Route Strategy Initial Overview Report

London to Scotland West (North)

May 2023

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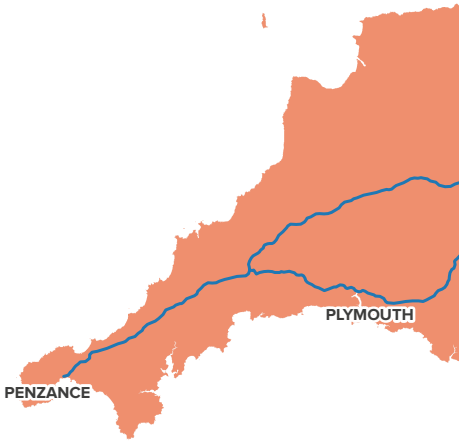
There are 17 routes relating to route strategies across our strategic road network (SRN). To take better account of our customers' end-to-end journeys, we have split some of the longer routes into sub-strategies across 20 reports.

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BERWICK-UPON-TWEED
NEWCASTLE UPON TYNE
CARLISLE
MIDDLESBROUGH
YORK
LEEDS
PRESTON
KINGSTON UPON HULL
LIVERPOOL
MANCHESTER
SHEFFIELD
LINCOLN
STOKE-ON-TRENT
NOTTINGHAM
DERBY
GRANTHAM
NORWICH
SHREWSBURY
LEICESTER
WOLVERHAMPTON
PETERBOROUGH
BIRMINGHAM
COVENTRY
CAMBRIDGE
BEDFORD
IPSWICH
HEREFORD
MILTON KEYNES
LUTON
CHELTENHAM
COLCHESTER
OXFORD
SWINDON
LONDON
SOUTHEND-ON-SEA
BRISTOL
READING
DOVER
SOUTHAMPTON
HASTINGS
BRIGHTON
PORTSMOUTH
EXETER
BOURNEMOUTH

Executive summary

Introduction

Our strategic road network (SRN) is the backbone of the country. Our more than 4,500 miles of motorways and major A-roads connect people, build communities, create opportunities and help the nation thrive. To plan for the future, we take a long-term view of our network and the trends that could impact transport, road travel, and personal and commercial mobility. Route strategies are at the centre of this dynamic future planning of our network, informing how we operate, maintain and renew our network. This report is the *Initial overview report* for the London to Scotland West (North) route and summarises the outcomes of the route strategy. The report builds on the first two rounds of route strategies in 2015 and 2017. It aims to be more forward looking, integrated and collaborative, while being dynamic enough to respond to the future needs of our customers and neighbours.

In this report, we detail the route context, current constraints on the route, and opportunities for improved connections with local roads and rail links. We set out intelligence-led route objectives aligned with the six Department for Transport (DfT) strategic objectives. These objectives aim to ensure the route can serve its function, while mitigating the identified constraints and challenges. They conclude with locations for further consideration to achieve the route objectives. The route objectives and locations for further consideration will be presented to the DfT to inform future decision-making about investment planning through the Road investment strategy (RIS). It should be recognised that not all aspirations outlined in this report can be funded or delivered.

DFT'S SIX STRATEGIC OBJECTIVES FOR THE STRATEGIC ROAD NETWORK

- Improving safety for all
- Network performance
- Improved environmental outcomes
- Growing the economy
- Managing and planning the SRN for the future
- A technology-enabled network

For clarity, this document does not:

- identify committed schemes for delivery as part of future RIS periods. This will be part of the wider RIS setting process
- commit to the delivery of local plans or economic growth developments mentioned
- guarantee funding for any locations identified for further studying to understand the challenges and issues in more detail
- preclude the inclusion of other locations for consideration in the light of other evidence or imperatives

Customers and neighbours

Engagement with our customers and neighbours has been central to developing our route strategies. We have already gathered a wealth of evidence from the previous rounds of route strategies and through our ongoing monitoring of road condition and performance.

Our performance is monitored through the National Highways' Performance Framework. This Performance Framework was established at the start of the second road period (2020–2025) and sets out National Highways' commitments to 2025. It is outlined in the RIS2 *Delivery plan (2020–2025)*.[1] We will continue this monitoring approach into the third road period (2025–2030).

To add to this existing evidence, we carried out a detailed engagement programme for this round of route strategies to understand the current and future needs of those using and living alongside the SRN.

The route

The London to Scotland West (North) route is part of the main north-south connecting route in western England. The route is made up solely of the M6, which connects Scotland, North West England, and the West Midlands through approximately 175 miles of continuous motorway. The route passes through a range of environments, including large rural areas in Cumbria and North Lancashire, as well as towns and cities in South Lancashire and Greater Manchester. At Crewe the route connects to the London to Scotland West (South) route, which comprises of the M6 between Crewe and Birmingham and the M40 onwards to London

Challenges and issues

We have identified challenges and issues of those using the route and living alongside it. These correspond to the DfT's six strategic objectives, which are the strategic objectives for RIS3. They were agreed by National Highways and DfT, and are set out in the RIS3 *Planning ahead*[2] document in December 2021.

1 Highways England (2020) *Delivery plan: 2020 – 2025.* https://nationalhighways.co.uk/media/vh0byhfl/5-year-delivery-plan-2020-2025-final.pdf

2 Department for Transport (December 2021) *Planning ahead for the Strategic Road Network: Developing the third Road Investment Strategy*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045938/planning-ahead-for-the-strategic-road-network-developing-the-third-road-investment-strategy.pdf

Improving safety for all

- Sections of the route have experienced a number of collisions involving someone being killed or seriously injured, including a 20 kilometre section of the M6 between Junctions 32 and 33 and between Junctions 19 and 17. However, the M6 Junction 16 to 19 all lane running (ALR) smart motorway scheme has recently been completed. The impact of the scheme will be monitored by National Highways
- Using the latest available data, the section of M6 between the A5209 and M65 (Junctions 27 to 29) has a higher percentage of serious or fatal collisions involving someone walking, cycling or horse riding than other parts of the route
- The route presents challenges to active travel in terms of the severance effect on walking, cycling and horse riding networks. The route often creates physical barriers resulting in active modes needing to utilise heavily trafficked junctions

Network performance

- Currently, delays are experienced primarily on the southern half of the route, both at specific junctions (Junctions 17 and 23 for example) and sections in between junctions (such as between Junctions 29 to 32)
- Traffic is forecast to grow in the future as a result of the planned housing and employment growth, particularly around M6 Junctions 17, 20, 23, 29 and 33

Improved environmental outcomes

- There are receptors within 100 metres of the SRN which may be more likely to experience adverse air quality impacts, including near Ashton-in-Makerfield, at Gathurst near Wigan, around Preston and south-east of Lancaster
- There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, including near Alsager, Gathurst near Wigan and around Preston and Carlisle
- Diversion Routes for Unplanned Events pass through major settlements close to the route including Warrington, Wigan, Preston, Lancaster and Carlisle
- Risk of flooding from surface water near Lower Peover in Cheshire, at Junction 26 near Wigan and Junction 35 near Carnforth may lead to closures of parts of the M6
- Maintaining and protecting areas of outstanding natural beauty, areas with environmental designations and cultural heritage
- Minimising greenhouse gas emissions
- Building resilience to future climate change

Growing the economy

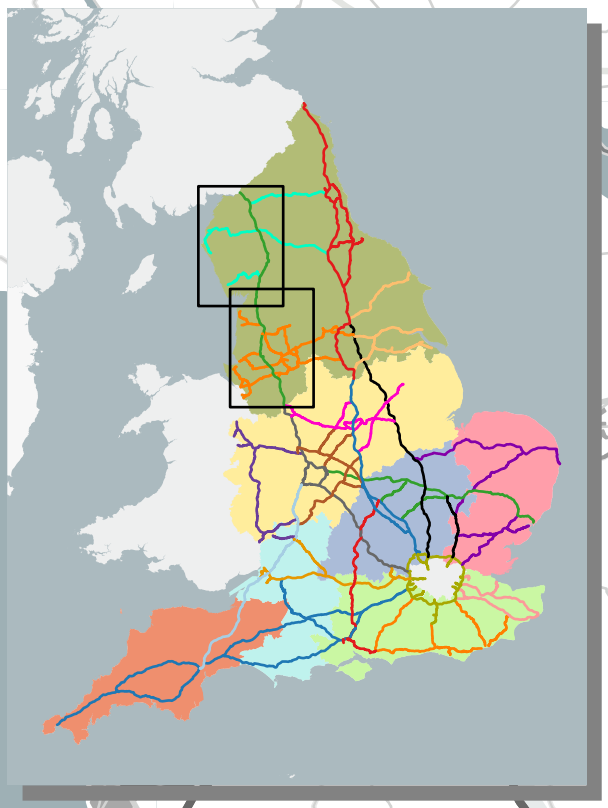
- Freight activity is expected to continue to grow on the M62, A580, A683 and M56 connecting into the M6 from the ports at Liverpool and Heysham, as well as distribution centres around Wigan, St Helens and Warrington
- There are strategic growth sites located around M6 Junctions 23 (St Helens), 26 (Wigan) and 29 (Preston), which will access the SRN directly in some instances
- The route connects a number of category 1 places for levelling up, including St Helens, Wigan and Preston

Managing and planning the SRN for the future

- Contributing toward the national target of 96.2% or more of carriageway being in good condition
- Maintaining the good condition of the SRN's geotechnical assets
- Ensuring that drainage assets are maintained so that their good structural and service conditions can be upheld

A technology-enabled network

- Limited information for drivers of all trip types with only standard Variable Message Signs at most locations
- Limited electric vehicle charging points provision outside key centres, which may discourage the uptake of electric vehicles



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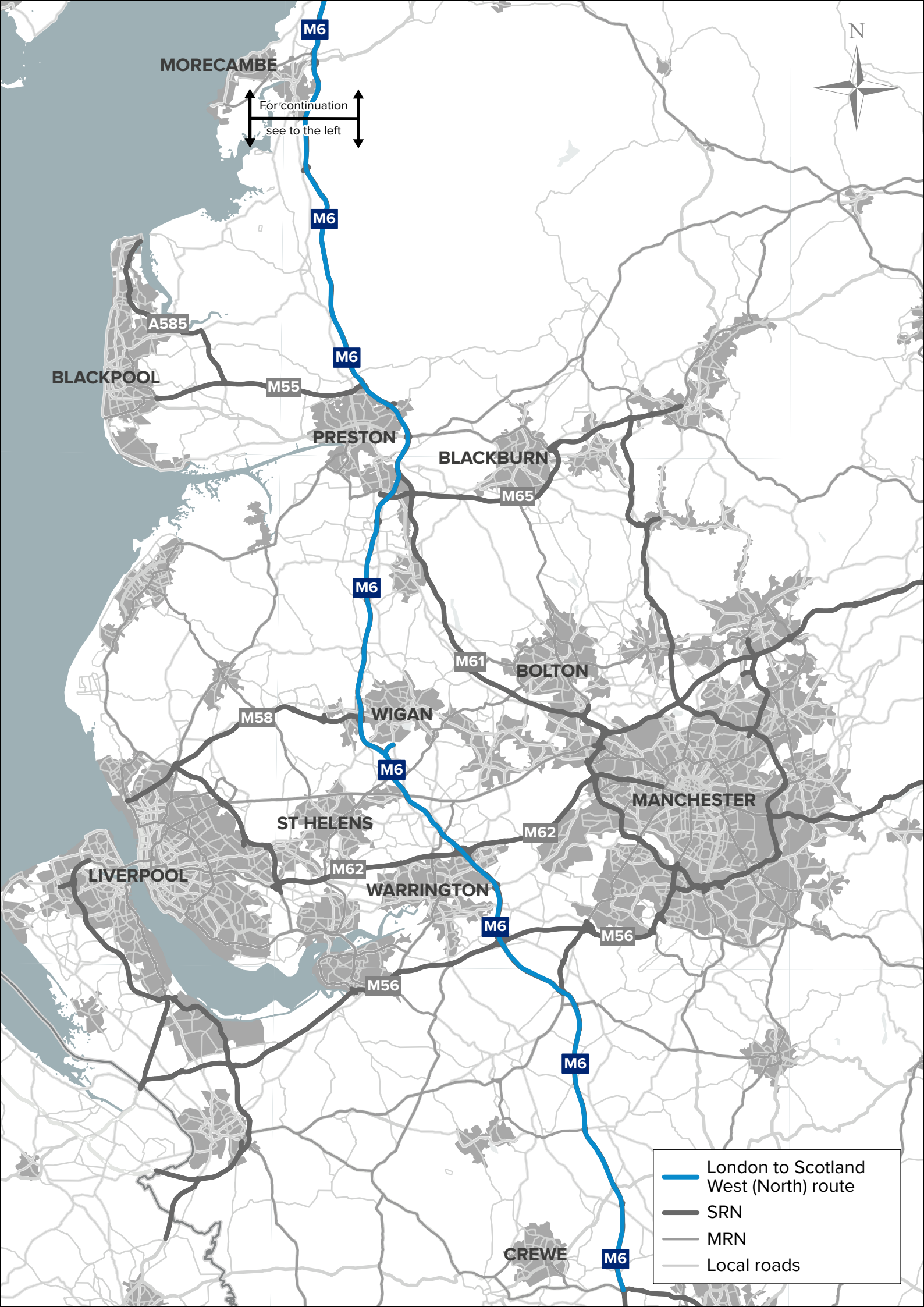
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WIGAN
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MANCHESTER
ST HELENS
M62
M62
LIVERPOOL
WARRINGTON
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M56
M56
M6
CREWE
M6
London to Scotland West (North) route
SRN
MRN
Local roads

Initial route objectives

We want to provide safer and more reliable journeys for all those who use or live alongside our network, and support the route in achieving the economic and housing growth ambitions of surrounding areas. Based on our engagement and data analysis, we have defined a set of objectives for the route. The table below shows the route objectives and how they contribute to the DfT's six strategic objectives for the SRN as a whole.

		DfT's strategic objectives for our network					
Ref.	**Route objective**	**Improve safety for all**	**Network performance**	**Improved environmental outcomes**	**Growing the economy**	**Managing and planning the SRN for the future**	**A technology-enabled network**
A	**Improve safety for all** Provide safe journeys on the M6, particularly in Central Lancashire, near Preston and the M6 around Warrington and St Helens, to benefit road users and local communities.	✓					
B	**Better informed drivers** Improve road user experience and support the economy by improving technology to better communicate with drivers.	✓	✓			✓	✓
C	**Support sustainable economic growth** Support sustainable economic growth through safe and reliable access for housing and employment sites, such as Bailrigg, St. Cuthbert's, Parkside, and Cuerden.		✓		✓		
D	**Reduce the adverse impacts of severance** Reduce the adverse impacts of severance created by the SRN on local communities by ensuring the M6 is not a barrier to sustainable modes, particularly at motorway junctions.	✓		✓			
E	**Be a better neighbour** Be a better neighbour by safeguarding the environment and reducing impacts on local communities, with particular focus on noise and air quality in areas such as Cheshire, Warrington, and Wigan.		✓	✓			
F	**Support driver wellbeing** Improve the facilities for freight and coach journeys on the M6, alongside improved driver parking and welfare facilities to support the local, regional and national economy.	✓			✓		✓

Next steps

The 20 route strategy Initial overview reports will combine with other related evidence to inform the broader *SRN initial report*[3] as part of the RIS process for the third road period. The *SRN initial report* includes an assessment of the current state of the network and user needs from it, potential maintenance and enhancement priorities, and future developmental needs and prospects. DfT will consult on this *SRN initial report*, which will serve to inform the RIS and *Strategic business plan*.

We will finalise the *Route strategy reports* following feedback on the publication of these *Initial overview reports*. They will be used as a forward planning tool by National Highways to help identify investment opportunities for enhancements, as well as to support decisions around operating and maintaining our network. Providing an understanding of the strategies for each route will also help inform the decisions taken by our interested parties. These finalised *Route strategy reports* will also serve to inform the RIS and *Strategic business plan*.

3 National Highways (2023) *Strategic Road Network initial report*. https://nationalhighways.co.uk/futureroads

Helping the nation to thrive

01 Introduction

Our strategic road network (SRN) is the backbone of the country. Our more than 4,500 miles of motorways and major A-roads connect people, build communities, create opportunities and help the nation thrive.

Our network provides safe, high-speed connections that:

- enable businesses to transport products and services
- provide access to jobs and suppliers
- facilitate trade and investment
- support commercial and housing development that is integrated with local roads and other modes of transport

The SRN also supports leisure journeys, connecting people and places, and will play a central role in delivering the social, economic and environmental needs of the nation, especially as we seek to reduce the carbon footprint of our network.

To plan for the future, we are taking a long-term view of our network and the trends that could impact transport, road travel and personal and commercial mobility. We consider factors ranging from climate change and low-carbon transport to increasing automation, digital technologies and changing travel preferences. Route strategies are at the centre of this dynamic future planning of our network. They build on our Connecting the country; *Connecting the country: Our long-term strategic plan to 2050*[4] that sets out our vision and plan for the SRN until 2050, aligning with the Government's *Ten point plan for a green industrial revolution*[5].

Purpose of route strategies

Our route strategies are based on 17 routes across England, with some split into two sub-strategies where this better reflects our connecting thecountry customers' end-to-end journeys. There are 20 reports in total. We outline the objectives of each route along with the constraints faced and the current and predicted future performance based on analysis and widespread engagement with our customers and neighbours. Our customers and neighbours include:

- local authorities, devolved administrations and sub-national transport bodies
- other transport network operators (including local highway authorities, Network Rail, port and airport operators)
- operational partners (including, but not limited to, the emergency services)
- road users
- local communities
- other relevant interested parties with a significant stake in the long-term development of the network
- members of Parliament

We also provide a list of locations for further consideration to inform investment planning across National Highways and for the Road investment strategy (RIS). We develop and publish these route strategies to:

- help us develop an understanding of the future state of the routes

4 National Highways (2023) *Connecting the country: Our long-term strategic plan to 2050* https://nationalhighways.co.uk/connectingthecountry

5 HM Government (2020) *The Ten Point Plan for a Green Industrial Revolution Building back better, supporting green jobs, and accelerating our path to net zero.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936567/10_POINT_PLAN_BOOKLET.pdf

- identify the locations for further consideration to inform our investment programmes and guide our vision
- give a practical tool to National Highways as a whole, while supporting external interested parties who anchor their infrastructure planning and investment around our network
- help ensure that all investment delivers safer and more reliable journeys for our customers and neighbours

For clarity, this document does not:

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- preclude the inclusion of other locations for consideration in the light of other evidence or imperatives

Route strategy reports

These Route strategy initial overview reports have informed the SRN initial report[6] that sets out our vision and proposed priorities for the third road period (2025-2030) and beyond.

The final Route strategy overview reports will be published by the end of the RIS period, which covers 2020-2025. The three delivery phases of route strategies are shown in Figure 1.

Purpose of the report

This report is for the London to Scotland West (North) route. In this report, we detail the route context, current constraints on the route, and opportunities for improved connections with local roads and rail links. We set out intelligence-led route objectives aligned with the DfT's six strategic objectives. These objectives aim to ensure the route can serve its function, while mitigating the identified constraints and challenges. They conclude with locations for further consideration to achieve the route objectives.

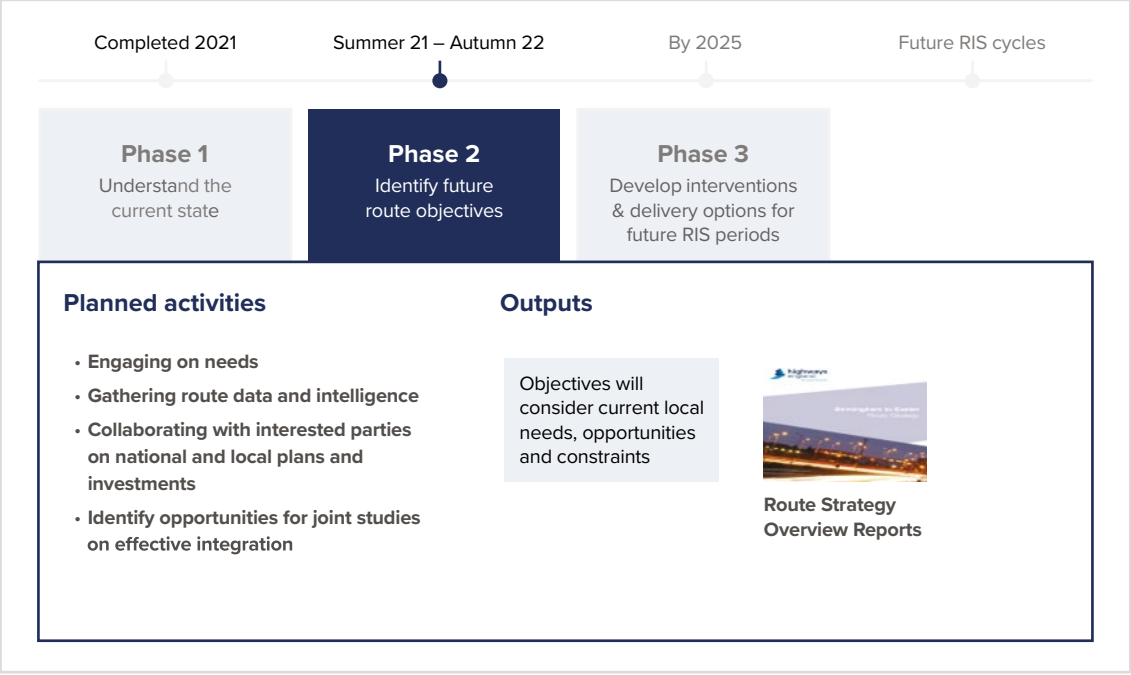


Figure 1: The route strategies delivery phases

6 National Highways (2023) *Strategic Road Network initial report*. https://nationalhighways.co.uk/futureroads

The route objectives and locations for further consideration will be presented to DfT to inform future decision-making about investment planning through the RIS. It should be recognised that not all aspirations outlined in this report can be funded or delivered.

The development cycle for the third Road Investment Strategy (RIS3)

Preparing route strategies is a requirement under the Infrastructure Act as well as a National Highways Licence requirement. The Licence sets out the Secretary of State for Transport's statutory directions and guidance to National Highways. It states that we must periodically prepare and publish route strategies covering the whole of the network to maintain an understanding of how the network is performing, while identifying any potential challenges. Each set of route strategies informs each RIS outlined by government, as well as supporting decision-making for the ongoing management and development of the network.

Route strategies are one of the key steps of research required by DfT to inform the setting of a RIS. Following the setting of RIS1 and RIS2, which covered the first road period (2015-2020) and second road period (2020-2025), we are now in our third round of route strategy planning informing RIS3 for the third road period (2025-2030) and beyond.

Looking across the whole of the SRN, our route strategies form one of the most important parts of the 'research' phase of the RIS3 development cycle. These strategies explore the current performance and future pressures on every stretch of the SRN, covering matters such as safety, reliability, congestion, environmental impacts, and local ambitions for economic and housing growth. Through the extensive engagement we have undertaken to inform the strategies, we provide insight to DfT and government into local, regional and national priorities for the SRN to support investment decisions for RIS3 and beyond. Grounded in evidence, the strategies identify the immediate needs of the network as well as highlighting longer-term issues or potential opportunities as shown in Figure 2.

