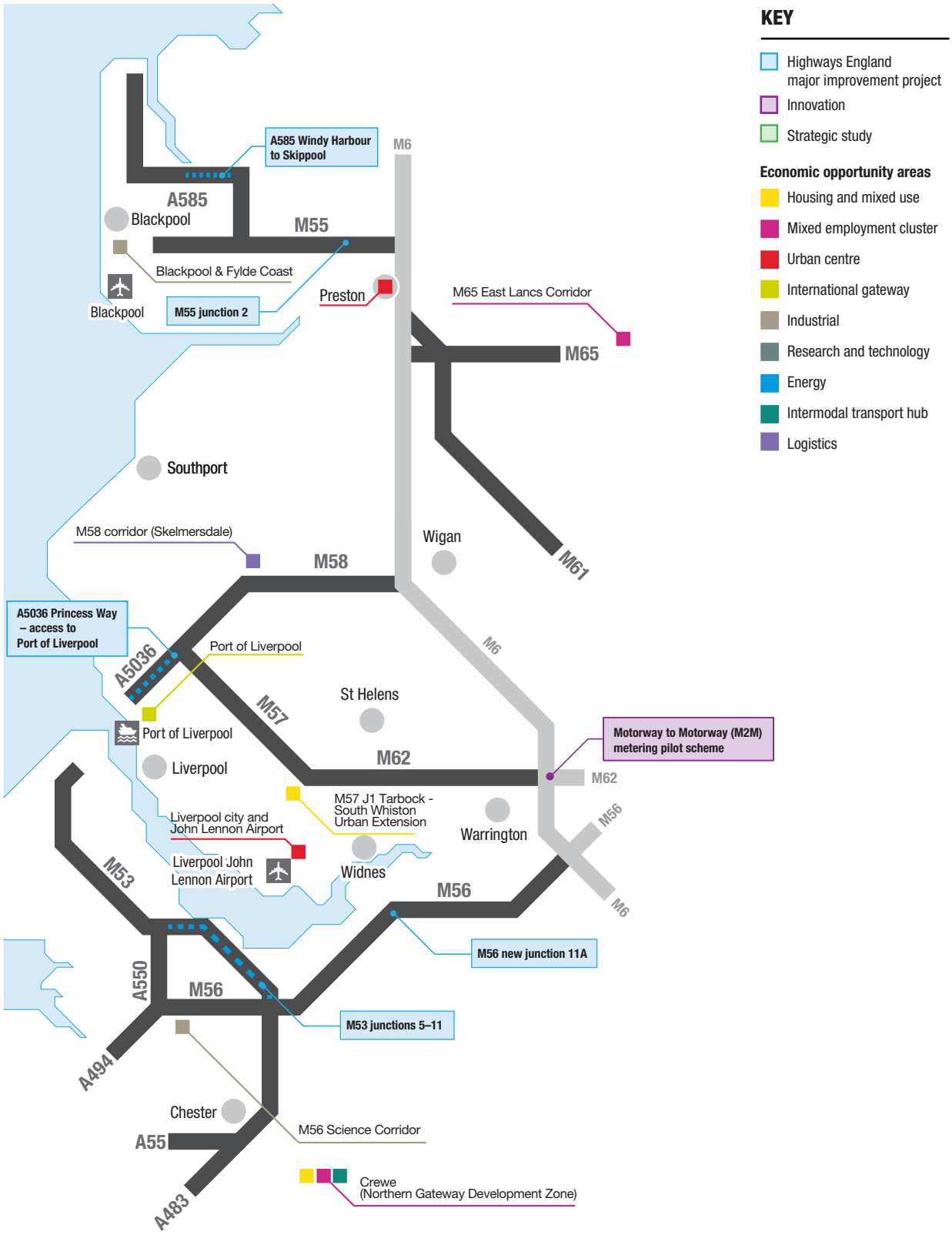

Figure 4.1 - Investment plans and economic opportunity areas

South Pennines - Route Strategy: Map 2 of 4

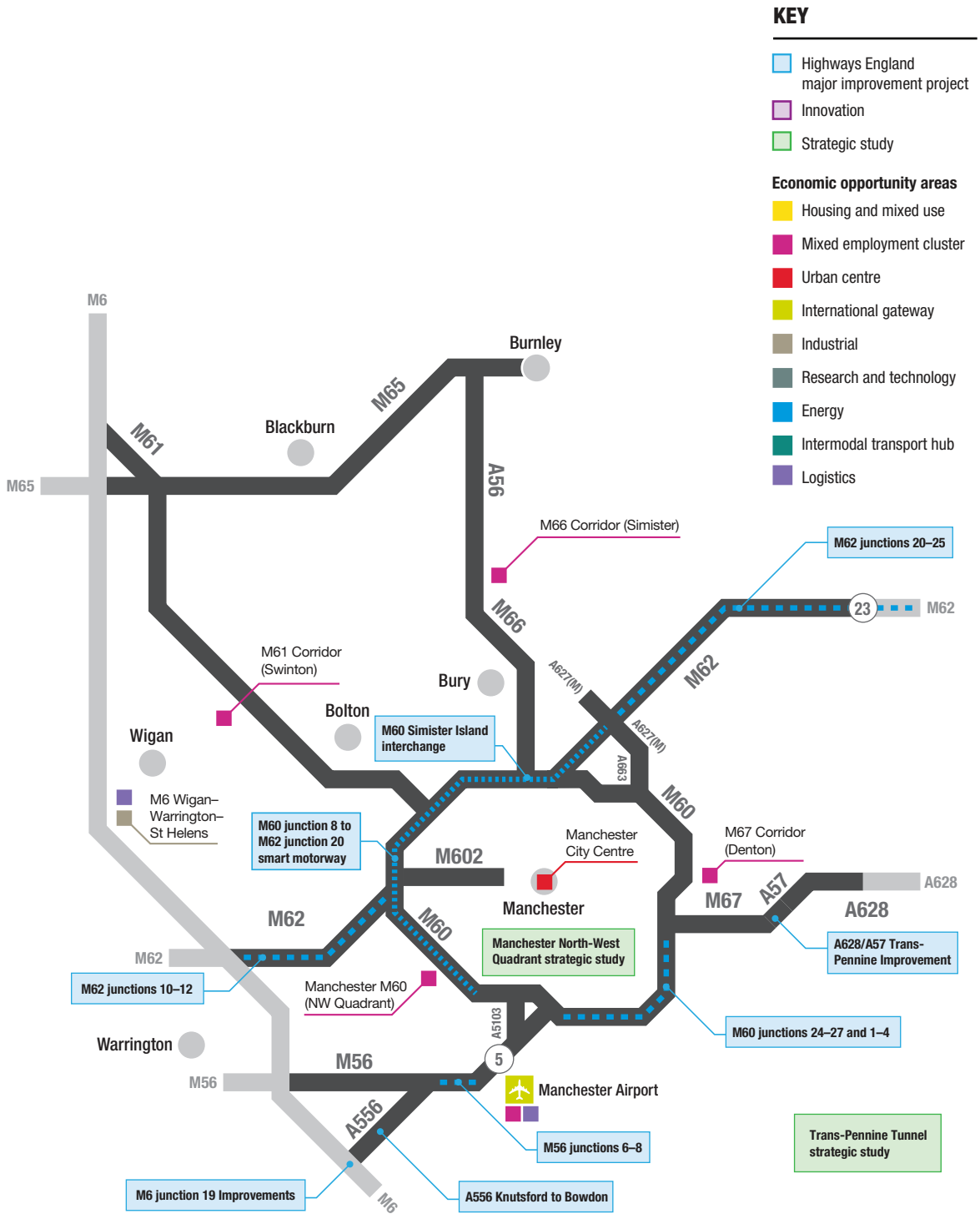

Figure 4.2 - Investment plans and economic opportunity areas