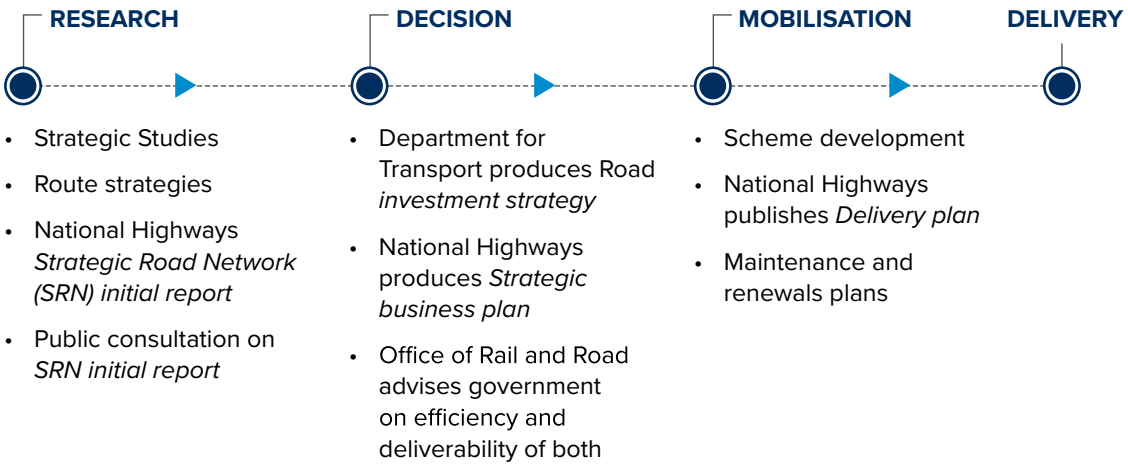


Figure 2: The RIS development cycle

We have developed a revised approach to route strategies, building on past versions, to ensure they respond to the current and future needs of our customers and neighbours. The approach for route strategies is outlined in our approach document *Vision for route strategies: Planning for the future of our roads*[7].

Our ambitions for route strategies, summarised in Figure 3, are to be forward-looking, widely supported, and integrated with other networks and modes of travel. They will consider the implications of local development plans and government ambitions and be dynamic to respond to the changing needs of our customers and neighbours in how they use and interact with our network. Such needs may evolve as a result of how people use our network due to Covid-19, environment considerations, or the need to support strategic connections and integrated solutions that connect locations, all of which will have an influence on the scale and type of future investments. We will work with interested parties to ensure that the route strategies are widely supported and integrated into regional and local strategies.

Engagement with customers and neighbours

Engagement with customers and neighbours has been central to developing our route strategies. We have already gathered a wealth of evidence from the previous rounds of route strategies and through our ongoing monitoring of road condition and performance.

Building on engagement to date, we have worked with sub-national transport bodies, Office of Rail and Road, Department for Transport, and Transport Focus to ensure a diverse range of people and their views are represented. This has allowed us to further improve our understanding of our customers and neighbours' requirements, helping us identify locations for further consideration to improve the SRN.

We will continue to evolve this engagement process for future cycles of route strategies. We used a range of methods to gather information from customers and neighbours throughout the route strategies' evidence collection period, which ran from August to December 2021 (Figure 7). These included round tables, workshops, and an online feedback form and we designed the approach to be more inclusive by engaging with and learning from a wide range of interested parties.

Thinking about how the SRN integrates with the surrounding rail and road network, including parts of the Major Road Network (MRN) and local roads, we designed our engagement around the following objectives:

- to understand the current role of the SRN and how it could better support the aspirations of customers and neighbours of the future
- to gather views and seek evidence on current and future issues, challenges and opportunities – both local and strategic

We have also gained an in-depth understanding of what our road users want nationally from Transport Focus' *Strategic roads user survey 2021/22*[8] into road users' priorities for improvements to journeys on the SRN. This research was based on focus groups and interviews with all types of road users across the country, alongside a survey of more than 5,000 drivers. It asked for users' views on key issues, such as sustainability and electric vehicles, and the stress of driving on the SRN.

From this research, Transport Focus identified that the majority of road users want the focus of investment to be on keeping National Highways' existing roads in good order before building new ones. Their top priority for improvement to journeys on the SRN is road surface quality, followed by the safer design and upkeep of roads.

7 Highways England (2021) *Vision for route strategies Planning for the future of our roads.* https://nationalhighways.co.uk/media/w0vhd3un/vision-for-route-strategies.pdf

8 Transport Focus (2022) *Strategic Roads User Survey - 2021/22 Summary Report.* https://www.transportfocus.org.uk/publication/strategic-roads-user-survey-2021-22-summary-report/

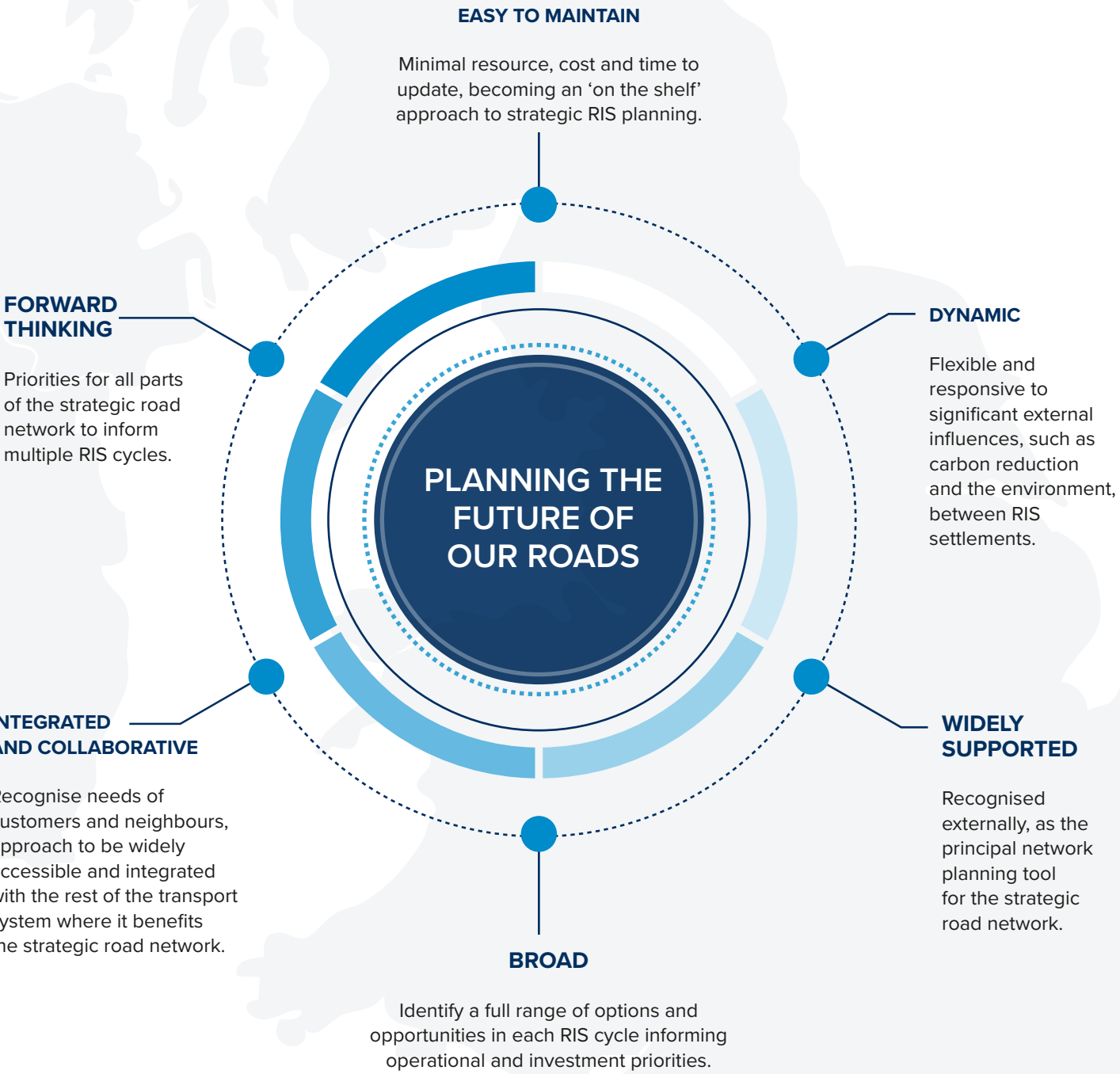


Figure 3: Our ambition for route strategies

Users also want to see better management of roadworks and of unplanned delays, such as incidents or breakdowns, and better information about unplanned disruptions to journeys. Walkers, cyclists and horse riders using the SRN highlighted concerns about the speed of traffic and want action on lighting and litter. This research will be used by Transport Focus to make recommendations about what National Highways should be required to deliver during the third road period.

The findings from the Transport Focus survey align with findings from our route strategies engagement with customers and neighbours across the SRN.

Engagement during workshops with interested parties (shown in Figure 6) identified the following national priorities:

- better driver education aimed at teaching road users about new technology
- deeper consideration of environmental constraints at the earliest stage of planning, and consideration for key environmental issues such as biodiversity, air quality and sustainable transport
- a resilient and reliable SRN to support economic growth
- better integration between the SRN and local road network to improve journey times
- greater support for the freight industry in terms of:
    - the future of low emission vehicles and commercial fleet
    - the impact of congestion on productivity, fuel cost, driver breaks, lorry park locations and delivery times
- greater collaboration and early engagement with interested parties, and greater alignment between network operators, including consideration for joint funding opportunities
- In addition, feedback on the SRN provided by communities and neighbours via the online tool, showed similar national priorities. The breakdown of the 1,700 responses we received via the online feedback tool are shown in Figure 4 and Figure 5.

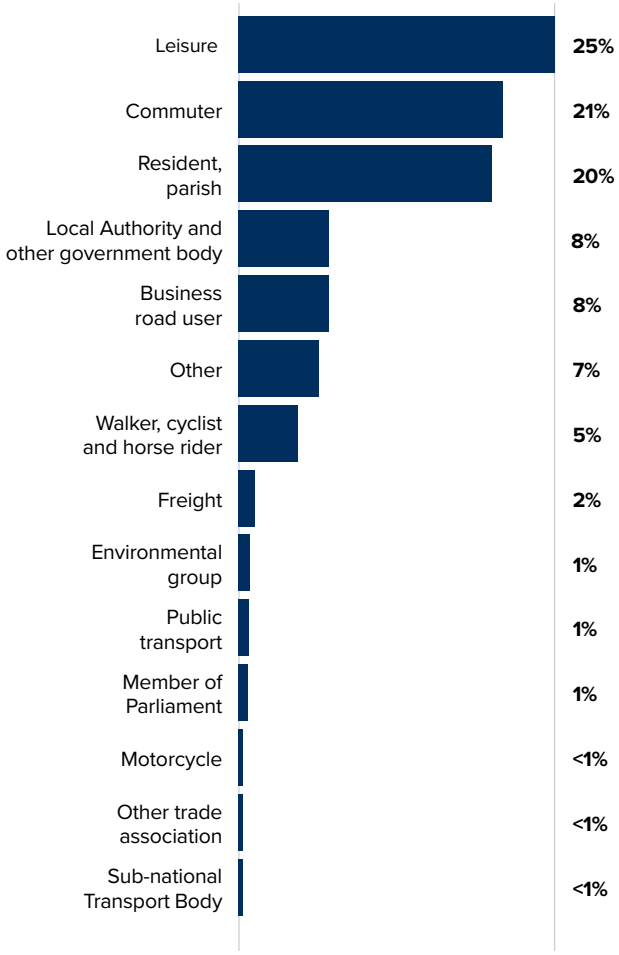


Figure 4: All responses to online tool by participant type

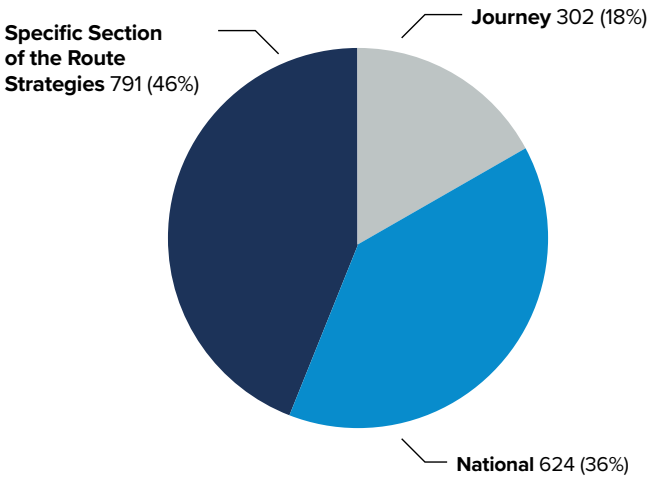


Figure 5: All response to online tool by type

A breakdown of the national issues and general feedback raised is shown in Figure 8, which highlights that, in terms of the issues identified:

- 26% were related to safety
- 23% were related to congestion
- 28% were related to the environment or carbon

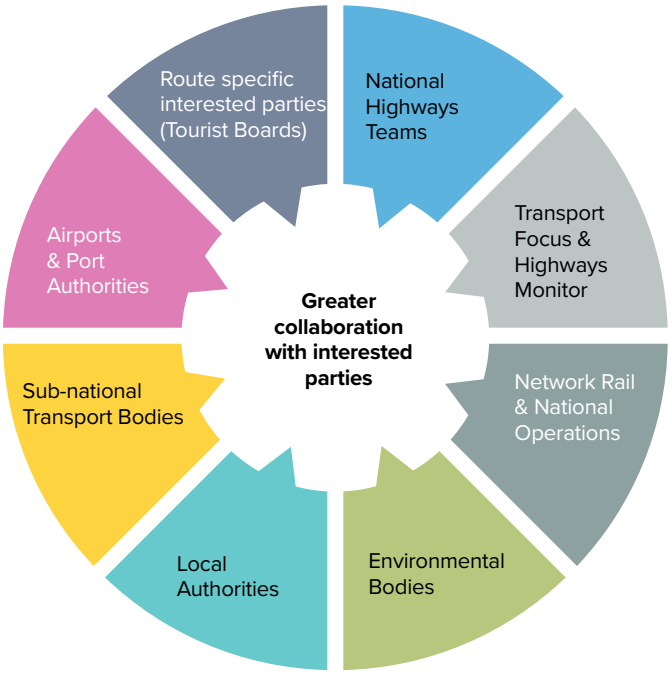


Figure 6: Interested parties involved in the route strategy engagement

Figure 7: Timeline of engagement with interested parties

DfT's strategic objectives for the strategic road network

DfT have published six objectives for the SRN. These are the strategic objectives for RIS3 that have been agreed between National Highways and DfT and were set out in the *RIS3 Planning ahead*[9] document in December 2021. They cover safety, network performance, environment, economy, management and planning for the future and technology.

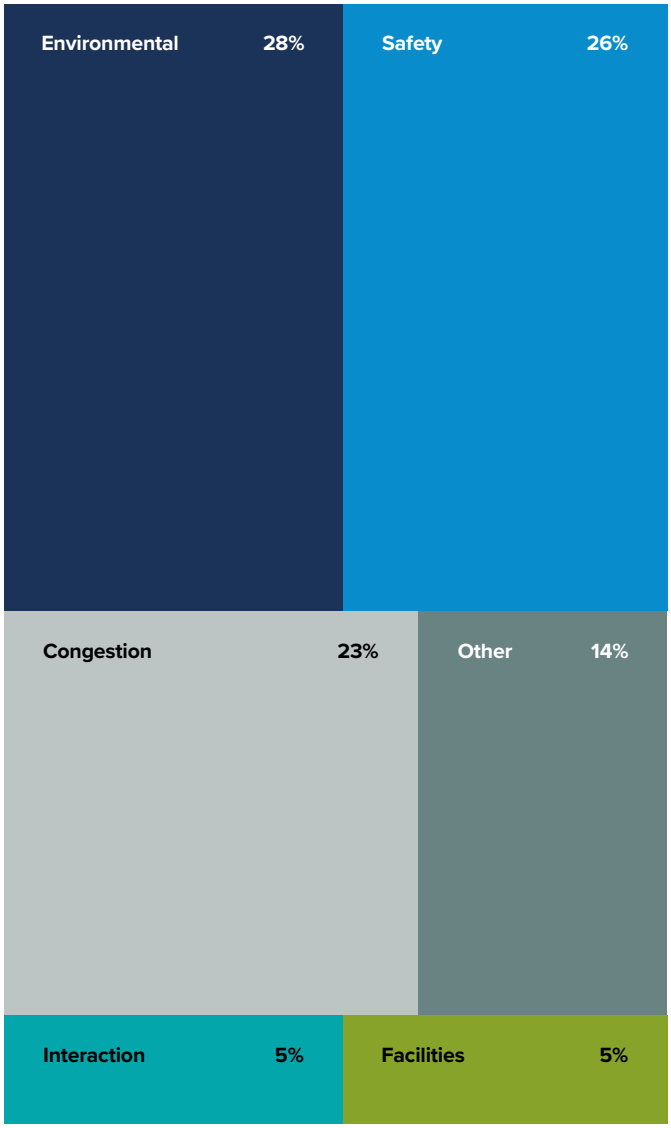


Figure 8: National themes from feedback through the online tool

9 Department for Transport (December 2021) *Planning ahead for the Strategic Road Network: Developing the third Road Investment Strategy.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045938/planning-ahead-for-the-strategic-road-network-developing-the-third-road-investment-strategy.pdf

All our route strategies need to show how they contribute to the delivery of the DfT's six strategic objectives for our network, to ensure we meet future challenges. These help us create relevant, meaningful and effective strategies that address evolving concerns. Such concerns include decarbonisation, ecology, the need for new homes and the desire for a better- connected country.

This aligns with the Infrastructure Act 2015, where National Highways has a statutory obligation to have regard to the effect of its functions on the environment, and the safety of users of highways.

At a national level, National Highways has existing commitments and ambitions to contribute to the DfT strategic objectives, as outlined below. The strategies for each route are aligned with these. They include:

i) Improving safety for all

- Our safety approach

ii) Network performance

- Expectations over COVID-19 and travel demand
- Our ambition for supporting freight, logistics and the coach industry
- Our ambition for supporting end-to-end journeys for a variety of modes
- Our approach to trunking and de-trunking for SRN

iii) Improved environmental outcomes

- *Net zero highways: Our 2030 / 2040 / 2050 plan*[10]
- Our plan for net zero carbon travel on our roads covering emissions from the vehicles using the SRN
- Our approach to improved environmental outcomes

DFT'S SIX STRATEGIC OBJECTIVES FOR THE STRATEGIC ROAD NETWORK

- Improving safety for all
- Network performance
- Improved environmental outcomes
- Growing the economy
- Managing and planning the SRN for the future
- A technology-enabled network

iv) Growing the economy

- Our contribution to growing the economy and levelling up
- Our approach to spatial planning

v) Managing and planning the SRN of the future

- Our approach to asset management

vi) A technology-enabled network

- Our ambition for digital roads

10 National Highways (2021) *Net zero highways: our 2030 / 2040 / 2050 plan.* https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf

IMPROVING SAFETY FOR ALL

OUR SAFETY APPROACH: We are committed to reducing the number of road users killed or seriously injured on the strategic road network, by 50% (from the 2005-2009 baseline) by the end of 2025, with a long-term vision to eliminate harm arising from use of the SRN. We recognise:

- safety is National Highways' top priority. We believe that everyone who travels or works on our roads should get home safe and well
- billions of miles are travelled on the SRN each year, with the vast majority of these safe and reliable journeys
- our roads are some of the safest in the world, but we know there is more we can do. Every death or serious injury on our roads is a tragedy and we are committed to creating the safest roads in the world

NETWORK PERFORMANCE

EXPECTATIONS OVER COVID-19 AND TRAVEL DEMAND: COVID-19 has has had the biggest single-year impact on road traffic since records began in 1949. But car traffic on the SRN is now back to approximately 95% of pre-pandemic levels.

At the time of writing, while the onset of Covid-19 and the rapid rise in homeworking initially decreased demand for both public and private transport, the greatest impact has been on public transport, with private vehicle travel the first mode to rebound. Homeworking has not noticeably reduced demand for the SRN. An estimated 43% of UK jobs can be done entirely from home, but nearly two-fifths of businesses expect 75% of their workforce to eventually return to their normal place of work.

It is unclear if the scale of homeworking will continue or how it will affect long-term travel demand.

For the short-term, transport flow data has generally shown that traffic peaks have become flatter but broader, with traffic more evenly spread across the day, suggesting some behaviour change. Continued hybrid working could see a redistribution of demand, flattening the daily morning and afternoon peaks, and instead creating a mid-week peak.

The pandemic has also brought wider uncertainties, such as whether these loosened physical ties to employment locations could see increases in suburban living, as workers that are more 'knowledge-based' than 'location based' take advantage of greater geographic mobility across the country.

Changes in leisure trends caused by the pandemic could also have implications for the SRN, such as the changing demand for high street retail or choices around domestic versus overseas holiday-making.

SUPPORTING FREIGHT, LOGISTICS AND THE COACH INDUSTRY: We continue to collaborate with our freight and logistics customers to better understand how the SRN can support their operations, and work with wider government in the delivery of their *Future of freight plan*[11]. We recognise that lorry parking and facilities are key to enabling freight and logistics businesses to operate safely and efficiently. A lack of parking and good quality facilities impacts the recruitment and retention of drivers into a sector that is crucial to the country's economy. We are keen to play our part in ensuring good quality facilities are in the right places and that we support the sector in recruiting and retaining a diverse pool of drivers.

Our ambition is to improve lorry parking by:

- intervening where the market is not meeting the demand for lorry parking (areas of high demand with insufficient facilities)
- working with operators to improve the quality of existing facilities
- ensuring our major projects consider the needs of lorry drivers

11 Department for Transport (2022) *Future of Freight: a long-term plan.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1085917/future-of-freight-plan.pdf

In addition to supporting lorry parking, we remain focused on:

- reducing congestion on the SRN, which affects the speed, reliability and cost of logistics, as well as driver safety when journeys exceed regulated driving time
- improving the suitability of alternative routes and diversions off the SRN
- supporting the industry in achieving net zero carbon emissions by facilitating the adoption of alternative fuels linked to parking facilities
- ensuring resilience on key freight routes, such as between ports, airports, wharves and rail freight interchanges
- increased data sharing on incidents, roadworks and diversions
- understanding changes in how our freight and logistics customers use the SRN so we can continue to provide the best possible service

IMPROVING END-TO-END JOURNEYS FOR A VARIETY OF MODES: The SRN plays an important role in supporting a wide range of customer journeys by different modes of transport. We are exploring how to support customers' end-to-end journeys by creating travel choices that deliver our target of net zero carbon customer journeys by 2050. We recognise our role in supporting an integrated transport network that allows our current and future customers to re-route, re-time, re-mode and reduce their journeys, especially at peak times and during major disruption.

Through understanding National Highways' role in influencing and improving travel, we will identify how to support customers utilise the right mode for the right journey. By working closely with operators, we will ensure our network supports bus and coach services. And through the development of active travel networks we can help deliver health and wider social benefits.

Our focus is on delivering net-zero customer journeys by 2050 through behaviour change towards sustainable travel by:

- understanding travel behaviours to identify customer needs for end-to-end journeys, supporting the development of a travel demand management strategy
- ensuring our customers have the information they need to make the travel choices that are right for them
- improving integration of different modes of travel by working with key interested parties to deliver a range of active travel and public transport interventions
- using behaviour change and techniques to manage future travel demand and minimise disruption from major works
- continuously improving our offer for walkers, cyclists and horse riders

SRN TRUNKING/DETRUNKING: For RIS2, we were asked to explore changes to the SRN to ensure the network aligns with RIS2 strategic priorities, reflected in the *Strategic business plan*. This plan relates to improving connections between main urban centres, to international gateways, to peripheral regions (for levelling up) and strategic cross-border routes (to strengthen union connectivity). It included a commitment to explore potential asset ownership changes between ourselves and local highway authorities that could be implemented no earlier than the start of RIS3. DfT have produced a shortlist of 18 trunking and two de-trunking candidates, identified following the draft RIS2 public consultation in 2018, for us to assess desirability and viability of asset transfer. De-trunking is the process of returning a National Highways' road to the local highway authority control and vice versa for trunking. These candidates were put forward by a range of external interested parties, including local authorities, Local Enterprise Partnerships and chambers of commerce, then shortlisted by DfT.