South Pennines - Route Strategy: Map 3 of 4

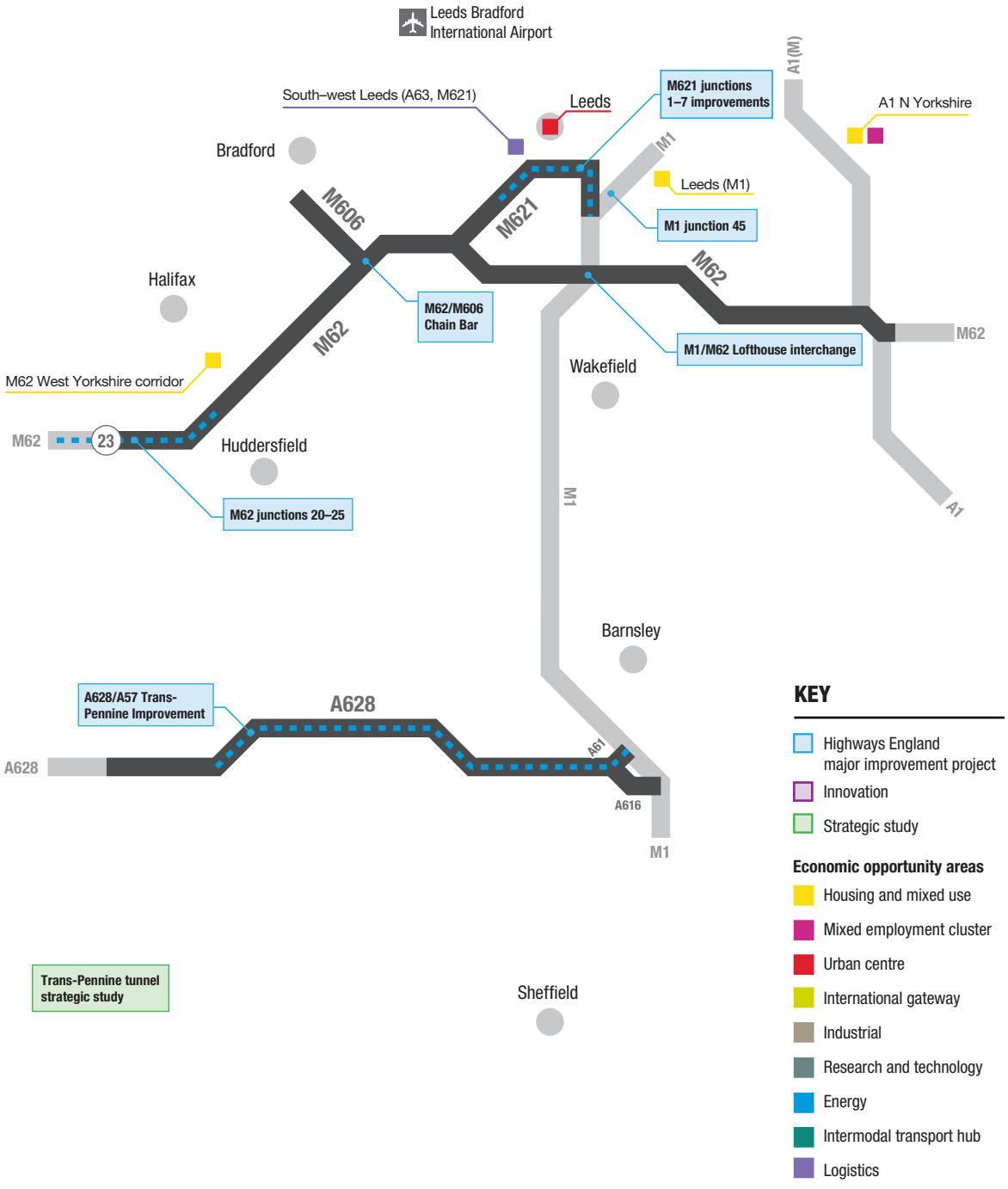

Figure 4.3 - Investment plans and economic opportunity areas

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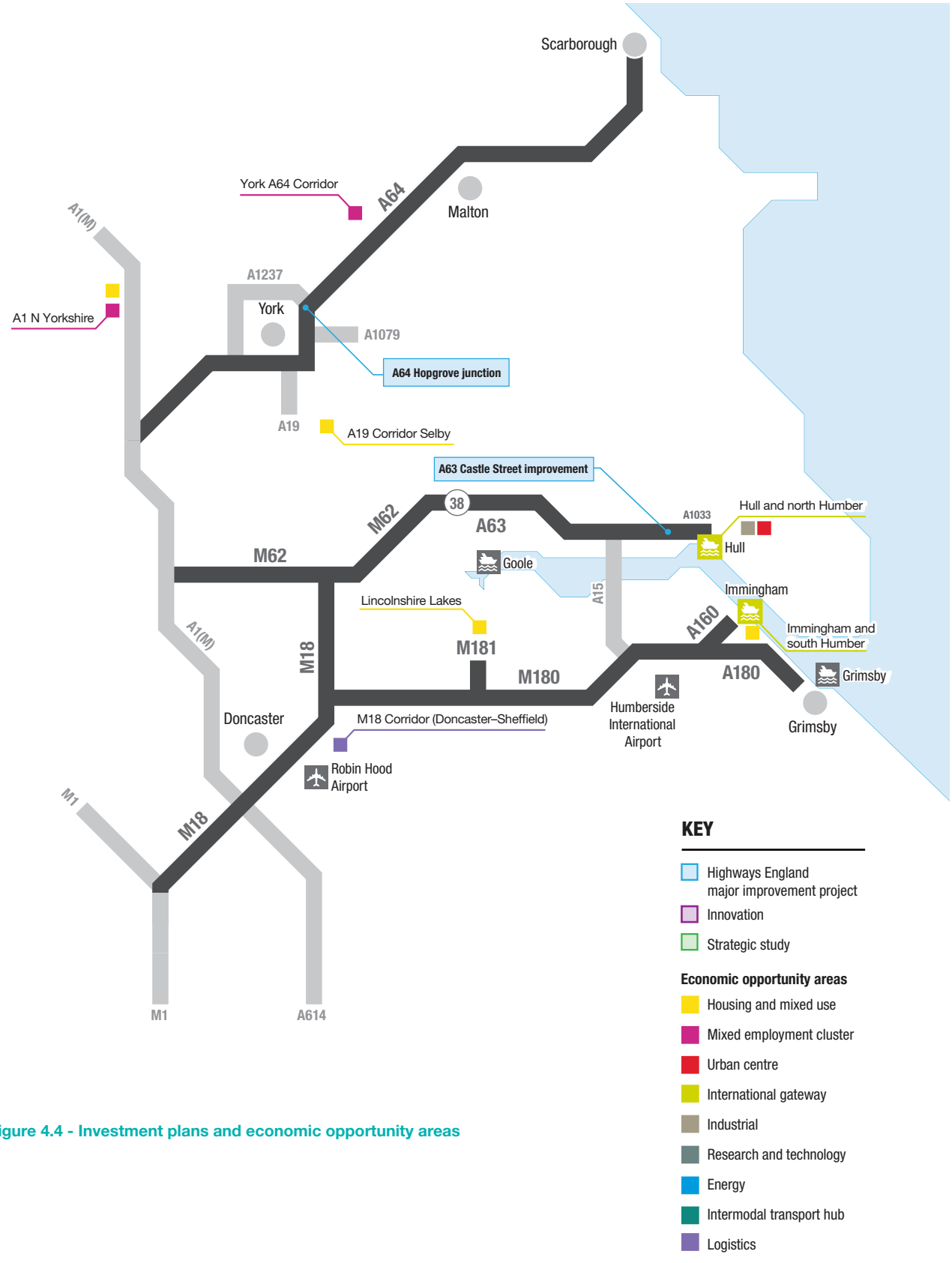