There is ongoing work to review the assessment evidence and recommendations, after which government ministers are expected to announce the candidates that will progress to the detailed development stage, which will be led by National Highways and incorporated in the forward study programme and wider RIS3 process.

IMPROVED ENVIRONMENTAL OUTCOMES

NET ZERO HIGHWAYS: NATIONAL HIGHWAYS' 2030/2040/2050 PLAN[12].
We are committed to being a Net Zero Carbon Company by 2050 (2040 for Maintenance and Construction emissions).

We published our ambitious net zero carbon plan in July 2021. It details how we will achieve net zero emissions for: our corporate space by 2030, our maintenance and construction emissions by 2040, and road user emissions by 2050. We're keen to support a sustainable future and know that road travel is vital to enabling a thriving net zero economy. Our plan strengthens the decarbonisation of the transport sector, which remains the biggest emitting sector of greenhouse gases in the country.

We also need to consider how the SRN will be resilient to climate change. Our route strategies will need to recognise that the schemes we construct are likely to be subjected to changes to the climate, such as flooding.

Our route strategies demonstrate how we will continue to connect the country and ensure that the SRN is environmentally sustainable and resilient to climate change. This includes understanding the right schemes and options that support integration across different modes, improve the SRN's capacity through digital roads, and deliver broader environmental enhancements. This will change the way we work both internally and with our supply chain and wider interested parties.

As part of our net zero commitment, we need to consider the contribution our schemes make to sustainable development. We are adopting the PAS2080 Carbon Management in Infrastructure Standard that will help us invest only where we can achieve our zero carbon goals. Guided by the PAS2080 Standard, we will use an investment hierarchy where we favour opportunities to deliver whole life value without undertaking construction. We will demonstrate that we have considered all interventions during our planning stages and that every effort is made to avoid negative impacts and maximise environmental benefits throughout the lifecycles of schemes. We will also work with government and the private sector to set out a clear proposition by 2023 for electric vehicle charging on our network. This will cover both customer need and the infrastructure required to deliver this.

More than ever we need to support the Government's wider plans for decarbonising transport. The SRN plays a pivotal role in supporting the transition to zero carbon cars, vans and heavy goods vehicles (HGVs), but we also recognise that we need to better integrate with other modes of transport too, including public transport and active travel.

NET ZERO CARBON TRAVEL ON OUR ROADS COVERING EMISSIONS FROM THE VEHICLES USING THE STRATEGIC ROAD NETWORK:
We have set an ambition for all of our customers to be travelling using net zero transport by 2050, in line with the UK Climate Change Act. Many of the actions that will deliver this ambition are out of our direct control, but that does not mean we cannot play our part. Our priorities are to help roll-out solutions to decarbonise HGVs and support the uptake of electric cars and vans. We will also continue our work on integrating the SRN with other transport modes, while working to improve the efficiency of the network.

12 National Highways (2021) *Net zero highways: our 2030 / 2040 / 2050 plan.* https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf

Our actions relating to reducing emissions from road users of our network include:

- publishing our proposed approach to zero carbon HGV trials by the end of 2022
- publishing a blueprint for electric vehicle charging services on our roads by 2023
- integrating a strong modal shift programme in the third road period, building on our work to date

IMPROVED ENVIRONMENTAL OUTCOMES: We know there's a requirement to balance people's need to travel on our roads with doing all we can to protect and improve the environment. That means we will continue to consider a wider range of environmental factors in our future planning, such as improving biodiversity, protecting ancient woodlands, reducing pollution in Air Quality Management Areas, and protecting Sites of Special Scientific Interest. These will form part of our considerations during our early planning. In response to these emerging issues, our latest route strategies differ from previous strategies by taking a more balanced view on expanding the capacity of the SRN. We now seek to develop strategies that produce balanced investment plans with schemes of different magnitudes, delivering across multiple objectives: safety, journey time improvements, network resilience, maintenance and renewals, technology, environmental enhancement, and integration with more sustainable transport modes. The outcome will be an SRN that supports the economy but also delivers on the wider environmental challenges.

GROWING THE ECONOMY

GROWING THE ECONOMY AND LEVELLING UP: The SRN is a vital part of England's – and the UK's – transport infrastructure. It facilitates the movement of people and goods nationally, regionally and locally through connections to the Major Road Network and other transport infrastructure. The Government's levelling up agenda places emphasis on ensuring no community is left behind, particularly as we recover from the Covid-19 pandemic. With such a vital role in supporting the economy and facilitating connectivity - enabling access to jobs and homes, international gateways and supporting road-reliant sectors – National Highways and the SRN have a role to play in supporting the levelling up agenda and the wider aim of economic prosperity.

The Government is committed to strengthening transport connections across the UK. Sir Peter Hendy's *Union connectivity review*[13] was published in late 2021. The Review recommends the creation of UKNET, a strategic transport network spanning the entire United Kingdom based on a series of principal transport corridors between key urban and economic centres, including international gateways. The findings of this report have been considered in the context of our route strategies and will be a key objective for our cross-border routes and the roads connecting to important ports.

Additionally, the SRN plays a critical role in enabling international connectivity and trade by providing reliable and resilient access routes to global markets via the country's network of international ports, airports and the Channel Tunnel. Enhancing these links and supporting these gateway locations to thrive, including maximising the opportunities of Freeports, is a key part of National Highways' role in supporting the national economy.

13 Sir Peter Hendy CBE (2021) *Union Connectivity Review Final Report*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1036027/union-connectivity-review-final-report.pdf

SPATIAL PLANNING: We recognise that businesses operate from the location that best suits their business requirements in terms of access to customers, the supply chain and employees. Location is equally critical to decision-making in the residential market, both for the house builder and the potential purchaser or occupier. In enabling new employment spaces and homes to be developed, at National Highways we engage fully and positively as a statutory consultee in the planning system.

This is in line with our statutory responsibilities as set out in our Licence, and in support of wider government policy and regulation. Our focus is on securing sustainable development, managing cumulative impacts of strategic growth, and minimising the potential for any negative impacts on the SRN.

MANAGING AND PLANNING THE SRN FOR THE FUTURE

We recognise that asset management is our core business. It is the service

we provide to maintain, operate, and enhance the SRN safely, reliably and effectively for all our customers. We manage more than 4,500 miles of road, over 20,000 structures and 12 road tunnels, as well as drainage, earthworks, and technology equipment. We recognise that our customers rely on our roads to travel approximately 95 billion miles every year, and our work helps unlock housing and employment sites across the country. One of our main priorities is managing these assets effectively and efficiently, to deliver the outcomes our customers and interested parties want.

We have adopted an asset management approach in order to align our strategy and planning activities to create, maintain, operate, and renew all of the assets that make up our network. Asset management links all our activities and supports our three imperatives: safety, customer service and delivery.

We know that good asset management is about understanding our customers and interested parties, identifying what they need and then using our assets effectively to deliver the right level of service. We are working to understand what satisfies our customers, and what we can do to influence this.

Our vision is to create an approach and establish ways of working that make sure all our asset management activity is aligned by following the key principles set out in our asset management policy. We work across the whole asset lifecycle, understanding that asset decisions we make may affect future service provision. This means that we are planning and accounting for emerging and evolving challenges around customer expectation, climate change and new technology. Since the beginning of the second road period we have continued on our journey to increase our asset management maturity, and our organisational objectives have developed significantly in light of Covid-19 and the Government's carbon plans.

A TECHNOLOGY-ENABLED NETWORK

DIGITAL ROADS: for Digital Roads is to continue to harness data, technology and connectivity of people to places and communities and networks to improve the way the SRN is designed, built, operated and used. Our recently published *Digital roads strategy* (September 2021)[14] sets out how we will harness data, technology and connectivity to improve the way the SRN is designed, built, operated and used. This will also support our ambitions to achieve net zero carbon on the SRN. We have established three themes: Digital Design & Construction, Digital Operations and Digital for Customer. These themes will continue to frame our vision towards 2030 and beyond, increasing connectivity, automation and data.

14 National Highways (September 2021) *Digital Roads*. https://nationalhighways.co.uk/our-work/digital-data-and-technology/digital-roads/

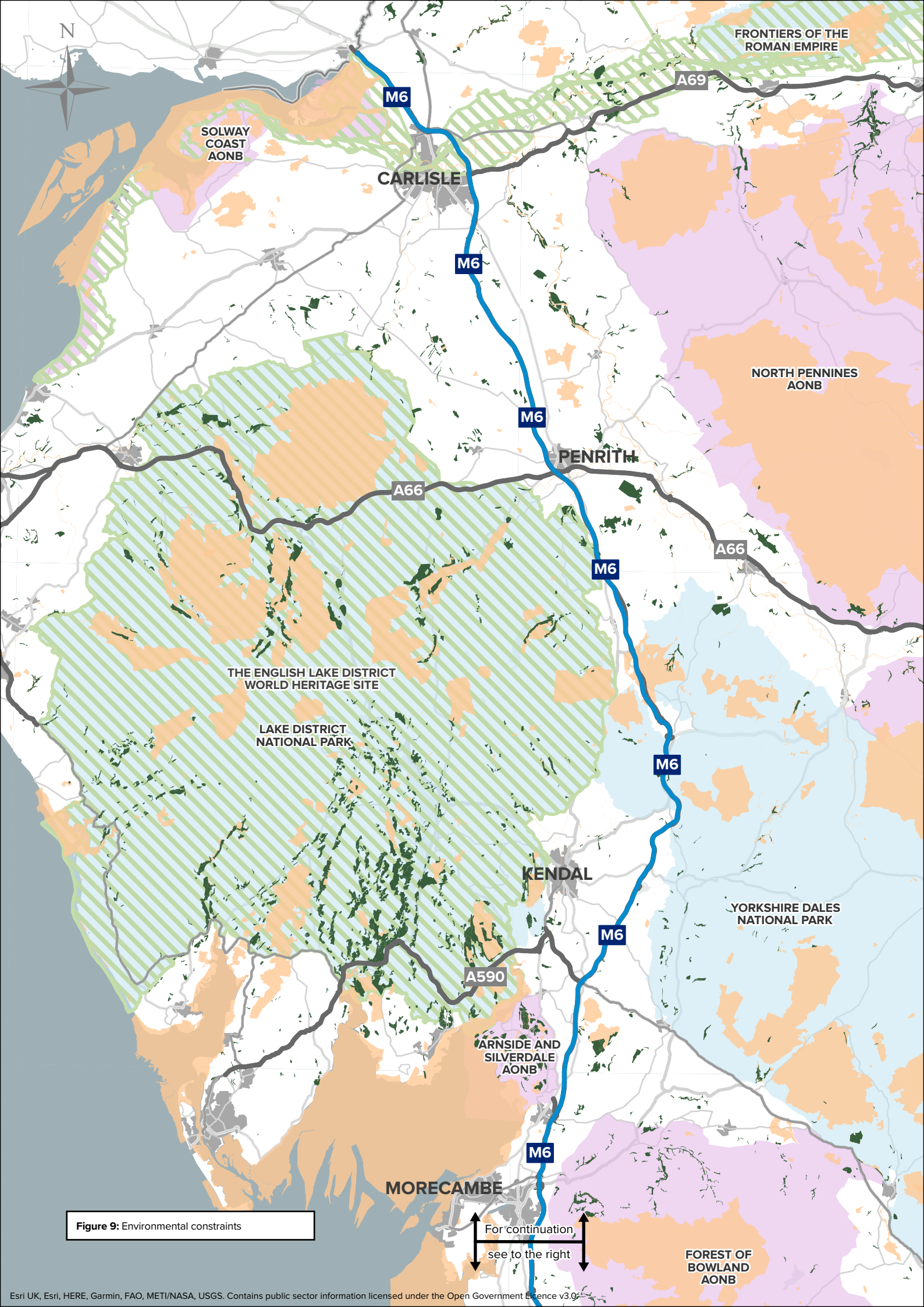
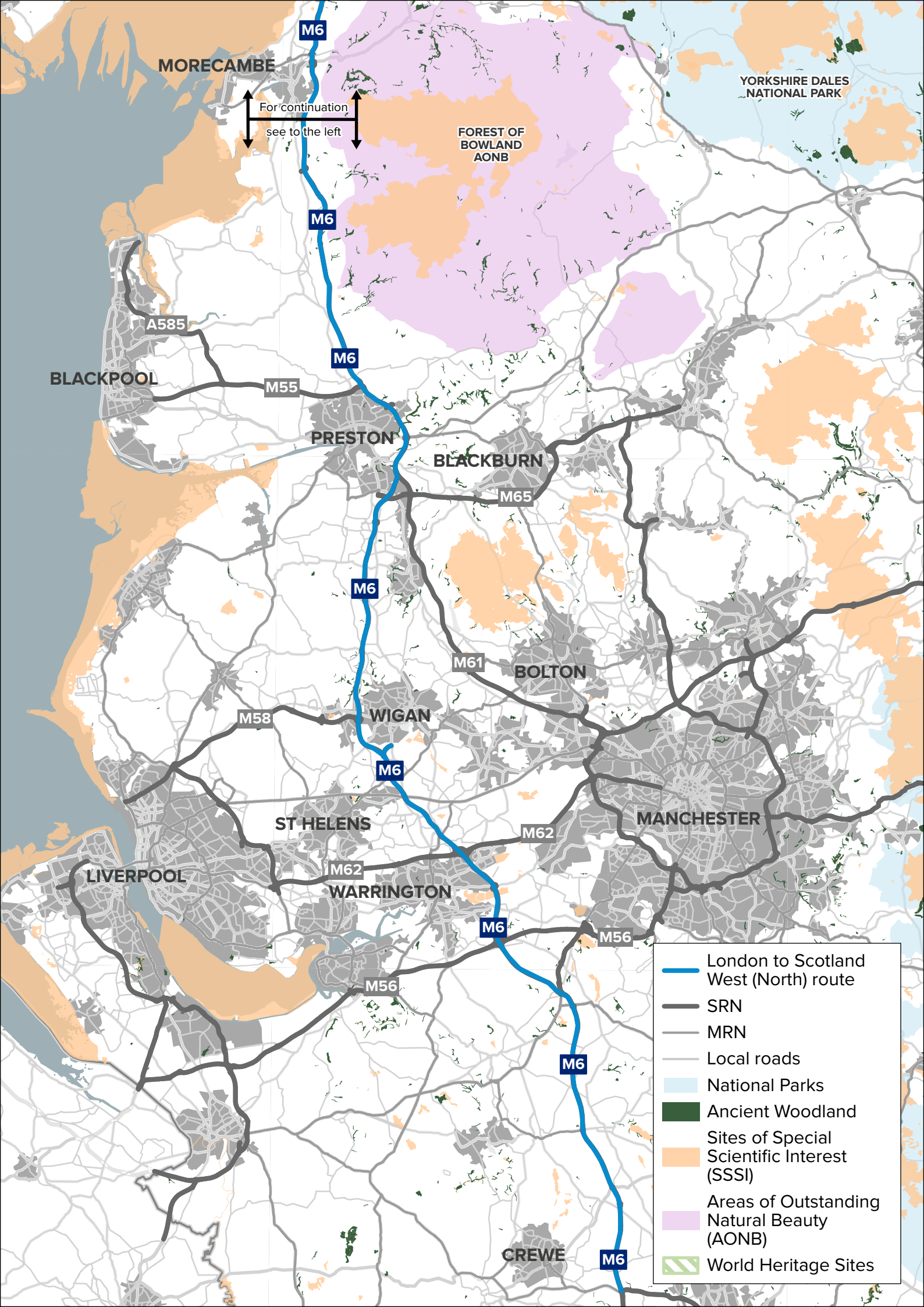


Figure 9: Environmental constraints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FOREST OF
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M58
WIGAN
ST HELENS
M62
MANCHESTER
LIVERPOOL
WARRINGTON
M56
CREWE
London to Scotland
West (North) route
SRN
MRN
Local roads
National Parks
Ancient Woodland
Sites of Special
Scientific Interest
(SSSI)
Areas of Outstanding
Natural Beauty
(AONB)
World Heritage Sites

Our network connects the country

02 The route

The London to Scotland West (North) route is part of the main north-south connecting route in western England. The route is made up solely of the M6, which connects Scotland, North West England, and the West Midlands through approximately 175 miles of continuous motorway. The route passes through large rural areas in Cumbria and North Lancashire as well as towns and cities in South Lancashire and Greater Manchester.

In Cumbria the route sits between the Yorkshire Dales National Park to the east and the Lake District National Park to the west. The latter is an internationally renowned tourist destination and UNESCO World Heritage Site. The northern section of the route in Cumbria connects with the North Pennines route at the A69, A66 and A590. The southern section in Greater Manchester has several connections with the South Pennines (West) route, including the M56, M58, M62 and M65.

The mostly three-lane M6 is the only motorway connection and main road connection between England and Scotland. The *Union connectivity review*[15]highlights the importance of the M6 as key freight corridor, with approximately 50,000 crossings per day, dominated by business trips (50%) and heavy goods vehicles HGVs (30%).

There are some four-lane sections at the southern end of the route, and many connections with east-west motorways and A-roads, such as the M56, M62 and M65.

The route is mainly used by cars and HGVs for longer journeys, with users able to get to specific destinations via the connected A-roads for purposes such as freight movement, employment and leisure. Within this route, the M6 enables direct access to Carlisle, Lancaster, Preston, Wigan, Warrington, and Stoke on Trent.

The route starts south of Crewe, where the A500 connects Cheshire to Stoke-on-Trent and Staffordshire. The route has major junctions with the M56 near Greater Manchester and the M62 near Warrington. These connections provide access to Manchester, Liverpool, Chester and North Wales, with ferry connections to Ireland. South of Preston, the M6 meets the M65, connecting Blackburn and Burnley to the east. The route bypasses Preston before connecting to the M55, providing a link to Blackpool, which is a major leisure destination. All of these connecting roads form part of the South Pennines (West) route. North of Lancaster, the route passes through Cumbria to the border with Scotland.

15 Sir Peter Hendy CBE (2021) *Union Connectivity Review Final Report.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1036027/union-connectivity-review-final-report.pdf

The route passes through the counties of Cheshire, Greater Manchester, Merseyside, Lancashire, and Cumbria. The total population of this area is around 7.3 million. The workforce of 3.4 million is employed across several sectors with 614,000 (18%) in public sector employment and 2.78 million (82%) in the private sector.[16]

As a percentage of total industry, key industries in the North West include wholesale and retail (15%), health (14%), professional, scientific & technical (10%) and manufacturing (9%).[17] Key industries vary by county, with agriculture, forestry, and fishing employing 19% of people in Cumbria, but less than 5% across the North West as a whole.[18]

The region also brings in a large number of tourists, with the total tourism expenditure estimated to be around £10.6 billion in the North West. It is estimated that 191 million people visit the North West every year.[19]

The route strategy is based on the road network at the start of the second road period (2020-2025). During the first and second road period, the M6 Junction 19 and M6 Junction 16 to 19 schemes were opened to traffic on the route. The schemes have helped to improve connections between Cheshire and Greater Manchester and will reduce congestion whilst improving safety and journey time reliability for all road users. The Junction 19 scheme has also improved access for walkers and cyclists. Further work is ongoing between M6 Junctions 21A and 26 with construction underway on a scheme that will see the 10-mile section of M6 upgraded to an 'all-lane running' smart motorway to reduce congestion.

We recognise that some of the journeys on this route are part of longer trips and therefore need to be considered alongside strategies on other routes.

16 Office for National Statistics (2021) *Region - Business Register and Employment Survey (BRES): Table 3.* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/regionbusinessregisterandemploymentsurveybrestable3

17 Office for National Statistics (2022) *JOBS05: Workforce jobs by region and industry.* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/workforcejobsbyregionandindustryjobs05

18 Office for National Statistics (2022) *JOBS05: Workforce jobs by region and industry.* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/workforcejobsbyregionandindustryjobs05

19 Transport for the North (2021) *Visitor Economy and Transport in the North of England.* https://transportforthenorth.com/wp-content/uploads/Visitor-Economy-and-Transport-in-the-North-of-England_Full.pdf