Figure 4.4 - Investment plans and economic opportunity areas

5. Future challenges and opportunities

Route Strategies have identified study areas on the strategic road network which require further investigation of the issues raised by stakeholders and identified through Highways England intelligence. These study areas will now be assessed further as part of our development for RIS2.

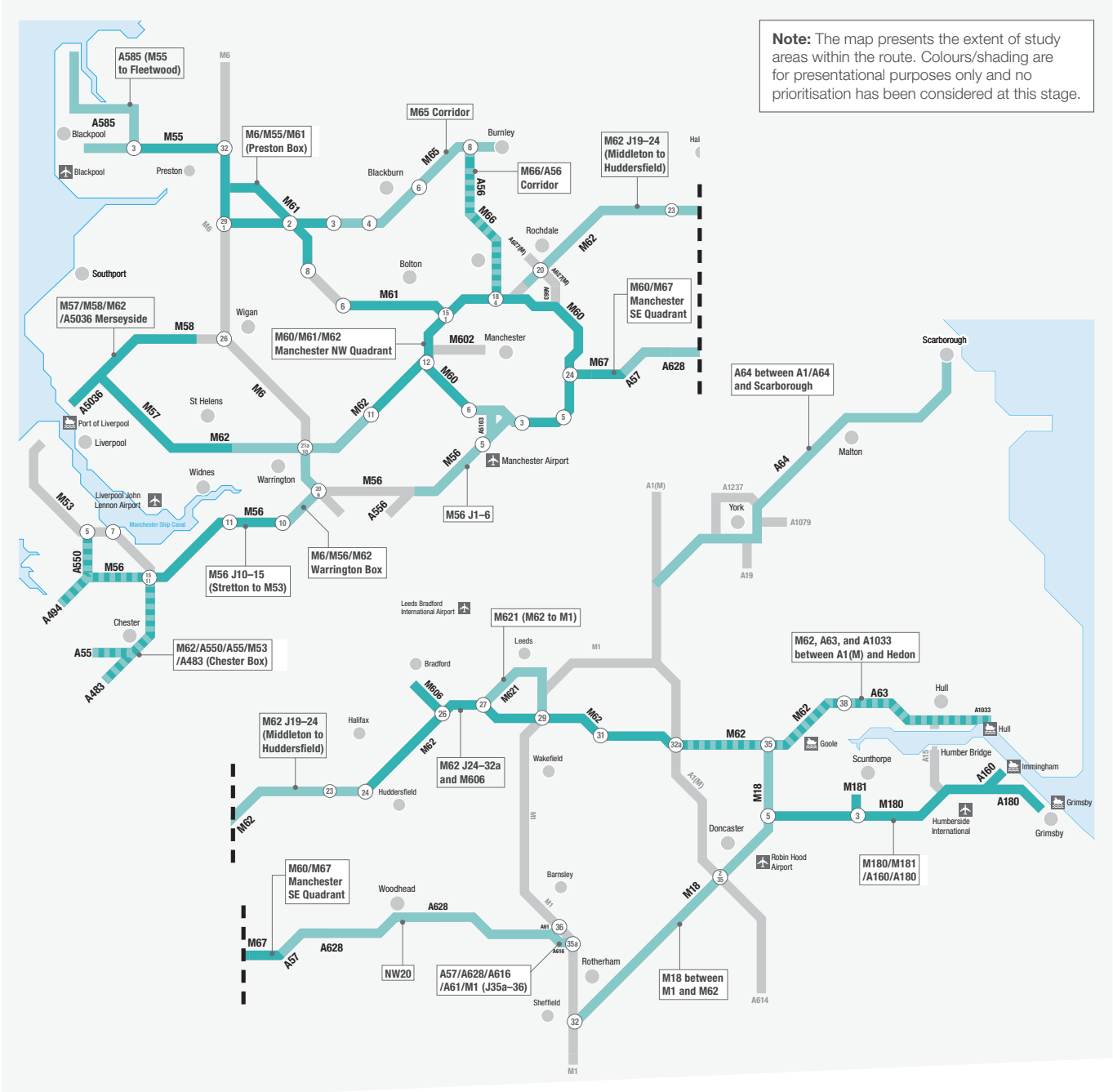
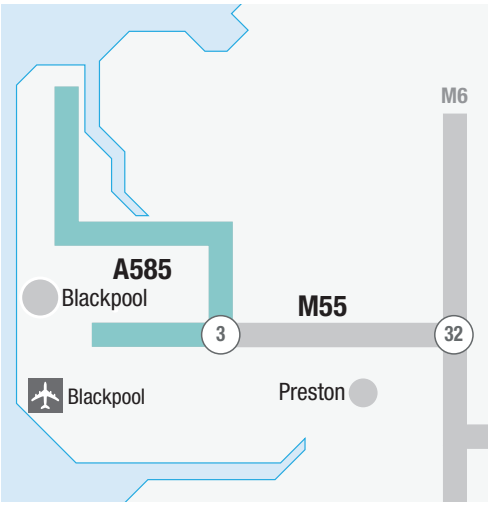


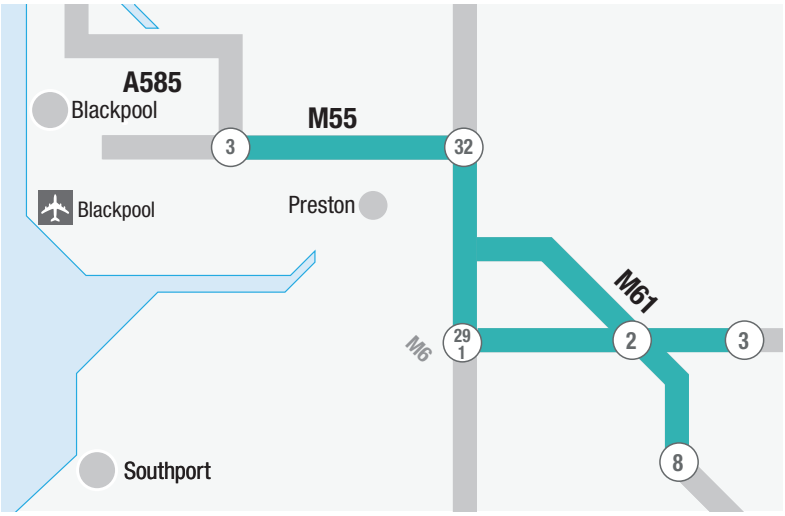
Figure 5.1 - Map of study area

A585 (M55 to Fleetwood)



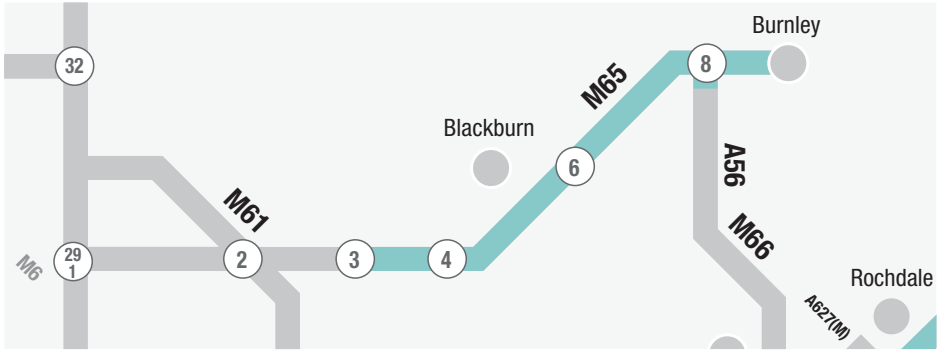
- This section of the network has a strong economic value for Blackpool and the Fylde Coast. The A585 corridor (and its gateway at M55 junction 3) is susceptible to congestion and delay which could inhibit local growth potential.
- The RIS1 scheme to relieve Little Singleton will improve one pinch point in the corridor.
- Wyre Council have aspirations to deliver significant housing before 2031, with the A585 being the key corridor for highway access.

M6/M55/M61 (Preston Box)



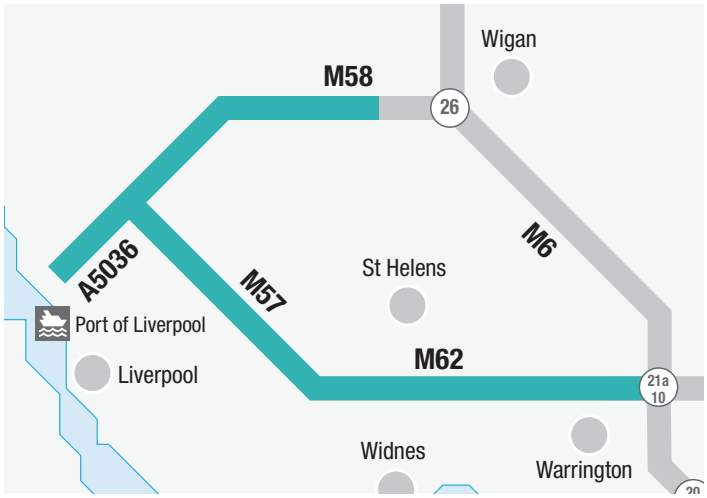
- The network around Preston is a critical section, including the busy section of the M6 spine (M6 junctions 29 to 32).
- The Preston City Deal is expected to deliver jobs and homes in the surrounding area and is likely to introduce pressures at key junctions. There is a need to better understand how the distribution of this development will affect the route.
- The M6/M55 interchange is a key gateway to the Fylde Coast (including the tourism attractions in Blackpool) and growth is likely to lead to increased pressures at the junction, leading to worsening congestion.
- There are congestion issues around the M6/M61 merge.

M65 Corridor



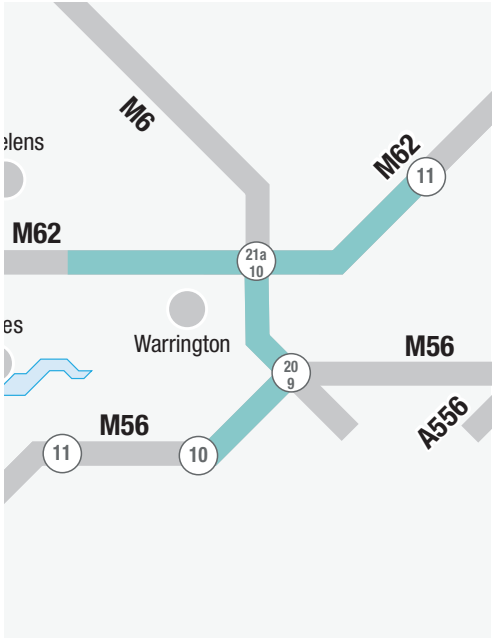
- East Lancashire is popular with commuters and high-quality links into the SRN is a priority to ensure future prosperity.
- Increasing traffic flows mean the 2-lane sections of the M65 motorway may struggle to accommodate increased demand.
- Almost all existing and future strategic housing and employment development sites in East Lancashire are located in close proximity to the M65 and/or require effective access to or from the route.
- This study area contains some of the worst performing parts of the SRN for road safety.

M57/M58/M62/A5036 Merseyside



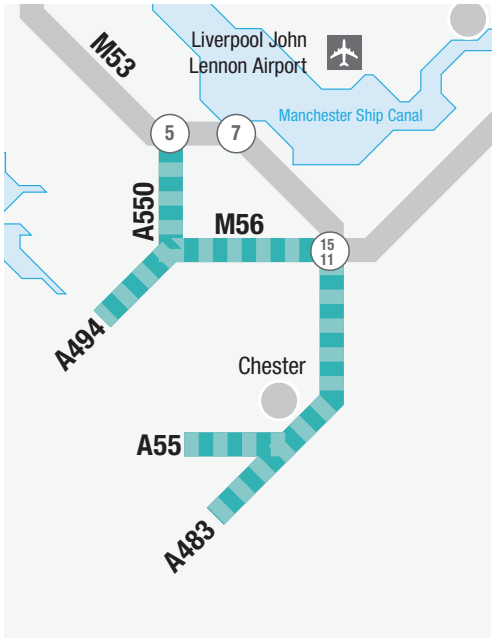
- The completion of Liverpool2 at the Port of Liverpool places increased national economic importance on the road network serving Liverpool. RIS1 is committed to improving the A5036 section which connects the motorway to the port access gate.
- The M57 is lined by numerous employment hubs and business parks which rely on the SRN to sustain business and promote growth. There are existing pressures at many of the junctions within the corridor, and increases in demand will cause greater congestion.