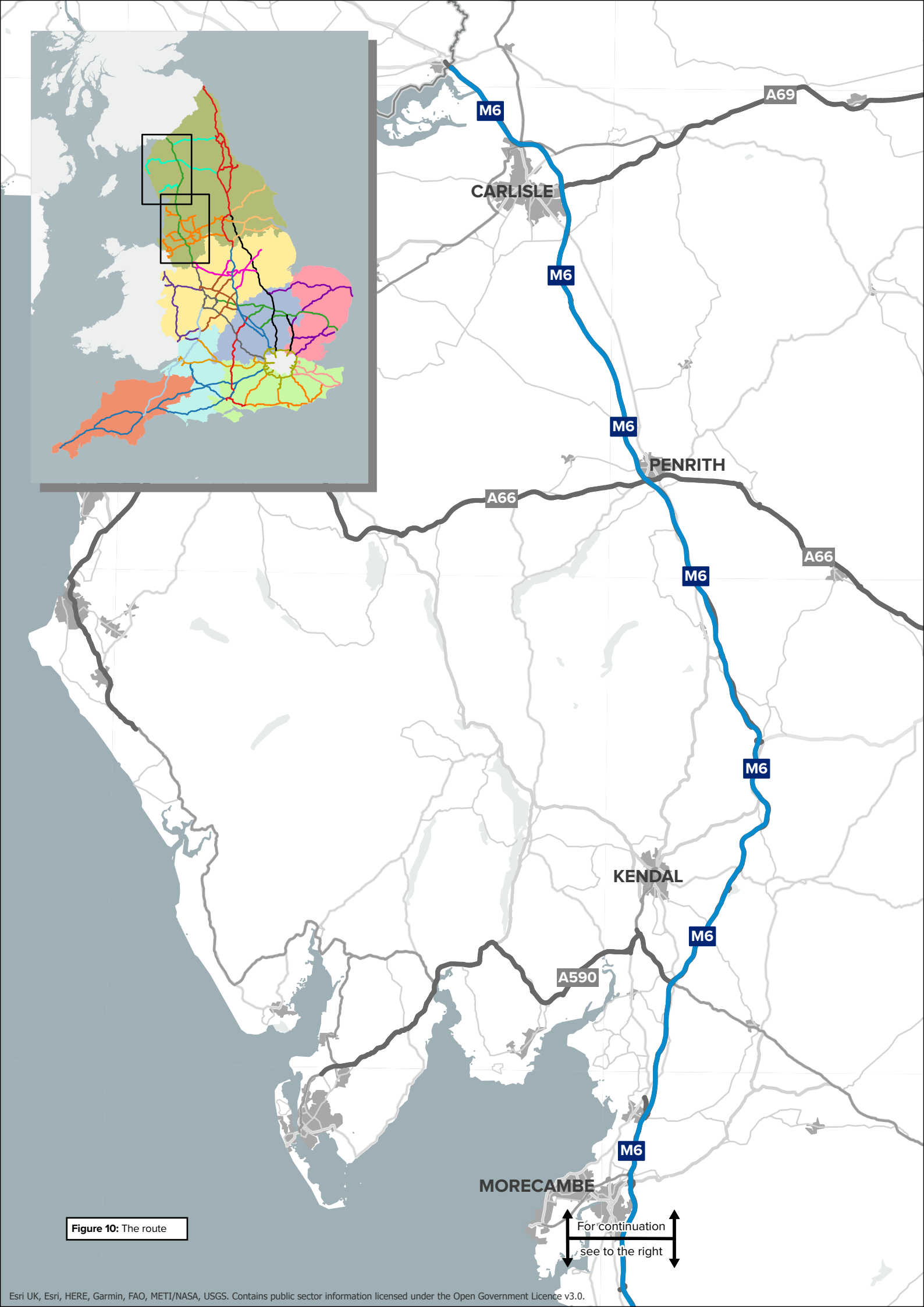
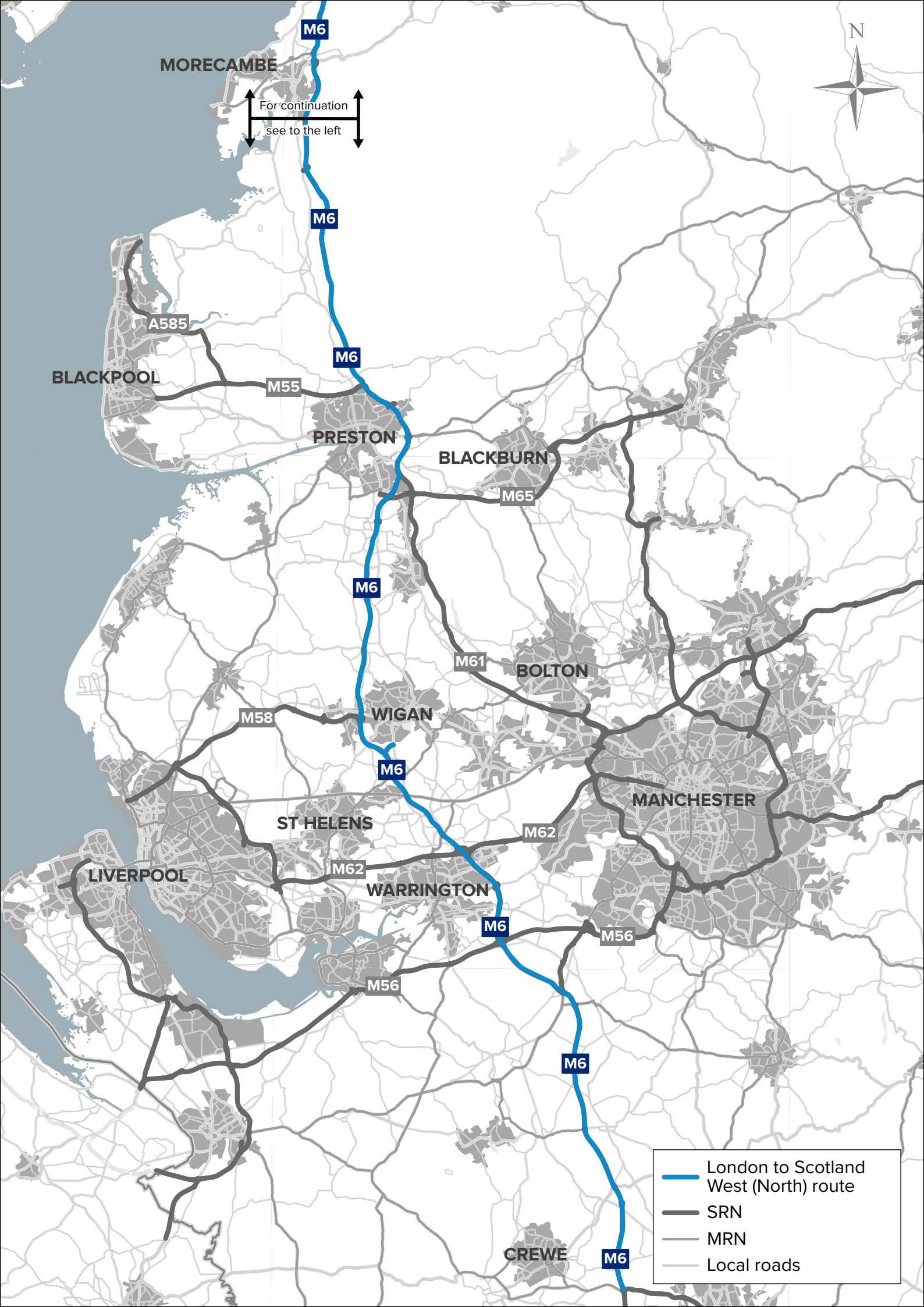


Figure 10: The route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WIGAN
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MANCHESTER
ST HELENS
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LIVERPOOL
WARRINGTON
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M56
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CREWE
M6
London to Scotland West (North) route
SRN
MRN
Local roads

Listening to your feedback

03 Engagement with customers and neighbours

Engagement with customers and neighbours has been central to developing our route strategies. The development of the route strategies is one of the key steps of initial research in the development of the Road investment strategy (RIS). This engagement, together with data analysis, will inform RIS3 (2025 to 2030) and beyond. It builds on a wealth of evidence from previous route strategies and our ongoing monitoring of road condition and performance.

Engagement with customers and neighbours in the London to Scotland West (North) area

Early engagement with the Department

for Transport (DfT), Office of Rail and Road, Transport Focus, Transport for the North (sub-national transport body) and Network Rail shaped our engagement with customers and neighbours in the London to Scotland West (North) area. We gathered evidence from a cross-section of Members of Parliament (MPs), interested parties, road users and communities at a route level to understand their needs for the future. This built on engagement that had taken place with national interested parties, such as environmental groups, organisations representing road users, business organisations and transport campaigning groups. This engagement has informed the development of the route objectives.

Engagement took place through:

MP roundtables: MPs were invited to a regional roundtable with the Roads Minister to share their views on priorities for our customers and neighbours within their constituencies.

Regional workshops: As part of a programme of workshops with interested parties at a national and regional level, we invited interested parties to workshops on route strategies for the London to Scotland West (North) route in late 2021. Attendees included local authorities, airports and port authorities, transport operators, and other key route-based interested parties, such as major businesses.

We designed the workshops to seek views on both current and future challenges and opportunities for the SRN, in relation to the DfT's six strategic objectives. Views were sought on how the routes interacted with the Major Road Network (MRN), local roads, public transport, walking and cycling, and links to the wider strategic road network (SRN). Interested parties also provided insight into key growth proposals and locations along the route, including committed and emerging economic and housing growth and infrastructure proposals. Interested parties shared their own data, studies and observations of the route area.

Route strategies online feedback form: Local interested parties, road users and communities were invited to give their feedback on specific locations on motorways and A-roads and routes, and general comments on the road network, through the route strategies online feedback form. For the London to Scotland West (North) route, regional interested parties were invited to workshops or to use the online form to share their views and feedback.

The information gathered was a mix of evidence, studies and personal experience. All the evidence gathered through these engagement methods was considered alongside route analysis and data to inform the development of the route objectives. The evidence was supplemented by route-based information from Transport Focus' *Strategic Road User Survey*[20] to gain an understanding of the breadth of feedback.

Key themes from engagement

We have drawn out the common themes that emerged from our engagement with our customers and neighbours on the North Pennines route to inform our route objectives. The themes have been aligned with the DfT's six strategic objectives:

i) Views on: Improving safety for all

- Safety issues highlighted where there are slip roads, junctions and crossing points, and around the issue of severance
- Concerns over collision rates at M6 Junction 23 and on the M6 mainline around Preston, particularly where the M6 and M61 meet

ii) Views on: Network performance

- Journey time unreliability was raised as an issue. This can arise due to high levels of congestion. This was considered to be a particular issue where major roads meet and where new employment and housing developments are planned
- Sporadic seasonal congestion in Cumbria was highlighted, with congestion occurring seasonally at places where congestion is uncommon
- Interested parties raised a lack of suitable alternative routes that can cope with high volumes of through traffic
- Traffic diverting away from the M6 can be problematic, particularly around Warrington, St Helens and Preston

iii) Views on: Improved environmental outcomes

- A lack of resilience in the network was raised when severe weather events occur
- Particular concerns were raised regarding flooding risk around Junction 33 south of Lancaster
- Some interested parties felt that there are limited sustainable travel connections around the M6 for public transport and active travel options, either through severance of a route, no ability to provide a route, or a lack of priority at motorway junctions

iv) Views on: Growing the economy

- Poor facilities for freight and coach journeys on the M6 were highlighted, including parking and welfare
- Growth is anticipated from the Liverpool Freeport. The Freeport also has the potential to generate more freight activity
- The potential rail freight interchange at Parkside could have a bearing on usage of the M6 in terms of both local and national journeys
- Significant residential and economic development is planned along the M6 corridor. There were concerns raised over impact on congestion and junction usage

v) Views on: Managing and planning the SRN for the future

- Our engagement did not highlight any particular comments in this area

vi) Views on: Technology-enabled network

- It was felt that there is a lack of technology on parts of the route to both inform drivers of incidents, diversions, as well as supporting road users with electric vehicles

20 Transport Focus (2022) https://www.transportfocus.org.uk/insight/strategic-roads-user-survey/

Engagement quotes from customers and neighbours

"M6 Junction 40 definitely a current constraint and likely to become more problematic"

(Route strategies engagement)

"On the M6 we need to think of diversionary routes in the event of closures – as re-routing heavy traffic through routes that are not ideal in terms of safety and journey time"

(Route strategies engagement)

"Traffic was flowing quickly and smoothly and, lots of services stops"

(Transport Focus, SRUS)

"Issue of traffic diverting along the A6 - which has its own capacity issues - when there is a problem on the M6 between Junction 32 and Junction 33"

(Route strategies engagement)

"M6 Junction 33-Junction 35 - use of diversionary routes can be very problematic for Lancaster and Carnforth on the occasions when traffic is diverted on historic street pattern"

(Route strategies engagement)

"Traffic was not too bad and not too much disruption"

(Transport Focus, SRUS)

"M6 Junction 21 northbound off slip road queuing, safety risk when it reaches the M6"

(Route strategies engagement)

"Slip road queuing M6 Junction 20 and adverse camber, HGV accidents at junction"

(Route strategies engagement)

"Traffic was not too heavy and there were no hold ups"

(Transport Focus, SRUS)

"M6 Junction 23 - Congestion impacts on A580. Barrier to cycle and pedestrian movement. Constraint to growth, including Freeport site"

(Route strategies engagement)

"The journey was fine considering a lot of road works taking place at the moment"

(Transport Focus, SRUS)

"There is much concern locally about flooding-particular around Junction 33"

(Route strategies engagement)

"Significant room for improvement in both local and SRN driver information provision, particularly in terms of wider network operation"

(Route strategies engagement)

Figure 11: Quotes from customers and neighbours

Engagement quotes from customers and neighbours

"Traffic flowed freely even though there are road works on this section of the M6"

(Transport Focus, SRUS)

"Congestion issues are widespread and have varying causes. It has increasing financial implications for commercial journeys and businesses and makes some tourist destinations unattractive to visit at key times. Relief of congestion should always be seen to be a high priority for National Highways"

(Route strategies engagement)

"Provide safe and reliable connectivity between urban and rural locations as well as between local and strategic road networks"

(Route strategies engagement)

"There is a need to promote active travel modal change"

(Route strategies engagement)

"The traffic was reasonable and there were no delays, just one area of speed restriction"

(Transport Focus, SRUS)

"There is not sufficient coordination and interface between road networks and public transport. Congestion at SRN junctions with the local network causes delays to bus services passing through these junctions at peak periods, resulting in a disconnect between public transport connectivity and the SRN"

(Route strategies engagement)

"We did not encounter any roadworks, delays or diversions"

(Transport Focus, SRUS)

"The visual appearance of some areas along the M6 is poor, which relates to both maintenance and a lack of roadside greenery. Verge maintenance is seen as an after-thought rather than something that could promote greater biodiversity. Increased greenery (tree planting etc) around the motorway can be of significant air quality benefit, especially in Air Quality Management Areas" (Route strategies engagement)

"Traffic flowed throughout on the M6, no road works and road surfaces were good" (Transport Focus, SRUS)

"Poor lorry parking facilities encourage increasing use of inappropriate local road routes. Lorry parking needs to consider night shifts and 'just on time delivery' industry approach"

(Route strategies engagement)

"The M6 portion of the journey was quiet, had a high number of lanes so traffic flow was good and kept a nice steady speed all the way through"

(Transport Focus, SRUS)

"This section of motorway is, at most, moderately busy. At this time, traffic volume was quite low"

(Transport Focus, SRUS)

Figure 11: Quotes from customers and neighbours

Route satisfaction

Satisfaction scores have been obtained from Transport Focus through their Strategic Roads User Satisfaction Survey from the last 12 months to May 2022. It covers the roads in this route but it should be noted that the satisfaction scores may not fully align with the extent of the roads in the route. Figure 12 below shows how satisfied drivers were with aspects of their journey and how they felt during their journey.

Additional comments and data from the Transport Focus survey of drivers on the SRN can be found on the Transport Focus website data hub[21].

The engagement themes and feedback from MPs, interested parties, road users and communities has been considered as part of the wider analysis in Section 5.

Strategic roads user survey satisfaction scores

The survey was not run between April 2020 and March 2021 due to Covid-19. It restarted in April 2021 with a new methodology, so results prior to March 2020 and from April 2021 are not directly comparable.

National Highways Area: Area 10 Cheshire & Merseyside, Area 13 Lancs & Cumbria
Individual road: M6
Last 12 months*** May 2022 (last 12 months)

*** Before March 2019 and from April 2021 to February 2022 this is year-to-date, not past 12 months

Figure 12: Satisfaction scores from headline results

21 Transport Focus (2022) *Transport Focus Website*. https://transportfocusdatahub.org.uk/

Working with our partners

04 Network collaboration

The strategic road network (SRN) does not exist in isolation. Most journeys on the SRN are part of a longer journey, involving other road networks or different transport modes.

To deliver safe and efficient journeys for our customers and to support economic and housing growth, at National Highways we have built relationships with other organisations to ensure the SRN maximises its contribution to the overall transport system, which includes local roads, rail networks, links with the devolved nations and international connectivity. We work with other network operators (such as Network Rail), airports and ports, sub-national transport bodies, Transport for Wales and Transport Scotland, as well as combined authorities and local highway authorities. This is in line with National Highways' Licence requirements to consider opportunities for collaborative solutions. We recognise that joint early planning of interventions outside our network will ultimately improve the SRN and deliver greater benefit to the customer than could be achieved alone, where this delivers value for money.

An integrated transport network

Route strategies recognise the role that the SRN plays within the wider transport network. In planning for the future of the SRN, we recognise the importance of working closely with other network planners and operators to ensure our transport networks work well together, and that our investment priorities are aligned where possible.

Sub-national transport bodies have a key role in their regions in creating transport strategy and identifying key areas for investment, including for highways. There are seven such bodies in England, who are tasked with developing transport strategies and studies for their particular area.

Through the collection of evidence with their local authorities and Local Enterprise Partnerships, their work highlights multimodal issues, needs and opportunities. A list of potential interventions for transport are then provided to the Secretary of State for Transport, including where to prioritise investment in the Major Road Network. We work closely with the sub-national transport bodies on interdependencies and align our approaches where possible. The sub-national transport body which covers the route is:

- Transport for the North (TfN)

National Highways and sub-national transport bodies have worked together to develop an engagement framework. The need for closer working was highlighted as a priority in DfT's *Road investment strategy 2*[22], and within our *Strategic business plan*[23] and *Delivery plan*[24]. It enables National Highways and sub-national transport bodies to work together to achieve mutually beneficial outcomes for transport users, regional economies and the environment. Our approach to engagement is contained in *Our vision for route strategies*[25], which sets out a shared commitment for a continued open, constructive and collaborative relationship. This is supported by engagement and action plans for each sub-national transport body, which are proving instrumental in ensuring consistency and transparency in the information we share. The plans are monitored and reviewed regularly, with annual reviews occurring ahead of each new financial year.

At a more local level we also work with local authorities, who are the highway authorities for local roads, including those on the MRN.

22 Department for Transport (2020) *Road Investment Strategy 2: 2020–2025.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951100/road-investment-strategy-2-2020-2025.pdf
23 National Highways (2020) *Strategic business plan: 2020–2025.* https://nationalhighways.co.uk/strategic-business-plan
24 National Highways (2020) *Delivery plan: 2020 –2025.* https://nationalhighways.co.uk/delivery-plan/
25 National Highways (2021) *Vision for route strategies.* https://nationalhighways.co.uk/media/w0vhd3un/vision-for-route-strategies.pdf

This collaboration ranges from operational matters to more strategic issues to ensure that the overall highway network operates safely, efficiently and effectively, providing high quality and seamles cutomer journeys. The local authority planningteams work closely with our spatial planning teams. In enabling new employment spaces and homes to be developed, we engage fully as a statutory consultee in the planning system and the evidence collected through the route strategies will support this decision making.

Transport for the North

TfN published its *Strategic Transport Plan* (STP)[26] in 2019. It is due to be updated by 2024. The Strategic Transport Plan was informed by the 2017 initial *Major Roads Report*[27] (published as final in 2021), which maps the MRN in the region, identifying the locally strategic roads vital for economic growth. The objectives of the Plan are:

- transforming economic performance
- increasing efficiency, reliability, integration, and resilience in the transport system
- improving inclusivity, health, and access to opportunities for all
- promoting and enhancing the built, historic, and natural environment

It aims to:

- connect people by improving access to leisure and tourism assets and work opportunities, whilst widening the labour market for businesses
- connect business by improving connections to collaborators, clients and competitors, including those within the prime and enabling capabilities
- move goods by supporting businesses to move freight and goods efficiently and across modes

The STP identifies seven Strategic Development Corridors based around economic links across the North. They are not traditional transport corridors but represent where the largest gaps between demand and performance currently exist, and where there is most potential for growing the economy. The Strategic Development Corridors that are important to the London to Scotland West (North) route are summarised below:

- **Connecting the Energy Coasts**, improving connectivity between some of the UK's important non-carbon energy, advanced manufacturing, research assets and economic centres in Cumbria, Lancashire, North Yorkshire, the North East, the North of Tyne, and Tees Valley
- **Central Pennines**, driving strategic east-west connectivity for some of the North's important economic centres and assets in North Yorkshire, West Yorkshire, East Riding, and Hull through to Greater Manchester, Lancashire and the Liverpool City Region
- **Southern Pennines**, linking the economic centres, industries and ports within Liverpool City Region, Greater Manchester, Cheshire, Sheffield City Region, Hull, and northern Lincolnshire. Also considering connections with the Midlands
- **West and Wales**, moving people and goods, to, from and through the important economic centres and assets of Cheshire West and Chester, Cheshire East, the Liverpool City Region and Greater Manchester, with strategic connectivity into North Wales and the Midlands
- **West Coast – Sheffield City Region**, strengthening rail links along the West Coast corridor between the advanced manufacturing sites in Cheshire East, Warrington, Cumbria, Lancashire, Greater Manchester and Sheffield City Region, with improved connectivity from the North into Scotland

26 Transport for the North (2019) *Strategic Transport Plan.* https://transportforthenorth.com/wp-content/uploads/TfN-final-strategic-transport-plan-2019.pdf
27 Transport for the North (2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021/

The *STP* is accompanied by TfN's Investment Programme. The Investment Programme offers investment advice to the Government based on what the long-term transport priorities across all modes. The initial Investment Programme identifies what interventions TfN considers will address the current challenges on the transport network. This includes future proofing for where transport demand is envisaged, and where the interventions will stimulate inclusive, sustainable and transformational economic growth.

In 2019, TfN submitted a bid for £700 million investment in the region's roads over the next five years as part of the National Roads Fund, in order to unlock economic growth, deliver new homes, increase active travel, and improve public transport. The MRN and Large Local Major schemes were developed collaboratively with TfN's 20 Local Transport Authorities and 50 Highway Authorities. There are no schemes located close to the London to Scotland West (North) route.

TfN's board has recently adopted its *Transport decarbonisation strategy*[28], which sets out a decarbonisation trajectory. TfN aims to achieve near-zero carbon emissions from surface transport in the North by 2045. The Strategy highlights the opportunity to support the clean energy industry through possible transport improvements within the region.

The TfN board also recently endorsed the updated Major roads report. This report draws on evidence and policy in TfN's *Strategic transport plan*[29], work on future travel scenarios, the *Transport decarbonisation strategy and Freight and logistics strategy*[30]. It represents a position statement.

As part of work undertaken to develop TfN's *Long term rail strategy*[31], TfN has also commissioned a study of options for the future of Carlisle Station and its surrounding infrastructure.

The study will consider various scenarios for long-term service levels in the Cumbria and southern Scotland area. The costs and benefits relating to the infrastructure required to support possible future services will be considered.

Interaction with the major road network and local roads

The Major Road Network (MRN) is the middle tier of England's road network, comprising the busiest and most economically important local authority A-roads. It is key to supporting the economic vitality of England, particularly with its role, along with the SRN, of delivering 'first and last mile' connections and onward journeys. It acts as a connecting spine for the SRN, with one of the objectives in establishing the MRN being to support the SRN through improving journeys across both networks. The MRN represents the roads that our partners in local authorities and sub-national transport bodies see as being strategically most important, along with the SRN.

The relationship between the SRN and MRN is complex. The two networks connect people with economically important locations across England, as well as providing resilience for each other. Interventions on one network can also significantly influence travel behaviours on the other. Most SRN journeys involve elements of both networks.

28 Transport for the North (2021) *Transport Decarbonisation Strategy.* https://transportforthenorth.com/decarbonisation/
29 Transport for the North (2019) *Strategic Transport Plan.* https://transportforthenorth.com/wp-content/uploads/TfN-final-strategic-transport-plan-2019.pdf
30 Transport for the North (2021) *Draft Freight and Logistics Strategy.* https://transportforthenorth.com/wp-content/uploads/Freight-Strategy-Master-Consultation-version-v0.1.pdf
31 Transport for the North (2018) *Long Term Rail Strategy.* https://transportforthenorth.com/wp-content/uploads/Long-Term-Rail-Strategy_TfN.pdf

It is therefore important that decisions about the SRN, MRN and other local roads are made in a joined-up way to ensure that the networks are consistent, coherent and complementary. We recognise that the key to the success of the RIS is ensuring the impacts of any interventions are appropriately considered across all networks as well as at their junctions.

Both networks play a key role in customers' journeys, and they expect a seamless transition between the two. We are continually seeking to identify collaborative solutions that meet our obligations under the National Highways Licence to improve network performance and provide integration benefits. In developing the route strategies, we aim to ensure the planning for the SRN, MRN and other local roads is complementary.

In Cumbria the MRN is made up of connections to the A595 and A689, which combine to link the A69 east of Carlisle to the A66 at Cockermouth, via Junction 44 of the M6. The A65 links with the M6 at Junction 36, providing important connectivity to the East of England and cities in West Yorkshire. In Lancashire, the A683 connects the M6 with Heysham Port on the West Coast while the A582 creates the south-western ring road of Preston. The A59 connects with the M6 at Junction 31, providing onward connections to Preston and Blackburn. In South Cheshire, the A556 with the A54 and A51, and parts of the MRN, connects the M6 to the south-eastern ring road of Chester.

Freight and logistics

The future of freight: A long-term plan (DfT June 2022)[32]32 sets out priorities for the UK's freight industry. It recognises that in 2019 the sector contributed 10% of the UK non-financial business economy and £127 billion gross value added (GVA) through more than 200,000 enterprises, noting that, with imports and exports comprising 63% of GDP in 2019, we are reliant on the freight and logistics sector for our economic wellbeing.

The North of England's transport network is extensive and encompasses rail, road, inland waterways, sea and air infrastructure.

In addition, there is a significant volume of warehousing, particularly around Liverpool, Manchester, Newcastle and Leeds.

The transport infrastructure supports a Northern population of over 15.5 million people across a 38,000 square kilometre area[33]. Prior to the impact of Covid-19 there were 7.4 million jobs in the region[34]. The North of England contributes over £364 billion GVA towards the UK economy[35].

Freight accounts for 9% of the country's gross domestic product (GDP) and supports all industries by providing access to goods and services. In the UK a total of approximately 1.65 billion tonnes of freight are lifted by all modes per annum. Over a third of freight tonnes lifted comes from the Northern Ports, covering both international and domestic traffic. The route boasts a wealth of freight assets that give the North a strong freight capability across transport modes. Relevant to this route, these assets include:

32 Department for Transport (2022) *Future of Freight: a long term plan.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1085917/future-of-freight-plan.pdf
33 Office for National Statistics (2021) *Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland: Mid-2020: 2021 local authority boundaries.* https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland
34 Office for National Statistics (May 2021) *Labour Force Survey (Jan-Mar 2020).* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/employmentintheuk/may2021
35 Office for National Statistics (2021) *Regional Gross Value Added (balanced) by industry: all ITL regions.* https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry

- the major port of Liverpool (with provisional Freeport status) in addition to the Port of Salford and other smaller ports located on the Mersey, as well as in Lancashire and Cumbria
- international airports including Liverpool John Lennon and Manchester
- a Strategic Rail Freight Interchange (a distribution centre with intermodal terminals) at Ditton, Merseyside three further Intermodal Terminals at Trafford Park, Garston, and Widnes
- a strategic rail network principally comprising of the West Coast Main Line that connects the North West to the south of England
- a significant amount of distribution centre capacity, particularly at Carlisle, Preston, Warrington and Newcastle-under-Lyme, as well as Royal Mail Critical Centres at Preston and Warrington

Despite these assets being available, many are not being fully utilised. This is due to a lack of joined up infrastructure, and alternative logistics solutions being more attractive. Addressing gaps across the network would help support multimodal capabilities. Given that 80% of road freight in the North is domestic traffic, most of which is short haul (making it difficult to justify the use of rail on commercial or efficiency grounds), addressing these gaps in connectivity would benefit operation across the SRN.

The Department for Transport's 2017 National survey of lorry parking[36] showed that the North West region (which covers the London to Scotland West (North) route area), needed an estimated 15% more practical spaces, equivalent to 61 lorry parking spaces. This takes into consideration that a lorry park is, in practice, full at 85% capacity. 36% of facilities in the region are ranked level 4 or 5 (the highest and most secure levels of provision) compared to the national average of 21%. Truckstop utilisation at most locations along the M6 south of Lancaster is listed as 'critical' (over 85%), with Charnock Richard Services, located between Junctions 28 and 29, the most utilised at over 125%. Knutsford (Northbound) near Junction 19 and Lancaster (Northbound) south of Junction 33 also have utilisation of 90% and 88% respectively.

Diversionary routes

To operate a resilient road network, we need to be able to effectively divert traffic off the SRN in the event of unplanned incidents (such as collisions or emergency roadworks), or as part of planned closures (such as planned improvement schemes). The MRN, along with the rest of the local road network, supports the SRN as diversion routes during these events.

We have agreed diversion routes for emergency events with local authorities. Diversion routes for planned events are discussed and agreed with local authorities on a case-by-case basis.These routes are dependent upon the nature of the incident, and the suitability and availability of the surrounding network.

In some cases, the diversion route may not be suitable for certain types of traffic, such as heavy goods vehicles (HGVs), or non-motorway traffic, such as cycles and tractors. In other cases, diversionary routes may not be available due to events on the local road network. We work closely with local authorities to ensure that suitable diversion routes are available.

36 Department for Transport (2017) *National Survey of Lorry Parking.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/723349/national-survey-of-lorry-parking-report.pdf

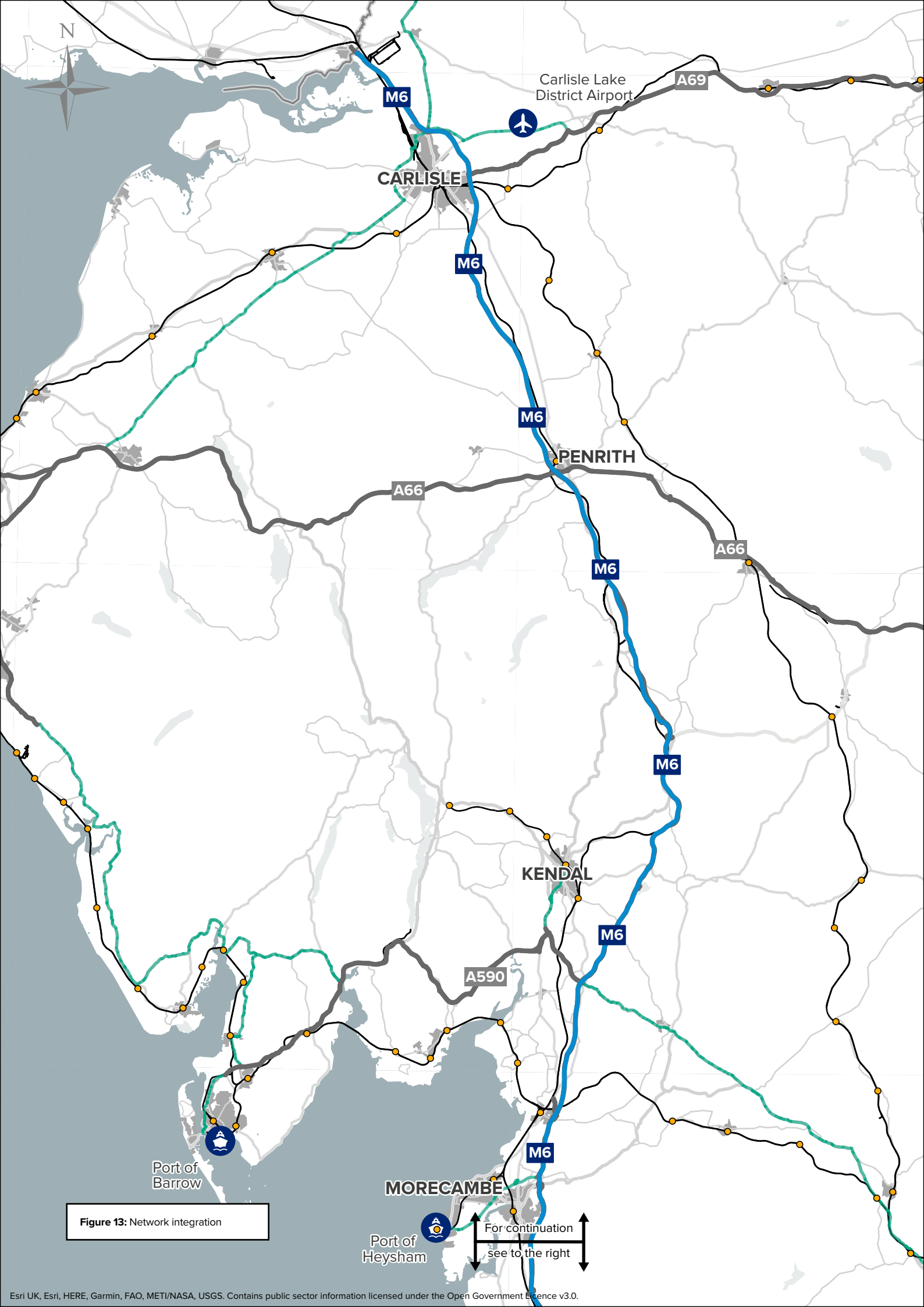
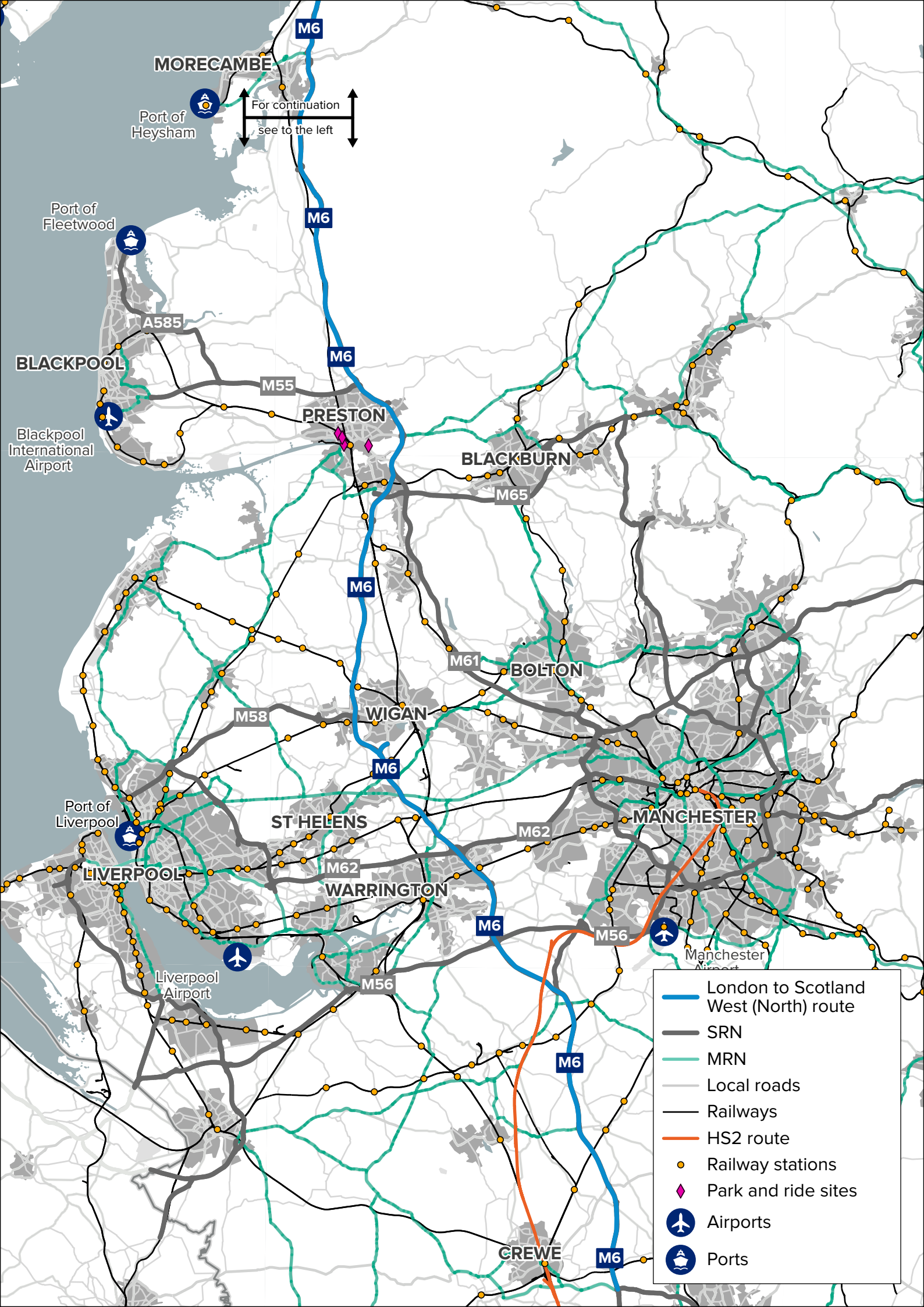


Figure 13: Network integration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Port of Heysham
For continuation see to the left
Port of Fleetwood
A585
BLACKPOOL
Blackpool International Airport
M55
PRESTON
BLACKBURN
M65
M6
M61
BOLTON
M58
WIGAN
Port of Liverpool
ST HELENS
M62
MANCHESTER
LIVERPOOL
WARRINGTON
M56
Liverpool Airport
Manchester Airport
CREWE
London to Scotland West (North) route
SRN
MRN
Local roads
Railways
HS2 route
Railway stations
Park and ride sites
Airports
Ports

Network Rail and other network operators

The SRN plays an important role in the movement of passengers and freight across England, and it needs to be considered alongside the wider transport network. The rail network is also important in moving freight and people over longer distances and helping commuters travel into congested cities. Better integration between road and rail can help to transfer more journeys onto rail. This can help to relieve congestion on the SRN, as well as improve the environment by increasing the use of more sustainable transport modes.

We work closely with Network Rail and train operators to find opportunities to better integrate the two networks to benefit the movement of freight and people. This involves seeking opportunities to place rail stations in strategically important locations with easy access to the SRN.

Network Rail's *Delivery plan for 2019-2024*[37] presents a vision of "putting passengers and freight users first", recognising that Network Rail can improve the daily lives of people across the country by striving to constantly improve the quality of service across the whole railway system. Network Rail delivers its vision through a regional structure committed to responding to the needs of its local customers and stakeholders, more quickly than if such decisions were to be made at a national level.

Across much of North West England, the railway runs close to the M6 and provides a direct connection from Scotland to London. Important stations on the West Coast Main Line include Carlisle, Lancaster, Preston, Wigan North Western, Warrington Bank Quay, and Crewe.

Carlisle, Lancaster, and Preston stations allow for connections to local services and locations such as Barrow-in-Furness, Heysham Port and Blackpool, as well as trains to cities such as Liverpool, Manchester and Leeds. Wigan North Western and Warrington Bank Quay are primarily north-south orientated. However, there are local services to towns in Merseyside and Greater Manchester.

Oxenholme and Penrith stations in Cumbria are also located on the West Coast Main Line. They act as leisure and tourist gateways to the South and North Lakes respectively.

The Network Rail North West route (covering the rail network in Cumbria, Lancashire, Greater Manchester, Merseyside and Cheshire) is key to support critical freight corridors across the North West and the rest of Great Britain.

We also work with the operators and promoters of urban rapid transit systems where there are opportunities for better integration, for example, through the creation of park and ride sites to remove traffic from the road network.

37 Network Rail (2022) *Our delivery plan for 2019–2024.* https://www.networkrail.co.uk/who-we-are/publications-and-resources/our-delivery-plan-for-2019-2024/

Strategic connectivity

The SRN plays a key social and economic role in connecting England with the devolved authorities of the UK, particularly Wales and Scotland, but also, via ports, Northern Ireland. We work closely with Transport for Wales and Transport Scotland to ensure our key cross-border routes are joined up effectively with those in Wales and Scotland to ensure easy journeys for our customers. This strategic connectivity is reflected in the Government's commitment to strengthening transport connections across the UK, guided by Sir Peter Hendy's *Union connectivity review*[38] published in late 2021. The report recommends the creation of UKNET, a strategic transport network spanning the entire United Kingdom. UKNET would be based on a series of principal transport corridors between key urban and economic centres, including international gateways. The findings of this report have been considered in our route strategies, particularly for our cross-border routes and roads connecting to important ports.

The M6 directly connects Scotland and England and is the only motorway to do so, with over 50,000 cross-border journeys every day. The route enables journeys via the A74(M) and M74 to Glasgow and Edinburgh, via the A75 to Cairnryan, and via ferry to Larne in Northern Ireland.

In terms of links to Wales there is a connection to North Wales in Cheshire via the M56 to Chester, continuing via the A494 or A55 across the border with ferry connections to Ireland from Holyhead.

International connectivity

One of the objectives of the SRN is to support the important economic activity involved in international passenger and freight movement via good connections to ports and airports. A key aspect of route strategies is ensuring that future investment continues to support these essential movements.

Along the London to Scotland West (North) route, there are connections to several ports and airports that provide international connectivity for both passenger and freight movement. Most notably, the two international airports of Manchester and Liverpool can be accessed from the M6 via the M56 and M62 respectively. The Port of Liverpool, one of the largest in England with two container terminals, can also be accessed. Further north is the large port of Heysham, which provides connections to the Isle of Man.

38 Sir Peter Hendy CBE (2021) *Union Connectivity Review Final Report.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1036027/union-connectivity-review-final-report.pdf

Challenges and issues on the route

05 Challenges and issues

We recognise that there are existing challenges and issues on the network and these are outlined against the DfT's six strategic objectives as part of the route strategy evidence base.

1. Improving safety for all

The International Road Assessment Programme (iRAP) Star Ratings are based on road inspection data and provide a simple and objective measure of the level of safety which is 'built-in' to the road. The higher the star rating, the safer the road. iRAP star ratings are produced for each 100-metre section of road, based on detailed inspections of roadside features as well as traffic flow, speed, pedestrian and cyclist use, and crash data.

iRAP data helps us to predict future risk within a wider Safe System approach. Safe System thinking accepts that humans will make mistakes but considers what is within the scope of our influence to limit the injuries sustained. The iRAP approach to managing future risk complements the more traditional approach of analysing historical incident data provided by STATS19 as a means of predicting future collisions and casualties.

STATS19 data are the statistical data published by the Office for National Statistics about personal-injury road traffic collisions reported to the police. STATS19 remains the most detailed, complete, and reliable single source of information on road casualties covering the whole of Great Britain, in particular for monitoring trends over time.

For the purposes of National Highways Route Strategies, the total fatal and serious injuries are aggregated by the section of road on which they occurred, based on the NTIS (National Traffic Information Service) network.

The NTIS network used for displaying traffic data is the full extent of the roads for which National Highways are the highway authority. The NTIS network is modelled for each side of the carriageway, such that NTIS links are one-directional and split at junctions. The data used only includes main carriageways; slip roads, roundabouts and other types of road are not modelled in this dataset. The length of an NTIS link can vary greatly depending on what part of the network it represents. Use of the NTIS network provides a common geometry which can be used to compare the STATS19 data with network performance and other metric data.

A combination of star ratings and historic data can help us to prioritise route treatments. Where the density of incidents resulting in death or serious injury is high, and the star rating is low (poor), it indicates something can be done to prevent future collisions where people are killed or seriously injured.

Road Safety Foundation (RSF) produce maps that show the statistical risk of fatal or serious injury crash occurring. The risk is calculated by comparing the frequency of road crashes that result in death and serious injury with how much traffic each road is carrying. For example, the risk on a road carrying 10,000 vehicles a day with 20 crashes is ten times the risk on a road that has the same number of crashes but which carries 100,000 vehicles.

As shown in Figure 14, using the latest available iRAP data, it shows that none of the London to Scotland West (North) route received below a 3-star rating. Most of the route received a 3-star rating, with the remainder receiving a 4-star rating.

As the M6 route is entirely motorway, only motorised vehicles are allowed to use it, with journeys by foot, bicycle and horse prohibited. Junctions with other roads are the only places where these modes could come into conflict. Two junctions along the M6 in Cumbria feature adjoining SRN A-roads with a 1-star rating. The M6 itself at these locations has a 3-star rating. The two locations are:

- Junction 40 - the A66 south of Penrith
- Junction 43 - the A69 east of Carlisle

It is understood from responses from interested parties that journey purposes and lengths vary greatly across the 175-mile section of motorway, with a mixture of short distance local journeys, commuter journeys, leisure journeys and commercial journeys by freight. When combined with differing distances between junctions along the route, interested parties believe this creates instances where different trip types and purposes combine, particularly where there are many opportunities to join or leave the route over a short distance.

Collisions are categorised dependent on severity, with three classifications: slight, serious and fatal. Along the M6, there are locations with a concentration of slight collisions at junctions connecting other significant roads:

- Junction 20 – M56, south-east of Warrington
- Junction 21 – A57, east of Warrington
- Junction 23 – A580, east of St Helens

Improving safety and minimising collision rates is a key consideration for all our routes

As shown in Figure 15, sections of the route near major junctions have experienced a number of collisions involving someone being killed or seriously injured. These include:

- a 20 kilometre section of the M6 between Junctions 32 and 33, where there have been three fatal, 26 serious and a number of slight collisions in the latest available data period of 2015-2018
- the section of the M6 between Junctions 19 and 17, where there have been four fatal, 26 serious and a number of slight collisions between 2015-2018. However, the M6 Junction 16 to 19 all lane running (ALR) smart motorway scheme has recently been completed. The impact of the scheme will be monitored by National Highways

There is a history of collisions in the southern section of the M6 London to Scotland West (North) route, in the Cheshire, Merseyside and Lancashire areas.

Based on the latest available data, the section of M6 between the A5209 and M65 (Junctions 27 to 29) has a higher percentage of serious or fatal collisions involving someone walking, cycling or horse riding than other parts of the route.

In addition, the route presents challenges to active travel in terms of the severance effect on walking, cycling and horse riding networks. The route often creates physical barriers resulting in active mode users needing to utilise heavily trafficked junctions. This is reflected in the *Planning ahead for the strategic road network document*[39], published by the Department for Transport in December 2021. This states that improvements to the SRN will support and make active travel easier and more attractive to use.

Key challenges

- Sections of the route have experienced a number of collisions involving someone being killed or seriously injured, including a 20 kilometre section of the M6 between Junctions 32 and 33 and the section of the M6 between Junctions 19 and 17. The impact of the Junction 16 to 19 ALR smart motorway scheme scheme will be monitored by National Highways
- Using the latest available data, the section of M6 between the A5209 and M65 (Junctions 27 to 29) has a higher percentage of serious or fatal collisions involving someone walking, cycling or horse riding than other parts of the route
- The route presents challenges to active travel in terms of the severance effect on walking, cycling and horse riding networks. The route often creates physical barriers resulting in active modes needing to utilise heavily trafficked junctions

39 Department for Transport (2021) *Planning ahead for the Strategic Road Network.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045938/planning-ahead-for-the-strategic-road-network-developing-the-third-road-investment-strategy.pdf