M6/M56/M62 Warrington Box



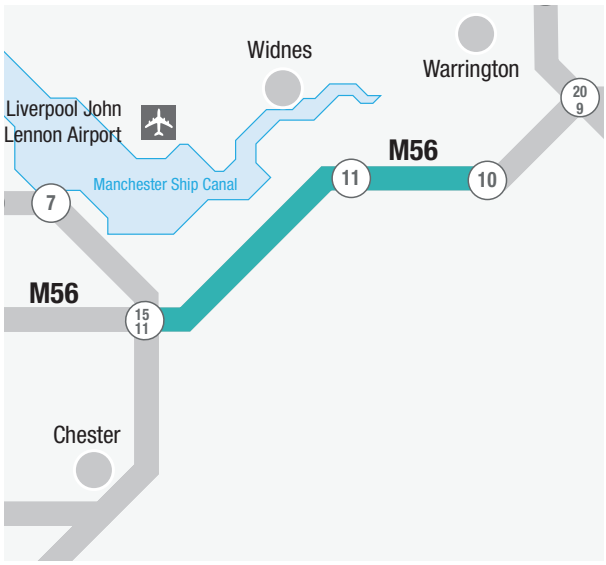
- This section is one of the most critical motorway sections, providing the links for interchanging between the M6, M56, and M62. The section also includes Thelwall Viaduct which is the main north–south crossing of the Manchester Ship Canal and its resilience has a regional and national impact.
- There are increasing congestion issues which affect both the Lymm and Croft interchanges. The housing and employment growth aspirations in Warrington will create additional pressure on the SRN. Impacts are most likely to affect these major interchanges at Lymm and Croft, as well as the mainline M62.

A550/A55/M53/A483 (Chester Box)



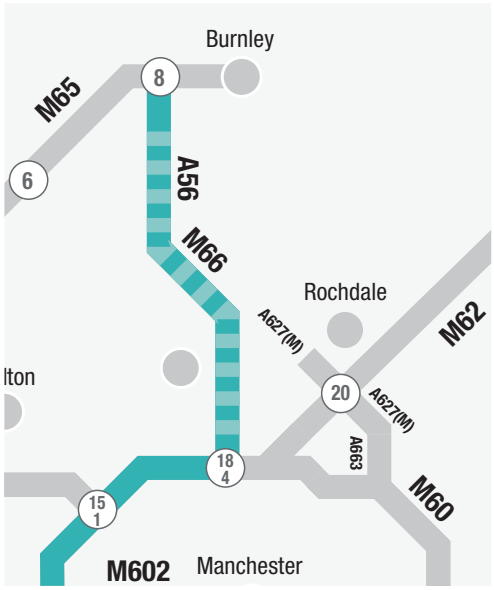
- Increasing demand is placing pressure on the A550 route, restricting SRN connectivity between north Wales and Merseyside. As a 2-lane single carriageway, the link struggles to accommodate the traffic demand using the route and has a particularly poor safety record.
- Local authorities are planning significant growth within the Mersey Dee region which will drive further use of the network, and lead to congestion issues on the SRN around Chester. The A55 and A41 local highway network to the east and south of Chester is thought to be most severely affected by growth demand.

M56 junctions 10 to 15 (Stretton to M53)



- The M56 corridor provides the strategic access route between Manchester, Chester and north Wales and so holds a key economic function in supporting pan-northern enterprise. The route suffers from congestion and collisions which have an impact on its efficiency.
- There is also a lack of alternative connections between north Wales and the M6 spine, placing a high reliance on the M56 for travel to and from destinations in the Midlands and in the South. Safety issues between junctions 12 and 14 can affect the reliability of the route.
- Significant traffic growth is forecast for the M56 from housing and employment growth, as well as development of the nearby Daresbury enterprise zone and the Mersey Gateway.

M66/A56 Corridor

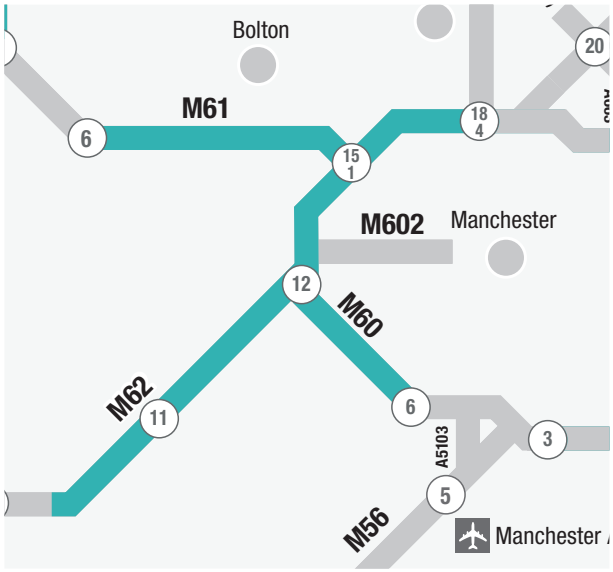


- The proposals in the Greater Manchester Spatial Framework include large scale development close to the southern section of the M66. Access to Bury is already constrained by the performance of M66 junctions 2 and 3.
- The flow of traffic on the southern sections of the M66 is understood to be affected by congestion building back from Simister Island.
- As the feeder route into the M66, the A56 section carries high levels of traffic for a 2-lane all-purpose trunk road. The junctions within the route are the main source of congestion and safety issues.
- This study area contains some of the worst parts of the SRN for flooding issues.

M56 junctions 1 to 6

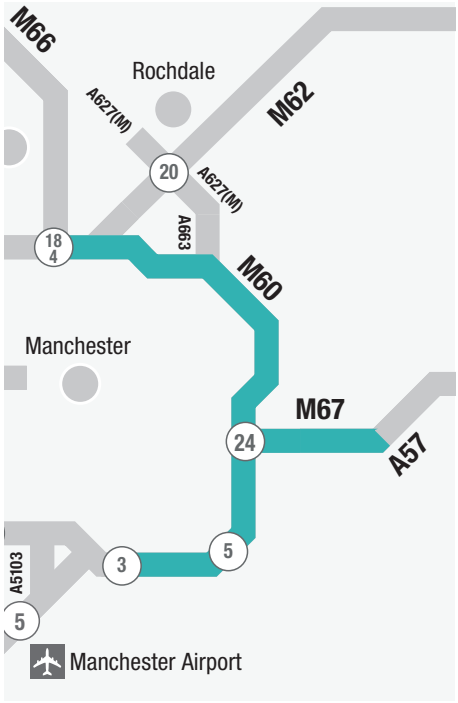
- The M56 corridor between Manchester Airport and the M60 is heavily congested during peak periods, struggling to accommodate the level of demand. This is a key link between the south and Greater Manchester, with traffic filtering onto the Manchester Box network.
- There is a need to plan for the future pressures at the M56 junctions 5 and 6, anticipated due to growth at Manchester Airport and the future HS2 station. The proposals in the Greater Manchester Spatial Framework will also further increase demand across this part of the network.

M60/M61/M62 Manchester NW Quadrant



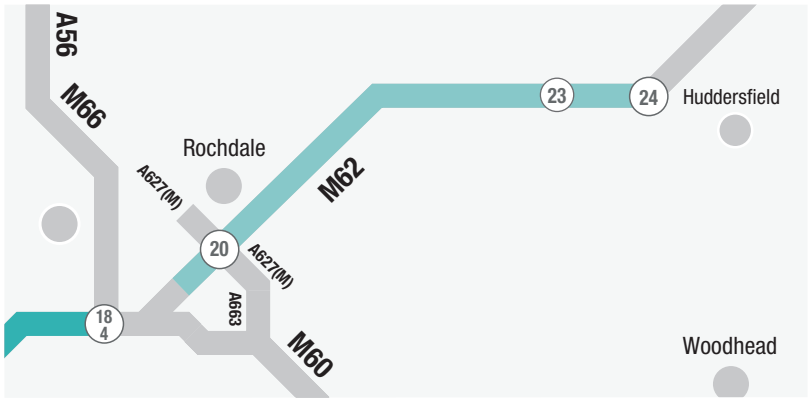
- This area faces a number of challenges, including congestion and safety. The North West Quadrant strategic study is looking in detail at the issues and challenges within this section of the network and considering appropriate options for improving the transport network around the North West Quadrant, considering all modes of travel.
- This study area contains some of the worst parts of the SRN for flooding issues.
- All further consideration of the needs of the network in this area must be developed with an appreciation of the proposals in the Greater Manchester Spatial Framework which will further increase demand across this part of the network.