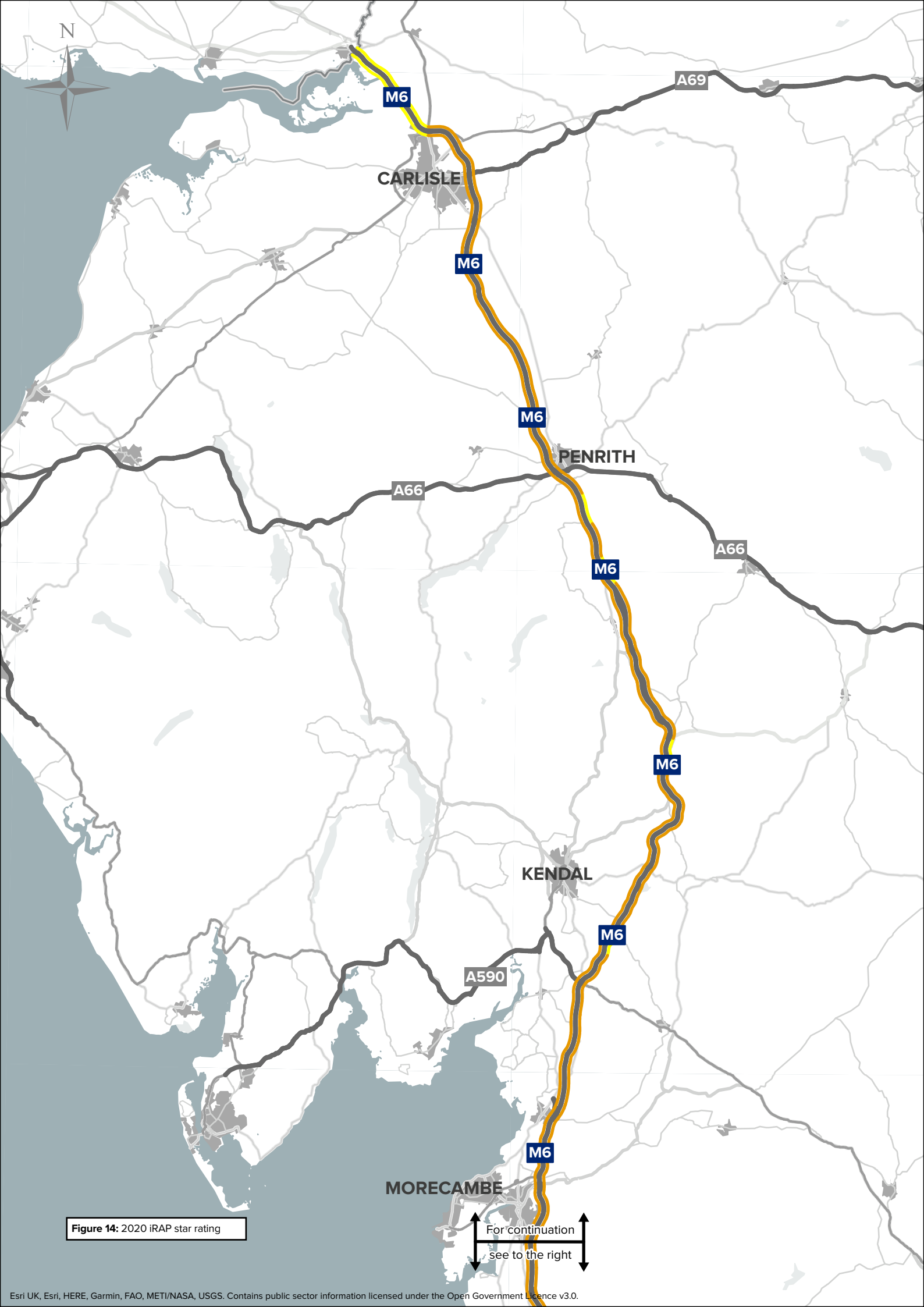
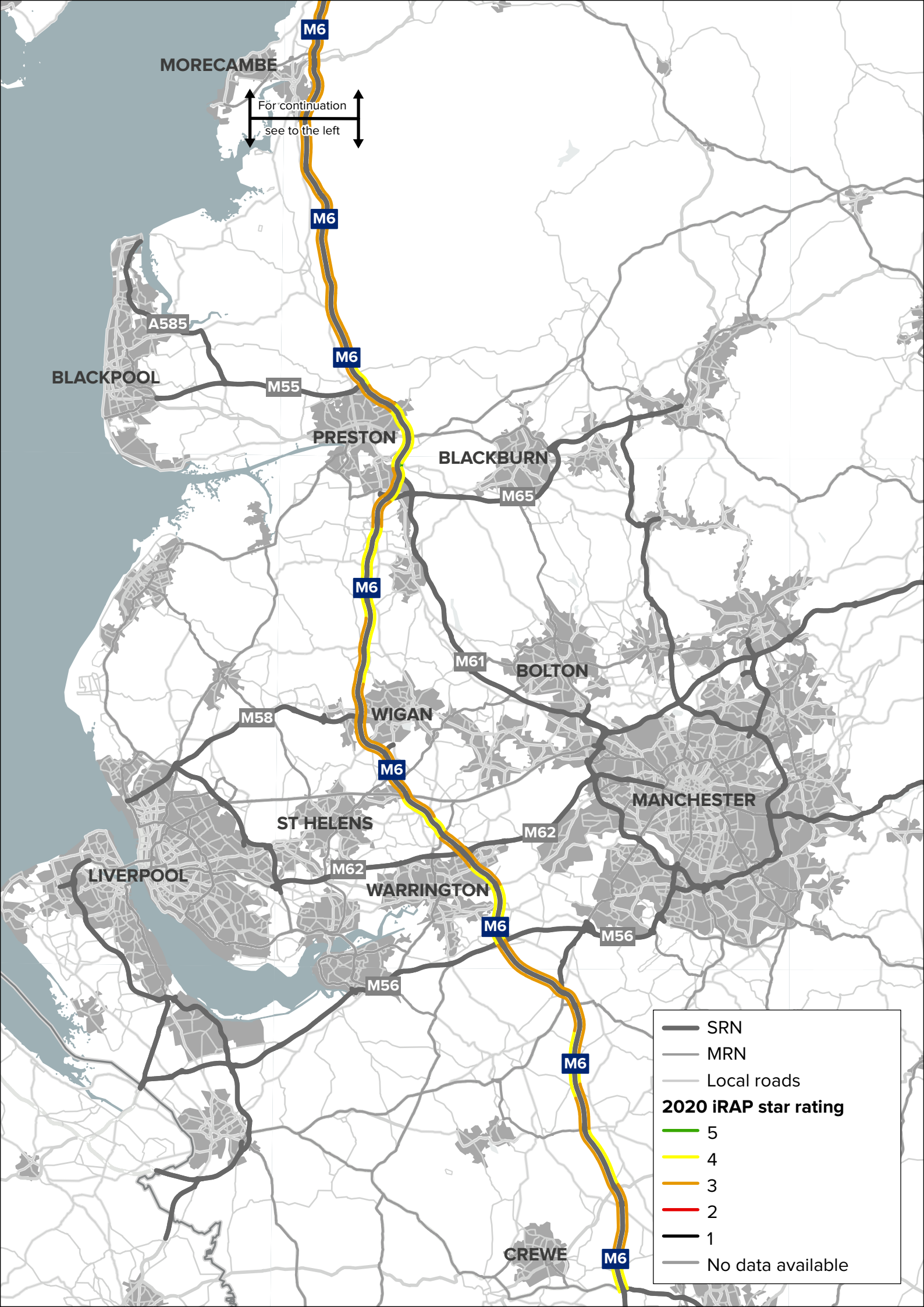


Figure 14: 2020 iRAP star rating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WIGAN
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MANCHESTER
ST HELENS
M62
M62
LIVERPOOL
WARRINGTON
M6
M56
M56
M6
CREWE
M6
SRN
MRN
Local roads
2020 iRAP star rating
5
4
3
2
1
No data available

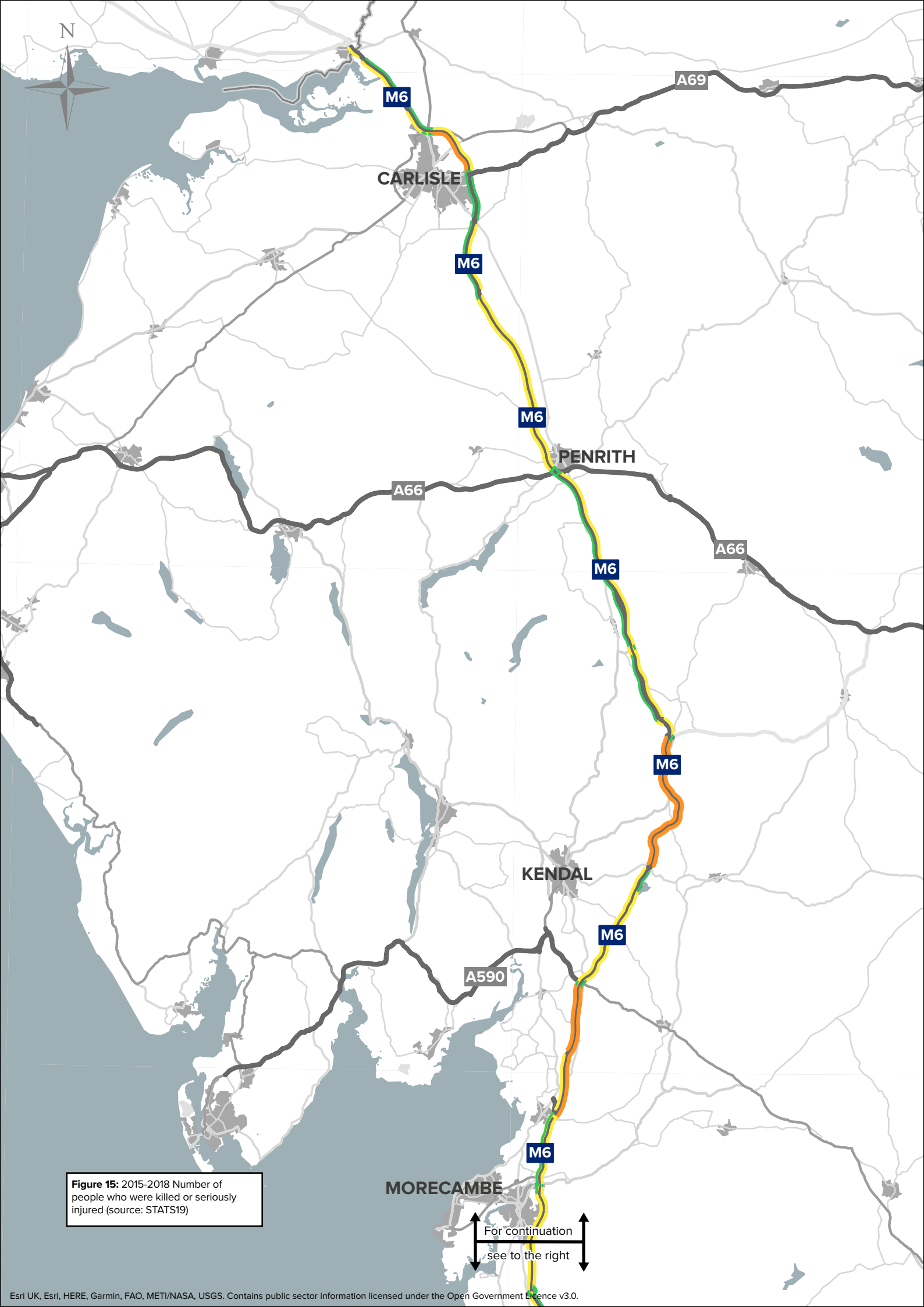
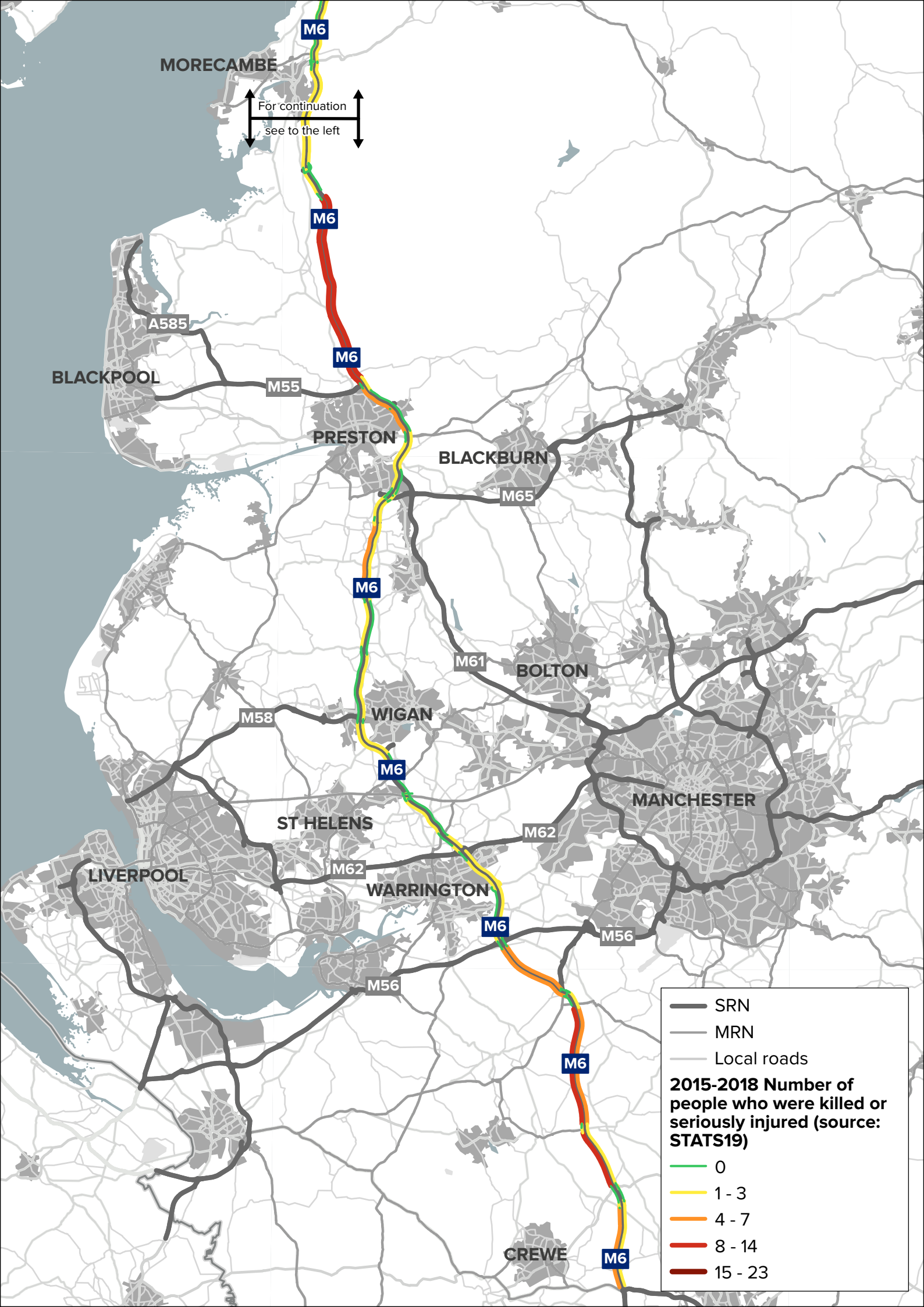


Figure 15: 2015-2018 Number of people who were killed or seriously injured (source: STATS19)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LIVERPOOL
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CREWE
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SRN
MRN
Local roads
2015-2018 Number of people who were killed or seriously injured (source: STATS19)
0
1 - 3
4 - 7
8 - 14
15 - 23

2. Network performance

Network performance is measured by average peak period delay in the morning or afternoon, seasonal delay, and journey time reliability. Many sections of the London to Scotland West (North) route experience one or more of these types of delay.

The morning peak average delay from NTIS in 2019 is shown in the delay map presented in Figure 16.

Variable traffic volumes on the M6 impact upon journey time reliability, with this reliability worsening as traffic volumes increase. Journey time reliability issues are more apparent on sections where junctions are located close to one another.

We want to improve journey times on route sections which currently experience high levels of delay and are expected to worsen in the future

Congestion on the M6 varies by time of day and season. While the traditional peak periods exist, traffic levels fluctuate depending on other specific factors. These include the visitor economy, factors such as school holidays, and locations around logistics warehouses.

Average peak period delay is measured in seconds per vehicle per mile and is the difference between average delay in the morning or afternoon peak period and the average delay during free flow conditions.

Seasonal delay refers to the difference between the average afternoon peak delay for Fridays in August 2019 (high demand in summer holidays) and the average delay during very low demand periods (in this case, Christmas day is used). This measure is designed to reflect the parts of the network that do not appear to have a problem on average over the year but have seasonal peaks.

Seasonal delay is of interest to tourist traffic, particularly people travelling to airports, or other destinations where arriving later than intended could have significant implications.

Reliability is the difference between the typical travel time, allowing for average peak period delays, and the observed travel time. This measures the amount of variation due to unexpected variations or unplanned events. Like delay, it is measured in seconds per vehicle mile. It is a concern for most drivers, but particularly affects just-in-time freight traffic and other strategic journeys.

There are notable levels of peak period delay and journey time unreliability on junctions on the M6 around Preston. Daily queues occur, particularly at Junction 32 during the afternoon peak period. Poor journey time reliability is notable northbound on Junction 29 as the M6 joins with the M61 at Junction 30. Poor reliability and afternoon peak delay is also evident around Junction 20A (with the M56) and Junction 21A (with the M62).

The London to Scotland West (North) route provides access to several key tourist destinations, such as National Parks, Areas of Outstanding Natural Beauty (AONBs) and coastal towns and cities where tourism is key part of the local economy.

These destinations attract a significant number of visitors during peak holiday periods, increasing congestion. For example, some sections of the M6 east of Kendal, between the Lake District and Yorkshire Dales National Parks, experience seasonal peak delays of more than 25 seconds per vehicle per mile, compared to an average morning or afternoon delay of around 5 seconds per vehicle per mile.

The lack of diversion routes which are of a similar standard to the route means that incidents or planned roadworks can create severe disruption. This is especially true north of Lancaster where diverted traffic deviates more significantly away from the M6. In addition, some diversion routes are less suitable for heavy goods vehicles (HGVs). Diversionary routes can also have secondary impacts, including increased congestion and environmental impacts.

As shown in Figure 16, interested parties have identified the following M6 junctions as being frequently congested:

- Junction 17 – A534
- Junctions 19 to 21 – Tabley to Woolston
- Junctions 21 to 24 – Woolston to St Helens
- Junction 23 – A580 – east of St Helens
- Junction 26 – M58 & A57 – west of Wigan
- Junctions 29 to 32 – Preston ring road
- Junction 30 – M6 and M61 merge – south of Preston
- Junction 34 – M6 and A683 connecting Heysham Port to the north of Lancaster

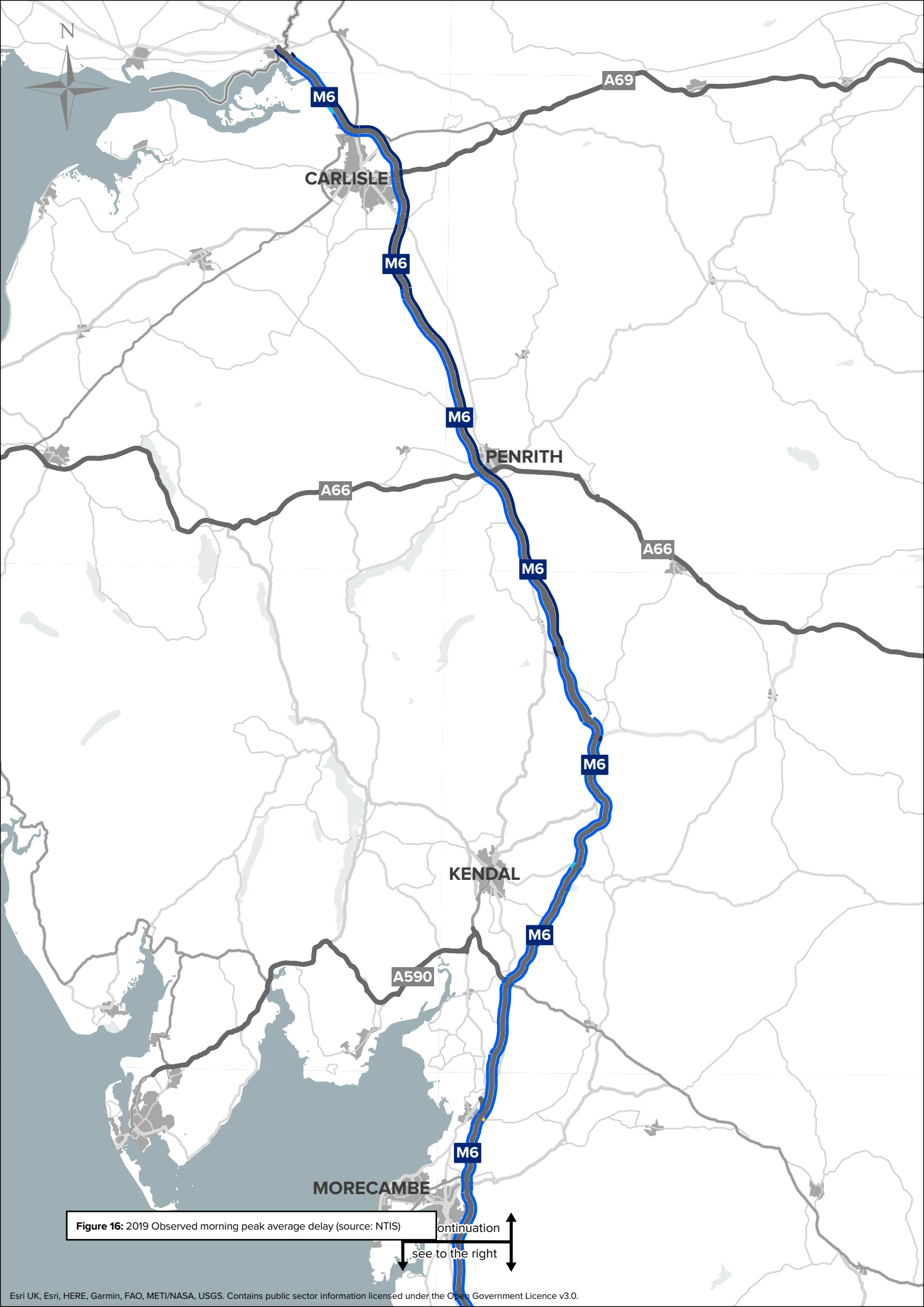
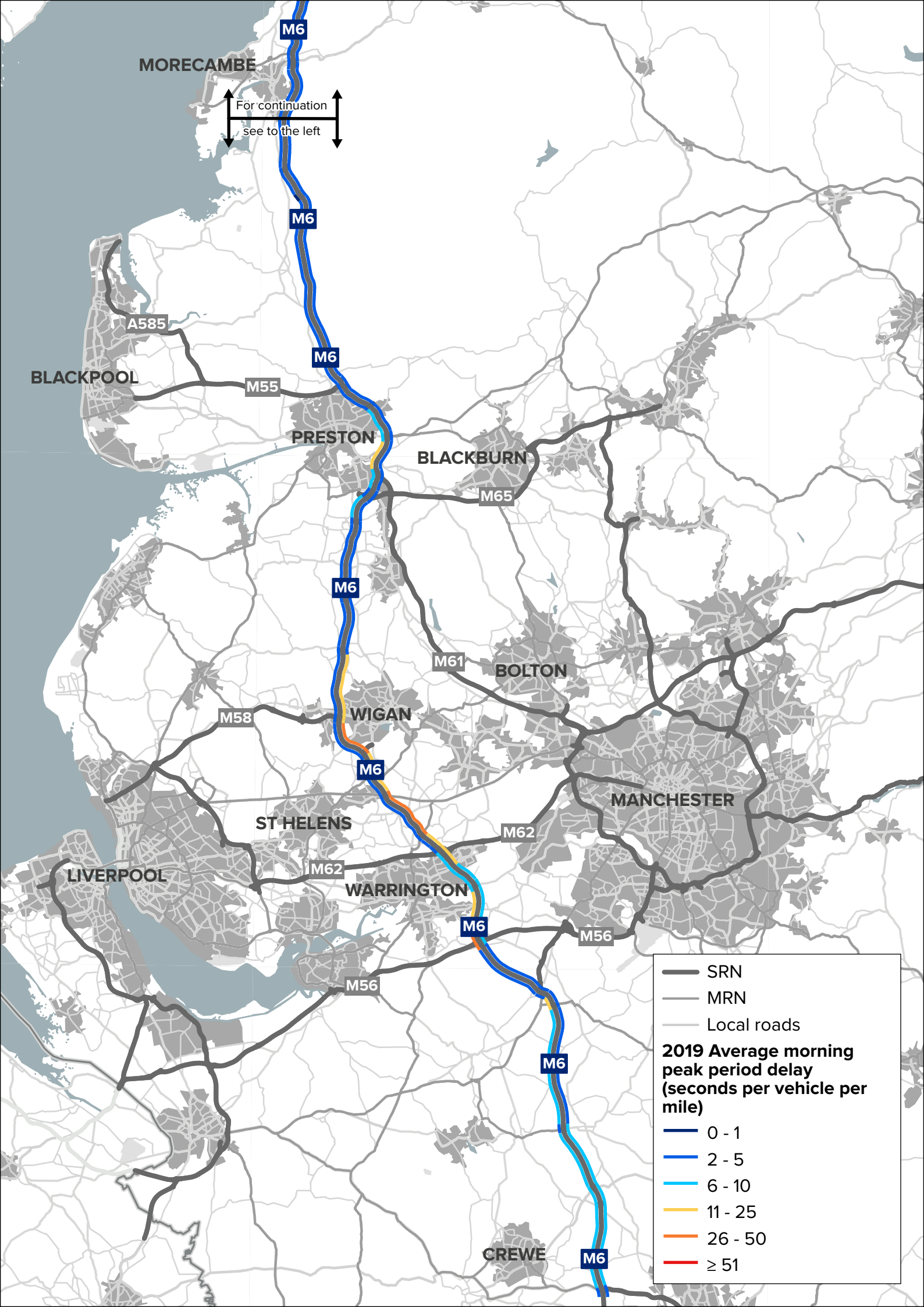


Figure 16: 2019 Observed morning peak average delay (source: NTIS)


MORECAMBE
For continuation see to the left
M6
A585
BLACKPOOL
M55
PRESTON
BLACKBURN
M65
M61
BOLTON
M58
WIGAN
MANCHESTER
ST HELENS
M62
LIVERPOOL
WARRINGTON
M56
CREWE
SRN
MRN
Local roads
2019 Average morning peak period delay (seconds per vehicle per mile)
0 - 1
2 - 5
6 - 10
11 - 25
26 - 50
≥ 51

As Figure 16 demonstrates, the occurrence of delay on the network is limited to a few locations, and delays compared to free-flowing traffic are generally minimal.

National Highways has a suite of five regional traffic models (RTMs) covering England's SRN. The models allow us to identify future performance and delay on the network, assisting with the development of the route strategies. The RTM models use projected growth, expected trends and changes to the network (including National Highway's RIS2 schemes) to forecast the performance of the network in 2031.

The RTM output for 2031 has been geo-referenced onto the NTIS network to allow a comparison between 2019 observed delay and the RTM 2031 forecast delay. Morning peak average delay is defined as the journey time in excess of the theoretical minimum journey time on the link.

The morning peak average delay from RTMs forecast for 2031 is shown in the delay map presented in Figure 17.

There are planned new developments at multiple locations along the route. M6 Junction 34 north of Lancaster has been identified as a significant growth area, including the development of the North Lancaster Business Park, whilst the *Lancaster City Centre movement and public realm strategy*[40] aims to prevent road traffic growth within the town centre which may displace traffic elsewhere. Significant development is also planned to the south of Lancaster, including housing developments at Bailrigg Garden Village and along the A6 corridor, although work is currently underway to improve M6 Junction 33 in order to accommodate the former. Consequently, the delay experienced by road users in the Lancaster area is forecast to increase in the future.

40 Lancashire County Council and Lancaster City Council (2020) *Lancaster City Centre Movement and Public Realm Strategy.* https://www.lancashire.gov.uk/media/920080/lancaster-city-centre-movement-and-public-relam-strategy-consultation-boards.pdf#:~:text=The%20Lancaster%20City%20Centre%20Movement%20and%20Public%20Realm,between%20Lancashire%20County%20Council%20and%20Lancaster%20City%20Council

Other locations where developments are planned and where traffic is likely to increase include the Cuerden site west of M6 Junction 29; Skelmersdale to the west of Junction 26; South East Warrington; and the Capricorn Business Park next to Junction 17.

Annual average daily flows at M6 Junction 23 (with the A580) are forecast to be more than 100,000 vehicles per day. Delay occurs on the southbound carriageway during the morning peak between Junction 23 and Junction 19 (with the A556). Delays are expected to increase into the future. Extended queues often develop on all approaches to the M6, and on slip roads. These can build up and block traffic lanes on the M6. Between 2015 and 2031, delays are forecast to increase significantly on the M6 between Junction 26 near Wigan and Junction 33 south of Lancaster, with delays of up to 150 to 300 seconds per vehicle per mile forecast around some junctions. There is expected to be an increase in economic activity in the area with the planned development around Haydock. This is expected to worsen this issue.

Junction 17 of the M6 is likely to experience significant traffic growth due to the extensive Peak delay is forecast on the M6 between Junctions 19 and 23 in the future. On the northbound carriageway at M6 Junction 23, peak delay is forecast to exceed 90 seconds per vehicle per mile.

Key challenges

- Currently, delays are experienced primarily on the southern half of the route, both at specific junctions (Junctions 17 and 23 for example) and sections in between junctions (such as between Junctions 29 to 32)
- Traffic is forecast to grow in the future as a result of the planned housing and employment growth, particularly around M6 Junctions 17, 20, 23, 29 and 33

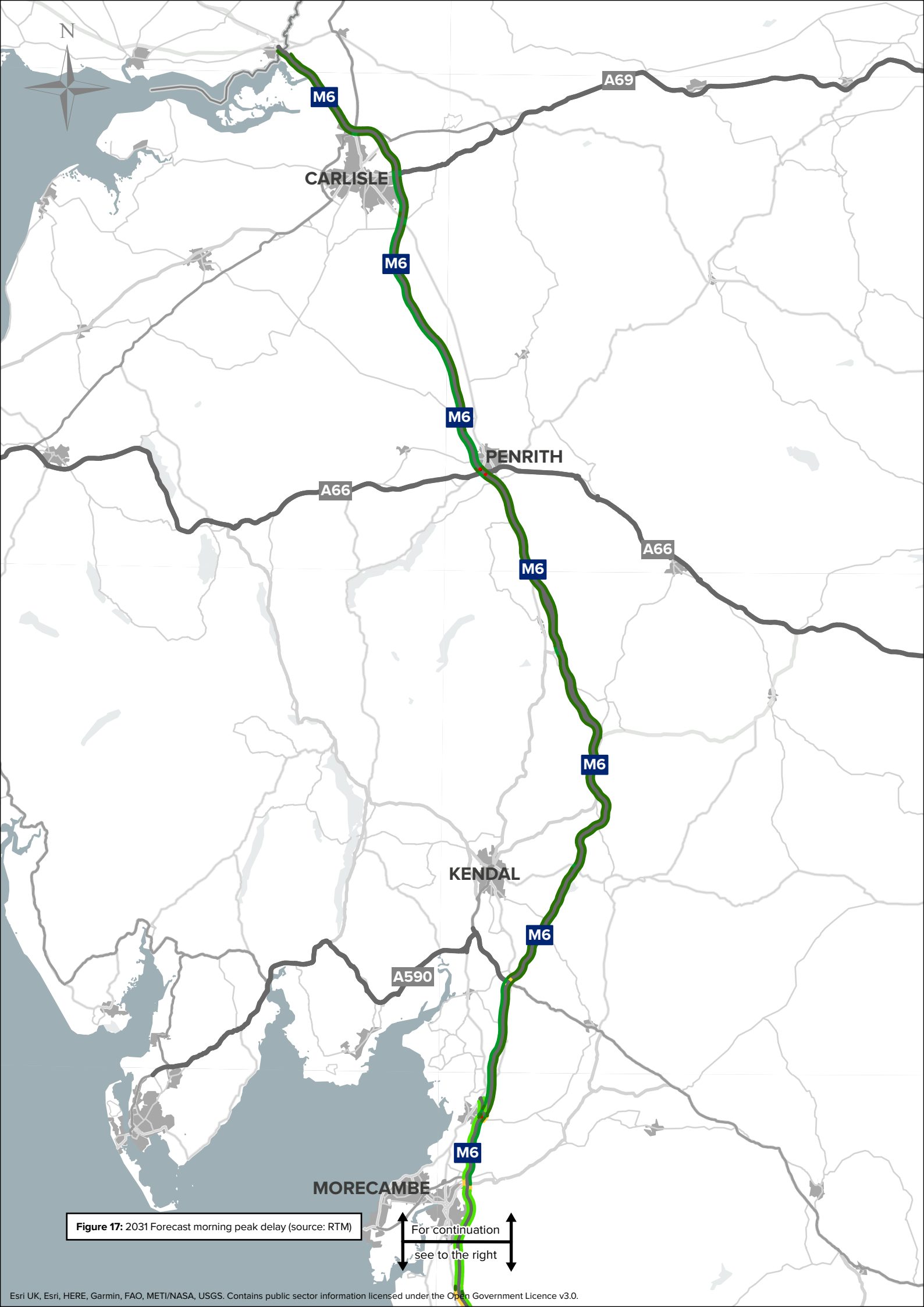
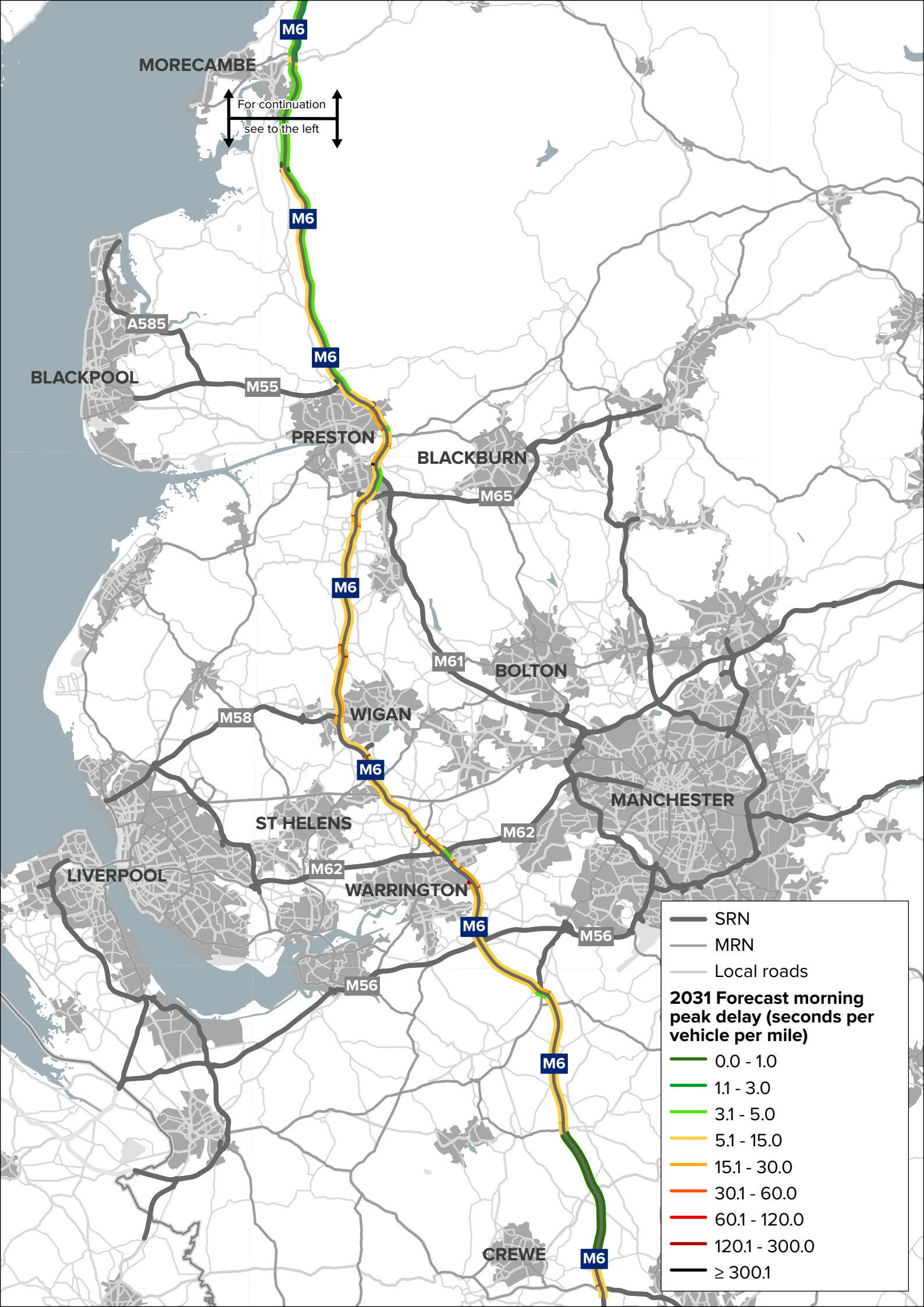


Figure 17: 2031 Forecast morning peak delay (source: RTM)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WIGAN
MANCHESTER
ST HELENS
M62
LIVERPOOL
WARRINGTON
M56
CREWE
SRN
MRN
Local roads
2031 Forecast morning peak delay (seconds per vehicle per mile)
0.0 - 1.0
1.1 - 3.0
3.1 - 5.0
5.1 - 15.0
15.1 - 30.0
30.1 - 60.0
60.1 - 120.0
120.1 - 300.0
≥ 300.1

3. Improved environmental outcomes

Climate change is affecting society as a whole, and the transport sector is no exception. As the Government owned company tasked with building and maintaining the SRN, we need to show both how we can help tackle the causes of climate change and how we are preparing for a changing climate. In 2021 we published our *Net zero highways plan*[41] to show how we will meet the target of net zero greenhouse gas emissions.

The latest climate projections from the Met Office have helped us to understand how the climate is changing, including that summers will on average be hotter and drier, while winters will be milder and wetter and critically, that extreme weather will become more common. We have also seen, from reports such as the Climate Change Committee's third and most recent independent assessment of climate risk[42], that there are key risks from a changing climate for infrastructure, such as risks to bridges from flooding and erosion and risks to subterranean and surface infrastructure from subsidence.

We are committed to net zero carbon construction by 2040 and net zero carbon travel by 2050. This will involve significant changes to the way we build and manage our network, including in the London to Scotland West (North) area. We will need to consider better integration with other transport modes and how to support the transition to electric cars and zero carbon heavy goods vehicles (HGVs).

The route has significant ecological, cultural, and environmental sensitivities. Some of the route passes next to and through National Parks, as well as passing close to several AONBs. The A66 and A590, which connect to the M6, are key gateways for accessing the Lake District National Park. To the east of the M6 in Cumbria, the A69 and A66 feature multiple listed or designated cultural heritage, water environment and habitat sites. There are receptors within 100 metres of the SRN which may be more likely to experience adverse air quality impacts, including the M6 between Junctions 24 and 25 near Ashton-in-Makerfield; at Gathurst near Wigan; between Junctions 26 and 32 around Preston; between Junctions 33 and 34 to the south-east of Lancaster; in the vicinity of Alsager, Carlisle and Penrith. From Cheshire through to the border with Lancashire, several Air Quality Management Areas (AQMAs)

Air quality describes how polluted the air we breathe is. Poor air quality can cause both short-term and long-term effects on the health of humans and other living beings. The amount of air pollution depends on the concentrations of different substances in the atmosphere, such as sulphur dioxide, oxides of nitrogen, and particulate matter. In the UK, the concentrations of these pollutants are regulated and regularly monitored. If a local authority identifies any locations within its boundaries where targets are not being achieved, it must declare an Air Quality Management Area (AQMA) and put together a plan to improve air quality in that area.

While noise is often an inevitable consequence of societal activities, it can have serious implications for human health, quality of life, economic prosperity and the natural environment. While there's no legal limit to road noise, environmental noise regulations in the UK require regular noise mapping and the creation of action plans for Noise Important Areas (areas exposed to the highest levels of noise).

Severance is where transport infrastructure or motorised traffic passes through settlements and acts as a physical or psychological barrier, limiting people's ability or desire to move through that area. This can reduce accessibility to key services, and damage local social networks and community cohesion.

41 National Highways (2021) *Net zero highways: our 2030 / 2040 / 2050 plan.* https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf

42 Climate Change Committee (2021) *Independent Assessment of UK Climate Risk.* https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/

have been designated. Those AQMAs that include the M6 are located at points where the route runs close to urban areas and out of town employment facilities. The extent of AQMAs is greatest around Warrington and Wigan. There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, including near Alsager in Cheshire; at Gathurst near Wigan; between Junctions 30 and 31 near Preston; and between Junctions 42 and 43 to the east of Carlisle.

Noise Important Areas (NIAs) for roads are based upon the Department for Environment, Food and Rural Affairs (DEFRA) strategic noise maps results[43] and have been produced in line with the requirements set out in the noise action plans. They also aim to protect quiet areas in large urban areas where the noise quality is good. Several sections of the route fall under various NIAs, with these being most prevalent between Preston and Warrington. A number of Diversion Routes for Unplanned Events (DRUEs) also pass through NIAs, with examples being the A54 through Holmes Chapel, the A556 and B5569 Chester Road, the A580 East Lancashire Road, the A58, the A49 to the north-west of Wigan, the A50 in Warrington, the A6 through Lancaster and Kendal, and the A69 and A7 in Carlisle.

Several locations along the route are at risk of flooding from surface water, including:

between Lower Peover in Cheshire to the Thelwall Viaduct including Junction 20 and 20A with the M56

- between Junction 21A with the M62 and Junction 22
- between Junction 25 near Wigan and Junction 28 near Preston
- between Junction 33 near Galgate and Junction 35 near Carnforth
- Junction 37 with the A684

Only motorised traffic can use the M6. However, the route can act as a barrier for walkers, cyclists and horse riders crossing the route. To support sustainable travel choices, people travelling by public transport or active travel modes should be able to efficiently cross junctions. The continuity of sustainable travel routes at junctions can increase the attractiveness of public transport and allow for smarter choices, thereby helping National Highways to play our part in promoting sustainable travel.

Where possible we will seek to protect environmentally important locations and reduce air quality and noise impacts on communities served by the route

Key challenges

- There are receptors within 100 metres of the SRN which may be more likely to experience adverse air quality impacts, including near Ashton-in-Makerfield, at Gathurst near Wigan, around Preston and south-east of Lancaster
- There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, including near Alsager, Gathurst near Wigan and around Preston and Carlisle
- Diversion Routes for Unplanned Events pass through major settlements close to the route including Warrington, Wigan, Preston, Lancaster and Carlisle
- Risk of flooding from surface water near Lower Peover in Cheshire, at Junction 26 near Wigan and Junction 35 near Carnforth may lead to closures of parts of the M6
- Maintaining and protecting areas of outstanding natural beauty, areas with environmental designations and cultural heritage
- Minimising greenhouse gas emissions
- Building resilience to future climate change

43 Department for Environment, Food & Rural Affairs (2019) *Strategic noise mapping (2017).* https://www.gov.uk/government/publications/strategic-noise-mapping-2019

4. Growing the economy

In order to understand the economic and housing growth aspirations of the area along the route we have considered key growth locations, such as those held in local plans and freeports.

The route has a critical economic function in supporting the Government's levelling up agenda, and the ambitions of Transport for the North (TfN) to achieve a thriving North of England, where world class transport supports sustainable economic growth, excellent quality of life and improved opportunities for all.

To the south, the route provides a strategic connection to the capital via the M6 and M1, or M42 and M40.

In Cumbria, the route connects to the North Pennines route, while around Lancashire and Greater Manchester there are connections with the South Pennines (West) route. These both provide connections across the North of England.

To the north of the route, the M6 corridor provides cross-border connectivity by carrying traffic between England and Scotland. There are proposals for further growth in the immediate cross-border areas, supported by the Borderlands initiative[44]. These proposals advocate for a collaborative approach to promote the economic growth of the area that straddles the Scotland-England border. South of Carlisle, the proposed St. Cuthbert's Garden Village is close to the route. It is set to comprise around 10,000 new homes, employment opportunities and community facilities, and a new Carlisle southern link road connecting with M6 Junction 42.

The strategic road network has a critical economic function in supporting national and cross-border connectivity and areas with high levels of deprivation

North Lancaster has been identified as a significant growth area. Strategic housing areas are planned near M6 Junction 34. Employment opportunities are expected to grow via the development of the North Lancaster Business Park. Further plans are also being developed for significant housing growth at the proposed garden village at Bailrigg to the south of Lancaster, and employment and tourism opportunities at The Eden Project North in Morecambe.

Significant development is planned at the Cuerden site to the west of M6 Junction 29. Situated in a strategic location, Cuerden lies south of Preston and is accessible to major cities, including Manchester, Liverpool, and Leeds. Indicative plans suggest new development will bring more than 3,000 jobs to the area.

Significant development is planned to the west of M6 Junction 26 within the West Lancashire Local Plan. It includes a large housing and employment at Skelmersdale with approximately 2,100 dwellings and 52 hectares of land planned for employment use.

44 UK Government (2021) *Borderlands Growth Deal: Full Deal Document.* https://www.gov.uk/government/publications/borderlands-growth-deal-full-deal-document

There is expected to be an increase in economic activity in the St Helens and Warrington areas with the planned Haydock Park development near to M6 Junction 23 with the A580, which aims to deliver up to 16,000 square metres of employment space. Other significant developments in the area are Parkside East, Parkside West and employment allocations at Florida Farm, Penny Lane, and Millfield Lane.

M6 Junction 17 is likely to experience significant traffic growth over the coming years because of the extensive growth aspirations in the wider area, including the Capricorn development located directly west of M6 Junction 17, and from developments connected with the future HS2 Hub in Crewe.

The index of priority places for the Levelling Up Fund places local authorities into categories 1, 2 or 3, depending on their identified level of need, with category 1 representing places deemed in most need of investment. Several areas connected by the route, such as Preston, Wigan, and St Helens fall in category 1. The route also provides connectivity to Stoke-on-Trent, which is also within category 1. The route also passes through the local authority areas of Newcastle-under-Lyme, Cheshire West & Chester, Warrington, West Lancashire, Chorley, Lancaster, Eden, and Carlisle, which are in levelling up category 2.

Congestion and a lack of journey time reliability lead to reduced productivity and can have a significant impact on the local, regional and national economies.

Key challenges

- Freight activity is expected to continue to grow on the M62, A580, A683 and M56 connecting into the M6 from the ports at Liverpool and Heysham, as well as distribution centres around Wigan, St Helens and Warrington
- There are strategic growth sites located around M6 Junctions 23 (St Helens), 26 (Wigan) and 29 (Preston), which will access the SRN directly in some instances
- The route connects a number of category 1 places for levelling up, including St Helens, Wigan and Preston

5. Managing and planning the SRN for the future

Maintaining the strategic road network

We deliver a comprehensive programme of maintenance to keep our assets in the right condition to provide our customers with the right level of service; ensuring that the road network remains safe and fully open for use. We collect data on the condition of all of our assets so that our teams of specialist engineers can fully understand their current condition and identify the optimum time to intervene, maintaining the asset and replacing parts before they fail and impact customer journeys.

Our asset inspections to collect much needed condition data are undertaken through a number of methods - survey vehicles collecting road surface condition for the whole of the network every year right through to structures inspections, where we undertake over 23,000 inspections of individual structures every two years. The majority of our asset routine maintenance activities and the replacement of thousands of asset components as they near end of life are undertaken at night to minimise customer disruption, meaning that most of this work is never seen.

Road surface

The measure for road surface condition has been updated for 2022/23 onwards. The condition is reported as one of our Key Performance Indicators and shows the condition of all available lanes of the main carriageway (excluding DBFO lengths) based on 3 elements of the road surface condition namely - the levels of surface rutting (caused by wheel tracks being formed in the surfacing), skid resistance (how slippery the road is) and longitudinal profile (how bumpy the road feels) with a target of 96.2% or more in good condition. At the time of publication, the road surface had a score of 96.7% in good condition, thereby meeting the national surfacing condition target.

This route consists of approximately 2,000 lane-kilometres of road surfacing. The surface condition across the route is considered to be sound, with 97% of pavement asset not requiring investigation for possible maintenance.

Bridges and structures

There are 760 structures across the route, including bridges and large culverts. According to an analysis of current data, 80% of our structures are in very good or good condition. By carrying out inspections of each individual structure every two years, we identify any defects that may require maintenance, thereby helping to ensure that structural components are replaced before they fail.

Figure 18 below shows how investment in this route has improved the average condition scores of structures, since 2006. The average condition score is derived from asset inspections on structural components, accounting for the relative importance and size of each component. If no maintenance or renewals were planned, the scores would be expected to decline from 100 (perfect) as the structures deteriorate over time. We have a rolling renewals programme to replace asset components identified in our inspection programme, improving the structure condition to ensure all structures remain in a safe condition and fully open for use.

We have identified significant structures renewals for RIS3, and these schemes affect 13 structures in this route.

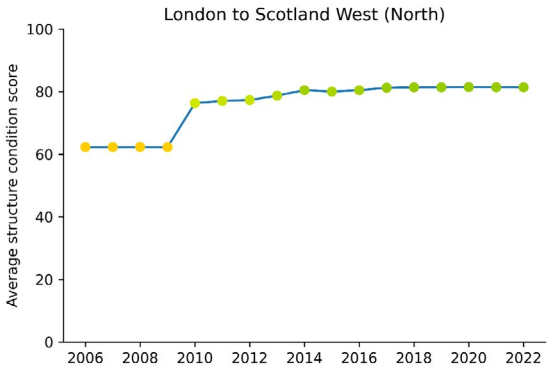


Figure 18: Average condition scores of structures, since 2006

Drainage

Drainage assets are represented by both linear assets (for example underground pipes, channels, ditches, drains) and nonlinear assets (for example gullies and chambers). At national level, 90% of the drainage assets are in good structural condition and 87% are in good service condition.