M60/M67 Manchester SE Quadrant



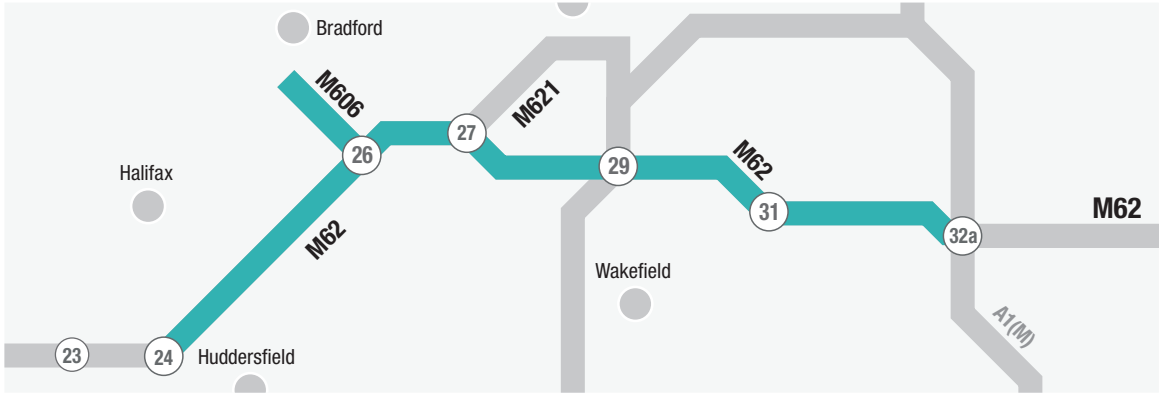
- The south-eastern sections of the M60 suffer from congestion and safety issues. RIS1 spending will deliver smart motorways across a large portion of this study area to improve the level of service for customers and help Highways England to provide better information for drivers.
- Large amounts of local traffic mix with long-distance traffic on this section of the network.
- All further considerations of the needs of the network around the south-eastern side of the M60 must be developed with an appreciation of the impact of the new Manchester Airport Relief Road, and the proposals in the Greater Manchester Spatial Framework which will further increase demand across this part of the network.
- The M67/M60 junction 24 interchange is a pinch point for congestion.

M62 junctions 19 to 24 (Middleton to Huddersfield)



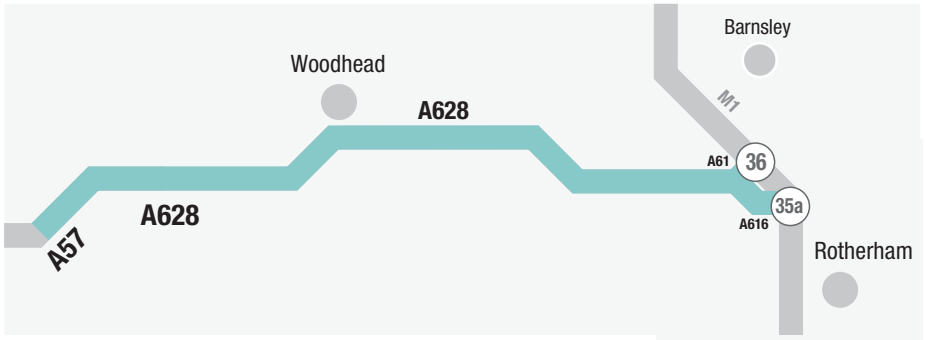
- Additional pressures will be placed on the M62 as a result of development sites allocated by the Greater Manchester Spatial Framework.
- This study area contains some of the worst parts of the SRN for flooding issues.
- There are congestion pressures at M62 junction 24 which affect the flow of traffic on the mainline.

M62 junctions 24 to 32A and M606



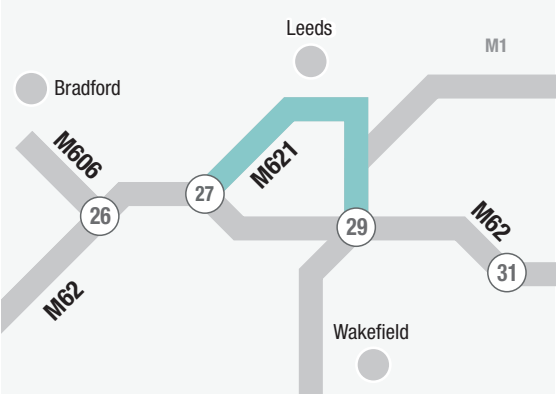
- Poor strategic access between the M1 and Huddersfield continues to create problems and network pressures. The M62 is a key commuter route, primarily to and from Leeds, and projected traffic growth will lead to significant increases in future delays.
- Planned development in Calderdale and Kirklees will become constrained as a result of a lack of available capacity on the M62 at junctions 24, 25 and 28. This is already an issue at M62 junction 26.
- There is significant planned growth in Pontefract and Castleford.
- Capacity and maintenance issues at M62 junction 29 at Lofthouse are expected.

A57/A628/A616/A61/M1 (junctions 35A to 36)



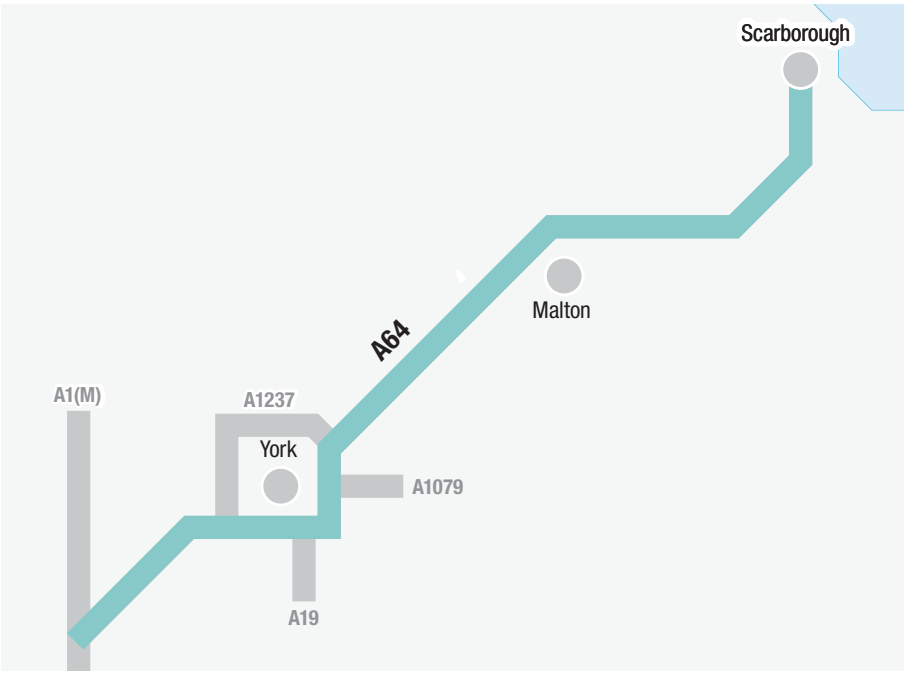
- There is expected to be increased demand for trans-Pennine travel in coming years due to investment in employment and housing either side of the Pennines, and the strengthening of the pan-Northern economy being promoted by TfN. There is limited capacity with the A628 and M62 providing the main viable highway routes to meet increasing demand.
- The route generally offers a less reliable customer experience, due to the standard of the route and the topography of its location. As it crosses the Peak District, there are environmental constraints to improving many sections of the route, and the altitude means some sections are highly exposed and affected by weather-related incidents which lead to carriageway closures. The route is also more susceptible to safety issues, resulting from the nature of the carriageway.

M621 (M62 to M1)



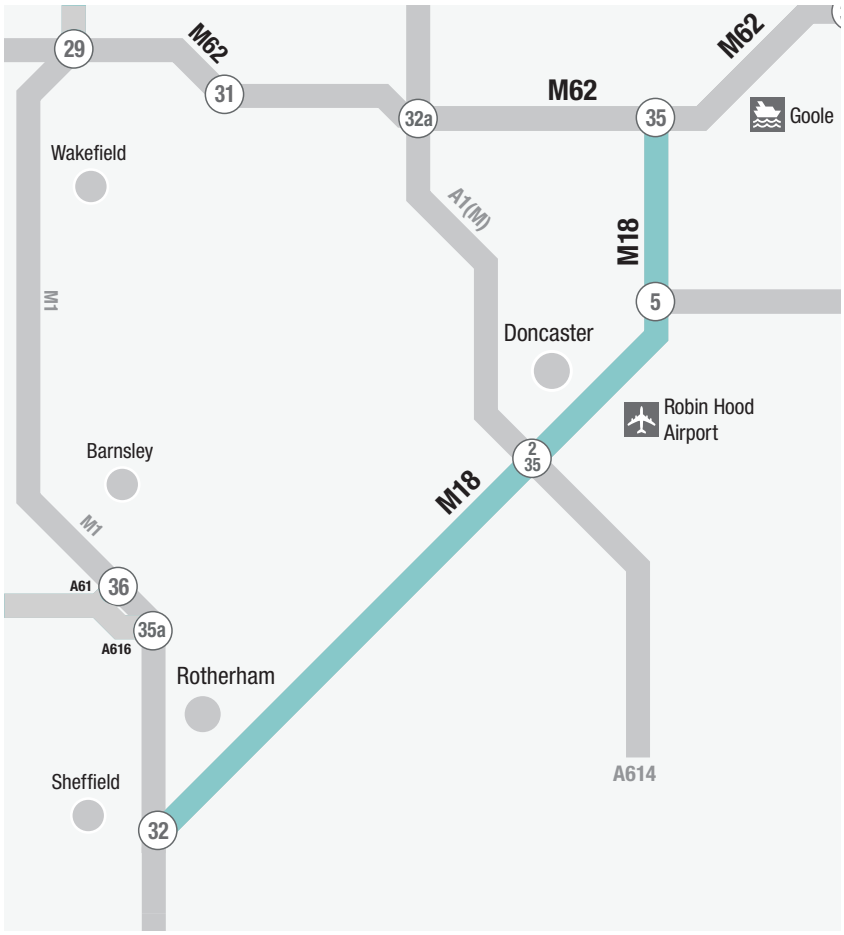
- The M621 is the key SRN link providing access to Leeds and much of its wider city region. Planned growth in south-west Leeds will exacerbate existing capacity issues within the route, including where the route merges with the M62. Access to Leeds is affected by local network capacity, as well as on the SRN.
- Potential changes to the local road network to reduce through traffic in the city centre, along with the planned HS2 station may have a significant impact on the operation of the M621.
- Hunslet Trough pumping station, adjacent to M621 junction 4, presents an ongoing flood risk as a result of maintenance concerns. There are also wider noise and air quality issues within this section of the network.
- The M621 can present a severance barrier for communities to the south of Leeds.

A64 between A1/A64 and Scarborough



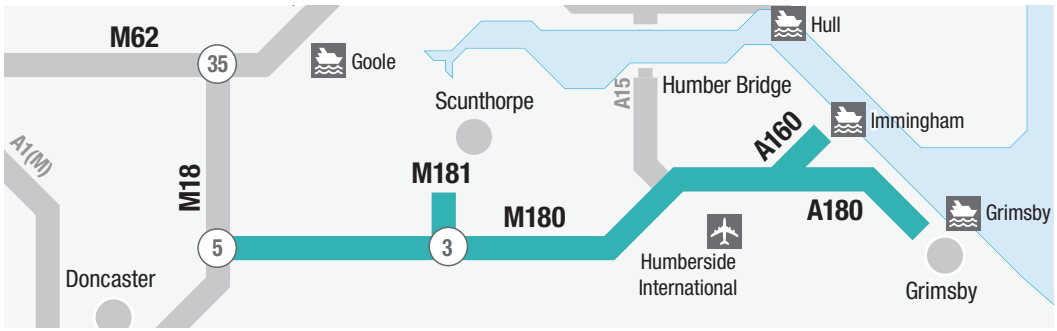
- This study area has a mix of varying road standards within its length, with over half being single carriageway. The points where the road standards change can be pinch points for congestion and delay, which affects the journey experience for customers.
- The study area passes near the city of York, and delays can develop at the points where the route meets the outer ring road.
- The study area has a poor safety record throughout its length, with key cluster sites with concentrations of incidents.
- The study area can be affected by seasonal tourism traffic travelling to Scarborough and the east coast.

M18 between M1 and M62



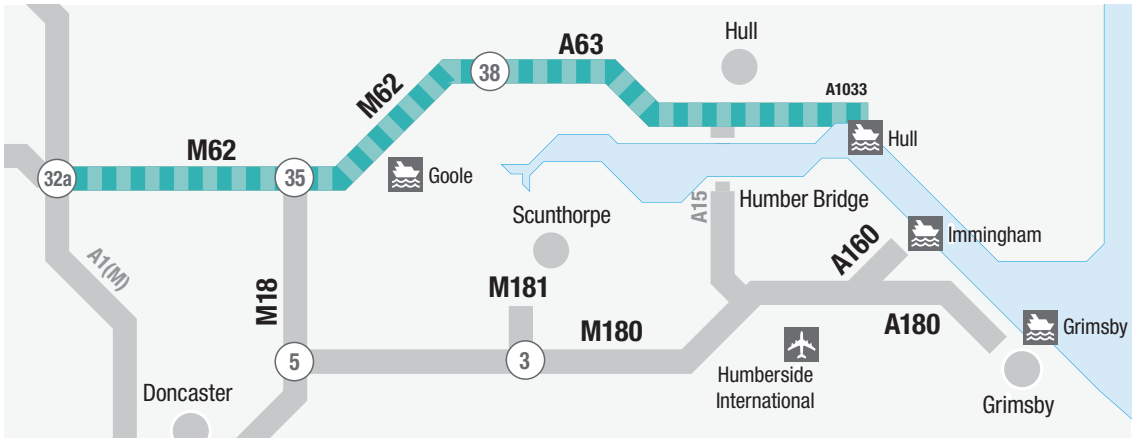
- The M18 corridor is of strategic importance for freight and logistics. The route is a vital link to a number of other SRN sections in South Yorkshire, as well as to the Humber ports including Immingham and Grimsby.
- There are significant levels of growth in the area which focus around the M18 corridor. The corridor will need to adapt to additional traffic flows created by corridor developments and increases in tonnage through the Humber ports.

M180/M181/A160/A180



- As a key access route for Immingham and Grimsby ports, this corridor holds an important economic function. Growth and development in the corridor will be led by its access to these key gateways.
- There are accident clusters on the M180 at junctions 1 and 5.
- Maintenance is a key concern for this part of the network. The road surface causes specific noise issues at certain locations on the A180.

M62, A63 and A1033 between A1(M) and Hedon



- This section of the route performs a mix of functions, including giving access to the North Humber bank and connecting the Port of Hull and North Humber area with the West Yorkshire region. Development in Hull and East Riding will rely on the A63/A1033 providing a reliable highway link.
- Congestion and safety issues exist on the A63 corridor and are anticipated to develop further with planned growth. Hessle Road and Myton Bridge are 2 of the most constrained sections. A lack of technology has an impact on the ability to communicate information to drivers.
- This study area contains some of the worst parts of the SRN for journey delays.


blue drive

6. Next steps

Our findings from this and other Route Strategies, as well as other research, will inform our first Strategic Road Network Initial Report which is to be published later this year. This will form the basis of a public consultation, which in turn will feed into decision-making on the next Road Investment Strategy (RIS2).

We are looking ahead to the next RIS and how we can support the Secretary of State in ensuring that value for money investments are made in the road network. The process for developing RIS2 is set out in our licence, and is in 3 phases: research, decision and mobilisation.

We are currently in the first phase – **research phase** – where we are gathering wide-ranging evidence on the state of the network and how we can ensure that improvements have maximum impact. The series of Route Strategies, of which this is one, is an important part of this phase alongside the outcomes of strategic studies which looked at particularly complicated problems on parts of the network and how to tackle them. Another key source of evidence is the Strategic Economic Growth Plan (*The Road to Growth*), which examines where and how the SRN can help support economic growth. This will emphasise that sectors dependent on the road network employ 7.4 million people, that we are already doing a great deal to support growth and that we want to do even more.

Now that this series of Route Strategies is published, we will continue our engagement with stakeholders, including other transport providers and authorities, on how best to address problems and maximise opportunities. For example, in working towards seamless end-to-end journeys for our customers, we will be focussing on how the strategic road network links with local roads and other modes of transport.

Findings from the research phase will feed into Highways England's Strategic Road Network Initial Report, expected to be published later this year, which will outline Highways England's ambitions for the network across 2020–2025 and beyond. The Initial Report will be the subject of public consultation.

In the **decision phase**, the consultation feedback will assist the Department for Transport in developing RIS2. In turn we will develop a Strategic Business Plan (SBP) setting out how we will deliver RIS2 as a business. Both the RIS and SBP will be reviewed by the regulator of roads, the Office of Rail and Road, to ensure that we have made the most efficient decisions. The final documents are to be published in 2019.

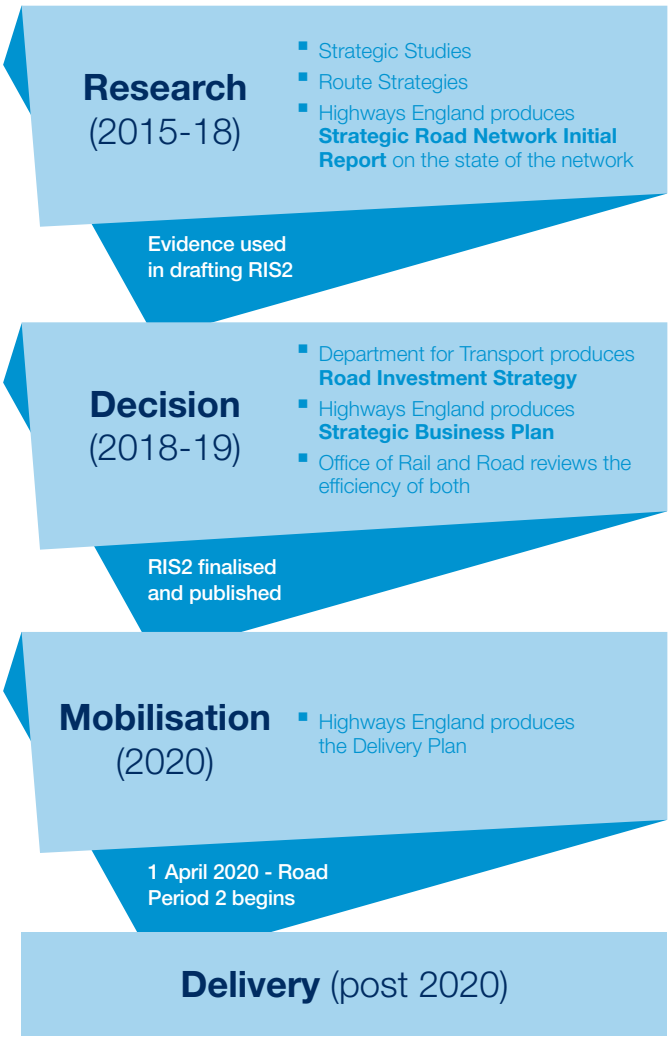


Figure 6.1 - RIS2 high-level process

In the final **mobilisation phase**, we will set out a Delivery Plan with a detailed programme of investment to be carried out in 2020 to 2025 on the basis of the commitments in RIS2.

Continued investment in modernisation, maintenance and operation will further improve the road network on top of the measures and schemes currently being undertaken, and will allow us to further support users of the strategic road network and the UK's economy. The rigorous process of developing RIS2 should ensure that the best use is made of taxpayers' money and that investments have the maximum impact.

The views and perspectives of different stakeholders, including motorists, are important to us. Stakeholders may also wish to contact one of the partner organisations. For example, stakeholders can keep up to date with Transport Focus' work, by signing up to their monthly electronic newsletter *Road User Voice*. Alternatively, stakeholders may prefer to make their views known through one of the many organisations involved in RIS2. They include the AA, RAC, RAC Foundation, Road Haulage Association, Freight Transport Association, Campaign for Better Transport, Confederation of British Industry and many others.

We will provide information about the process and emerging findings at events for representative organisations in spring 2017. At the same time, we are developing the dialogue with emerging STBs, local government, LEPs, business groups and environmental organisations. We want to align our analysis, and eventually our decision-making, with that of other organisations, so that we can maximise the benefit of investment, for example focusing on improving the interconnectivity between different modes and between the strategic and local road networks. This should lead to a richer discussion during public consultation on the Strategic Road Network Initial Report.

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