Geotechnical features

The geotechnical asset, comprising over 12,000 kilometres of earthworks embankments and cuttings carrying the road network is assessed through a programme of inspections and rated for its ability to provide the right level of safe functionality. The condition assessment of this asset is that 99.61% is in good condition to continue to function correctly. We use the inspection surveys to identify where any of our geotechnical features may require maintenance now or in the future, to ensure they are never at risk of failure.

Future developments

We have been transforming our approach to maintenance through our Operational Excellence and Asset Management Transformation Programmes. Bringing our key asset maintenance decision making and planning activities back in-house so that our own staff are responsible for planning maintenance activities, along with improving the consistency of our end to end maintenance and asset replacement programmes will bring significant benefits. Our asset management transformation also includes the improved analysis to identify the investment required on the strategic road network during the next road period. The business case will provide evidence to support future maintenance investment, clearly articulating the costs and benefits of delivering an effective maintenance and asset replacement 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 National Highways 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.

Key challenges

- Contributing toward the national target of 96.2% or more of carriageway being in good condition
- Maintaining the good condition of the SRN's geotechnical assets
- Ensuring that drainage assets are maintained so that their good structural and service conditions can be upheld

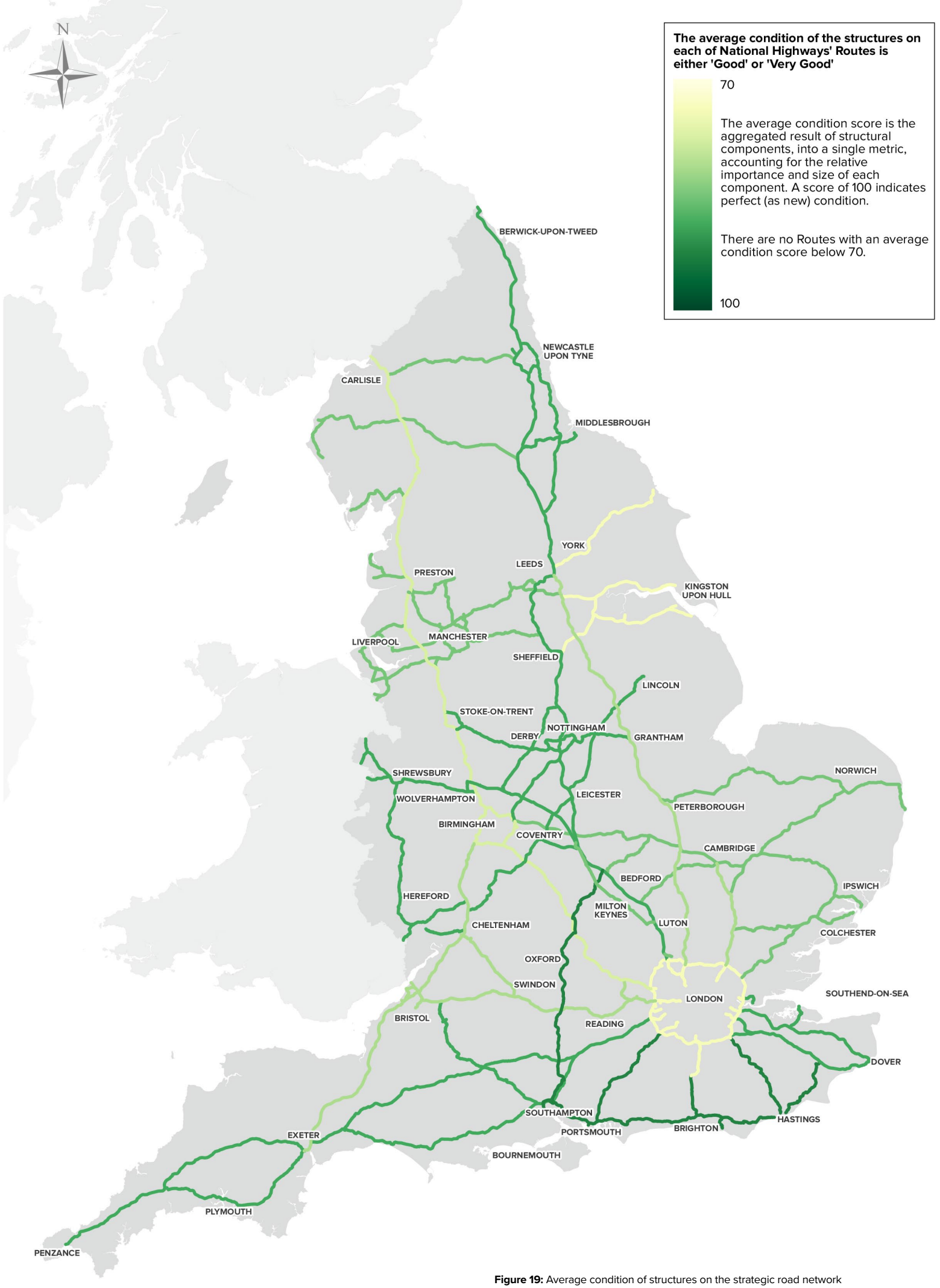


Figure 19: Average condition of structures on the strategic road network

6. A technology-enabled network

Smart motorways are sections of motorway that use traffic management techniques such as variable speed limits and the use of hard shoulder as a live traffic lane to increase capacity and improve flows. At present, ALR smart motorway provision is located on the route between Junction 16 to Junction 19 of the M6, however the M6 Junction 21A to 26 ALR scheme will see a further 10 miles of the route upgraded to smart motorway. This will include:

- Variable speed limits to help keep traffic moving, reducing frustrating stop-start traffic and making journeys quicker
- Clearly signed and orange-coloured emergency areas set back from the road and with telephones linking directly to our control rooms
- Detection systems to monitor traffic for changes in flows
- CCTV cameras that our operators are able to move and zoom to monitor and manage congestion and incidents, where notified. The system has the ability to see 100% of the carriageway
- Signs and signals to provide better information to drivers which can alert drivers to hazards ahead and display Red X signs to close lanes to other traffic when a stopped vehicle is identified
- Enforcement cameras to deter the minority who break speed limits and ignore Red X signs
- Radar stopped vehicle detection

The scheme is due to be completed in 2023. Currently there is no smart motorway provision north of Junction 19.

We will support improved communications and facilities for all

The route has some electric vehicle charging points, with eleven charging points at motorway services on the M6, and in the immediate vicinity of motorway exits. Other charging points can be found in urban areas located close to the route.

However, the location of these charging points can encourage drivers onto the local road network where they occupy local charging capacity. The low density of charging points may discourage the uptake of electric vehicles.

Existing channels of communication with route users are limited to Variable Message Signs and the Live Traffic Info application, available on tablets and smartphones. National Highways' *Strategic business plan*[45] sets out how to make better use of data and technological capabilities to deliver safer, smoother and more reliable journeys on the route.

The Government's March 2022 *Electric vehicle infrastructure strategy*[46] sets out a vision for 2030 where charging infrastructure will be removed as both a perceived and real barrier to the adoption of electric vehicles. The Strategy outlines the intention to accelerate the rollout of high-powered chargers on the SRN through the £950 million Rapid Charging Fund[47].

Key challenges

- Limited information for drivers (of all trip types) with only standard Variable Message Signs at most locations
- Limited electric vehicle charging points provision outside key centres, which may discourage the uptake of electric vehicles

45 National Highways (2020) *Strategic business plan 2020-2025.* https://nationalhighways.co.uk/media/3i5c454q/strategic-business-plan-2020-25.pdf
46 UK Government (March 2022) *UK electric vehicle infrastructure strategy.* https://www.gov.uk/government/publications/uk-electric-vehicle-infrastructure-strategy
47 UK Government (March 2022) *Rapid Charging Fund.* https://www.gov.uk/guidance/rapid-charging-fund

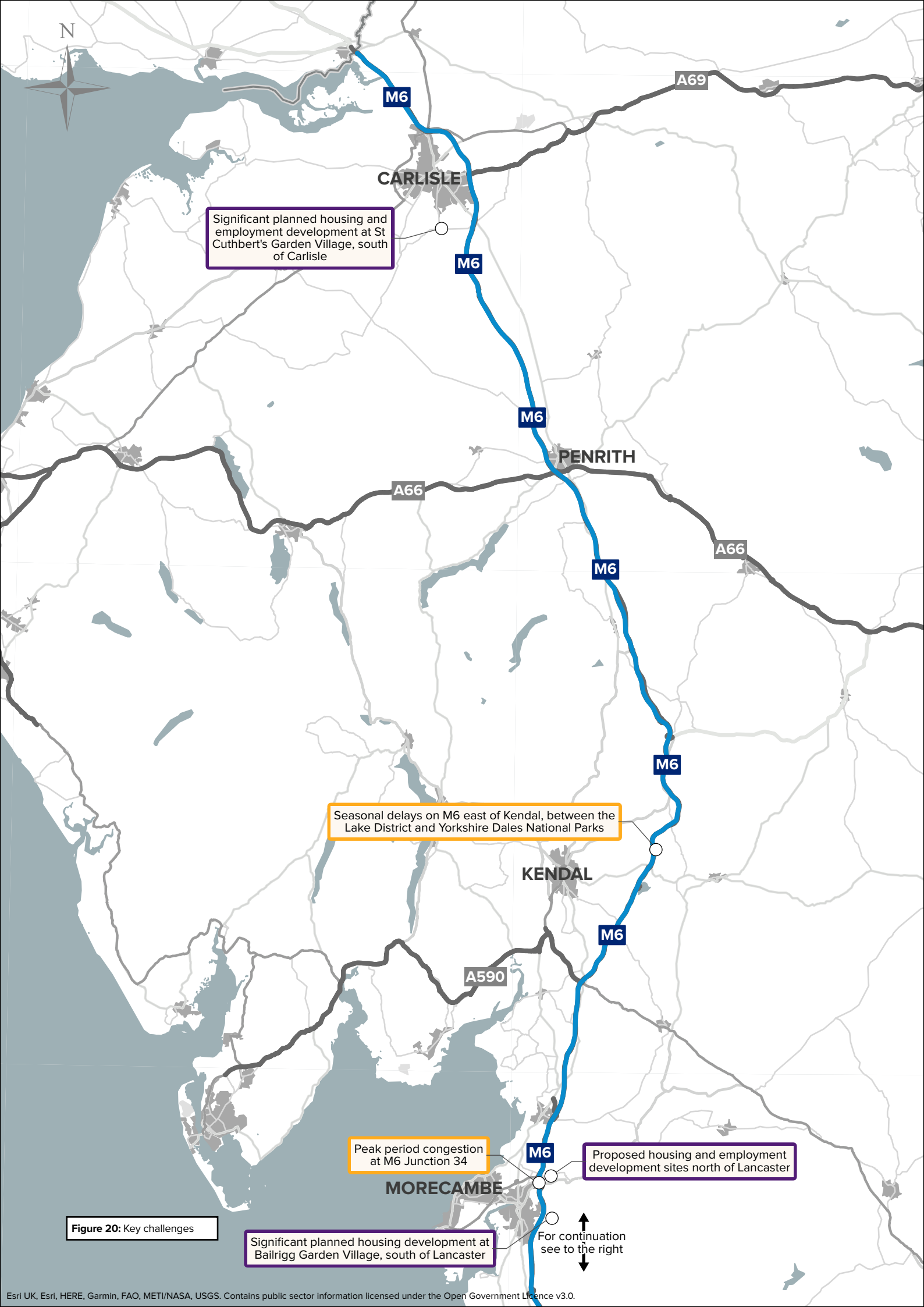
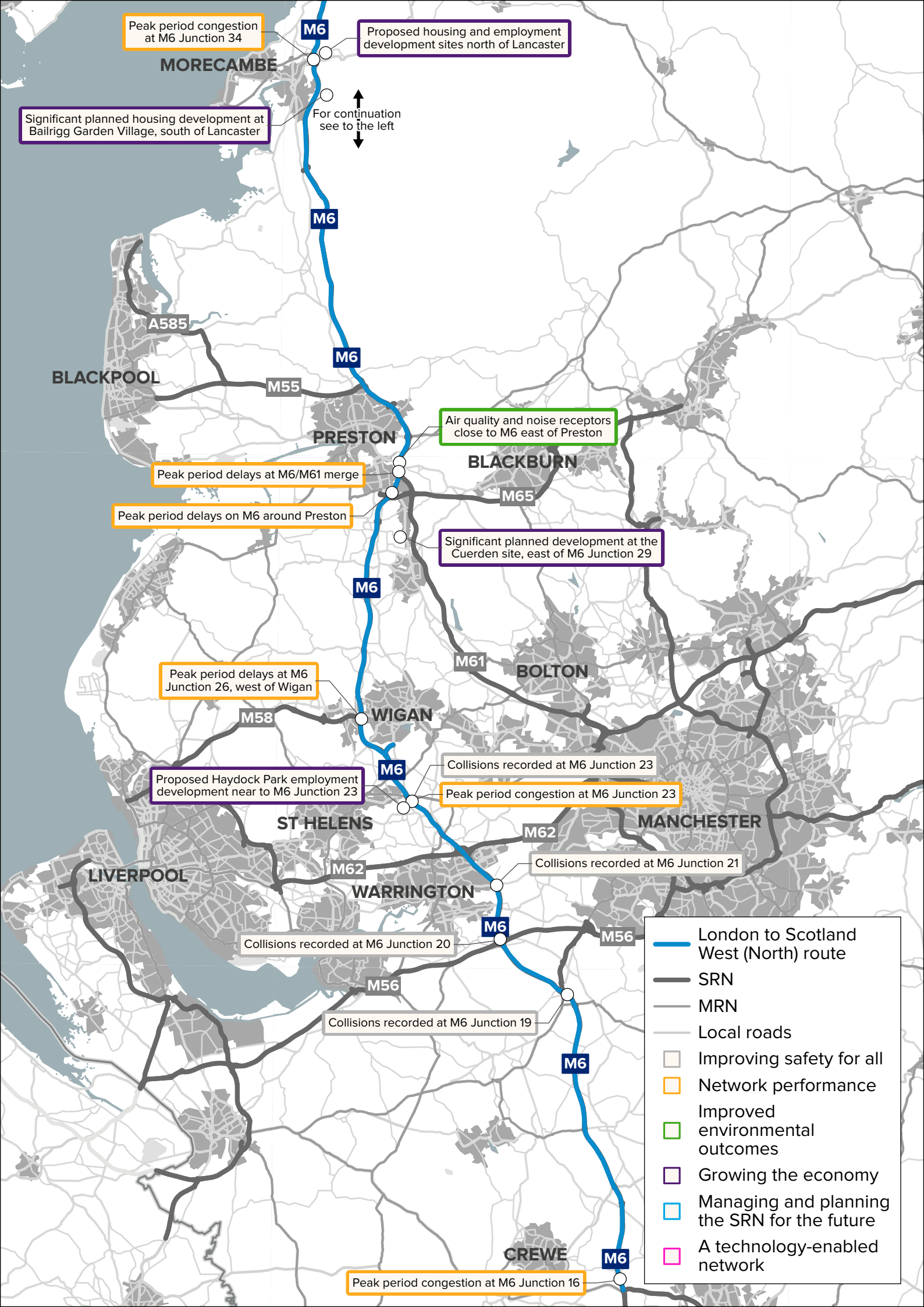


Figure 20: Key challenges


Peak period congestion at M6 Junction 34
Proposed housing and employment development sites north of Lancaster
MORECAMBE
Significant planned housing development at Bailrigg Garden Village, south of Lancaster
For continuation see to the left
M6
A585
BLACKPOOL
M55
PRESTON
Air quality and noise receptors close to M6 east of Preston
BLACKBURN
Peak period delays at M6/M61 merge
M65
Peak period delays on M6 around Preston
Significant planned development at the Cuerden site, east of M6 Junction 29
M61
BOLTON
Peak period delays at M6 Junction 26, west of Wigan
M58
WIGAN
Collisions recorded at M6 Junction 23
Proposed Haydock Park employment development near to M6 Junction 23
Peak period congestion at M6 Junction 23
ST HELENS
M62
MANCHESTER
LIVERPOOL
Collisions recorded at M6 Junction 21
WARRINGTON
Collisions recorded at M6 Junction 20
M56
Collisions recorded at M6 Junction 19
CREWE
Peak period congestion at M6 Junction 16
London to Scotland West (North) route
SRN
MRN
Local roads
Improving safety for all
Network performance
Improved environmental outcomes
Growing the economy
Managing and planning the SRN for the future
A technology-enabled network

Our ambition for the route

06 Initial route objectives

We want to provide safer and more reliable journeys for all those who use or live alongside our network on the London to Scotland West (North) route, and help the region achieve its economic and housing growth ambitions. Based on our engagement and data analysis, we have defined six route objectives for the area.

We developed the route objectives based on:

- feedback from customers and neighbours outlined in Chapter 3
- opportunities to collaborate with other network operators, outlined in Chapter 4
- constraints and challenges, as highlighted in Chapter 5
- how best to contribute to the DfT's six strategic objectives

Each route strategy includes a series of specific route-based objectives. These objectives, informed by extensive data analysis and engagement with customers and neighbours, set out our ambition for each route. Although route objectives are route-specific, they should also be considered in the context of our commitments and ambitions for the whole network, as per our Licence agreement. This means that, while we may identify certain locations within a route for further consideration, we will seek to address these locations in line with our ongoing commitment to achieving our safety, environmental and technology obligations across the SRN.

It should be noted that there is overlap between the objectives, and we recognise they cannot be considered in isolation from each other. They should be considered alongside our asset plan.

The route objectives, their supporting narratives, and locations for further consideration will together inform the development of the Road investment strategy (RIS). They do not represent a commitment to road-based interventions but are intended to enable multimodal interventions to be explored as part of later study phases. It should be noted that the route objectives do not signify an assurance of investment in a particular route, nor do they remove the need to follow statutory processes.

As these are initial route objectives subject to wider feedback, we have not at this stage set out in detail how we will measure progress against them. Understanding how interventions and initiatives have addressed the challenges identified is a complex and long-term task and the approach to it will need to be devised alongside the wider performance specification for the third road period. We expect to set out our approach to this more clearly in the finalised route strategy overview reports to be published alongside our *Strategic business plan* and *Delivery plan* later in this road period.

Route objectives and DfT's strategic objectives

In Figure 21 we illustrate the six route objectives on our route map and, in Table 1, we show how they contribute to the Government's strategic objectives for our network as a whole.

Table 1: How the route objectives map to the DfT's strategic objectives

	Ref	Route objective
	**A**	**Improve safety for all** Provide safe journeys on the M6, particularly in Central Lancashire, near Preston and the M6 around Warrington and St Helens, to benefit road users and local communities.
	**B**	**Better informed drivers** Improve road user experience and support the economy by improving technology to better communicate with drivers.
	**C**	**Support sustainable economic growth** Support sustainable economic growth through safe and reliable access for housing and employment sites, such as Bailrigg, St. Cuthbert's, Parkside, and Cuerden.
	**D**	**Reduce the adverse impacts of severance** Reduce the adverse impacts of severance created by the SRN on local communities by ensuring the M6 is not a barrier to sustainable modes, particularly at motorway junctions.
	**E**	**Be a better neighbour** Be a better neighbour by safeguarding the environment and reducing impacts on local communities, with particular focus on noise and air quality in areas such as Cheshire, Warrington, and Wigan.
	**F**	**Support driver wellbeing** Improve the facilities for freight and coach journeys on the M6, alongside improved driver parking and welfare facilities to support the local, regional and national economy.

DfT's strategic objectives for our route

Improving safety for all	Network performance	Improved environmental outcomes	Growing the economy	Managing and planning the SRN for the future	A technologyi-enabled network
✓					
✓	✓			✓	✓
	✓		✓		
✓		✓			
	✓	✓			
✓			✓		✓

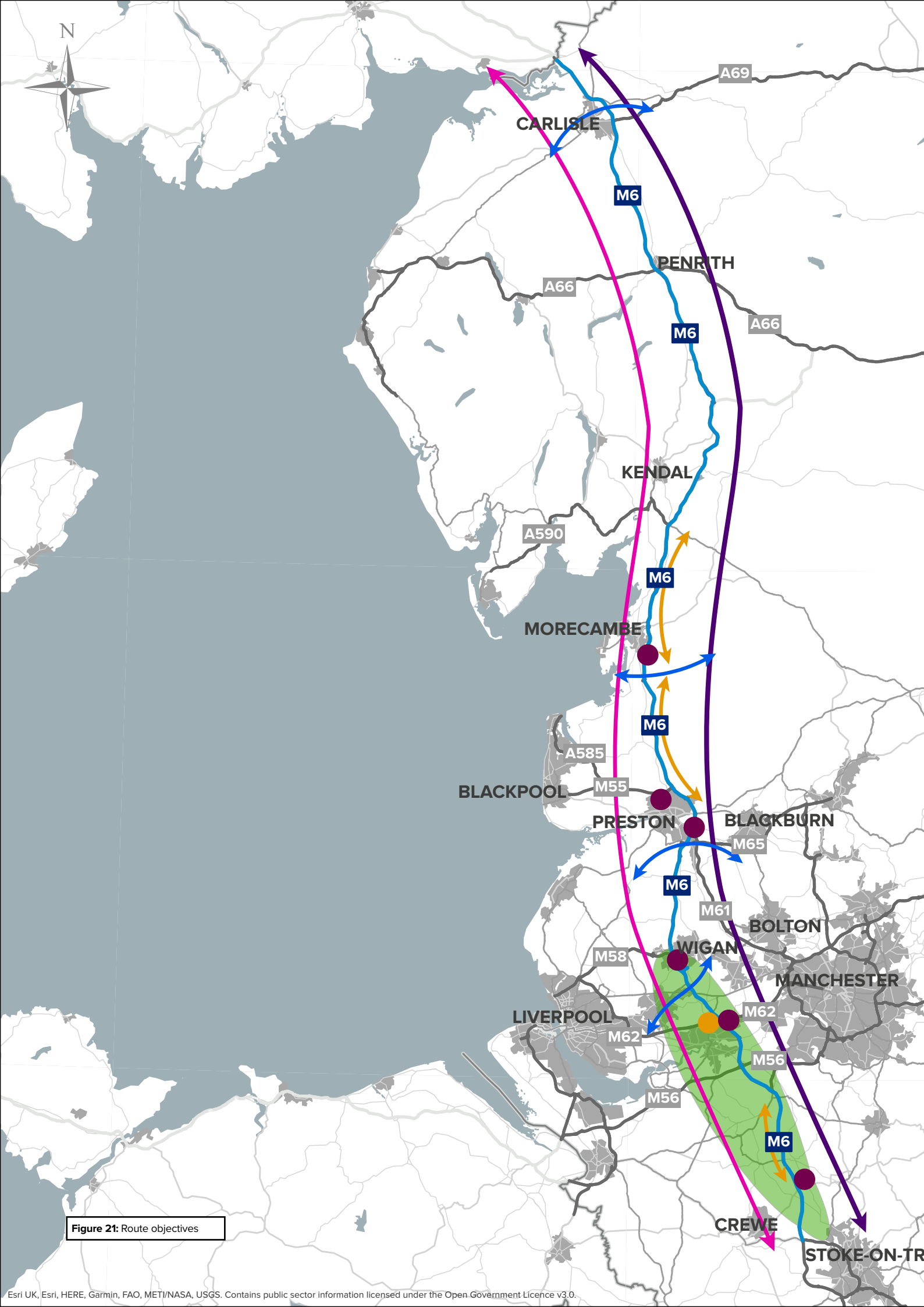
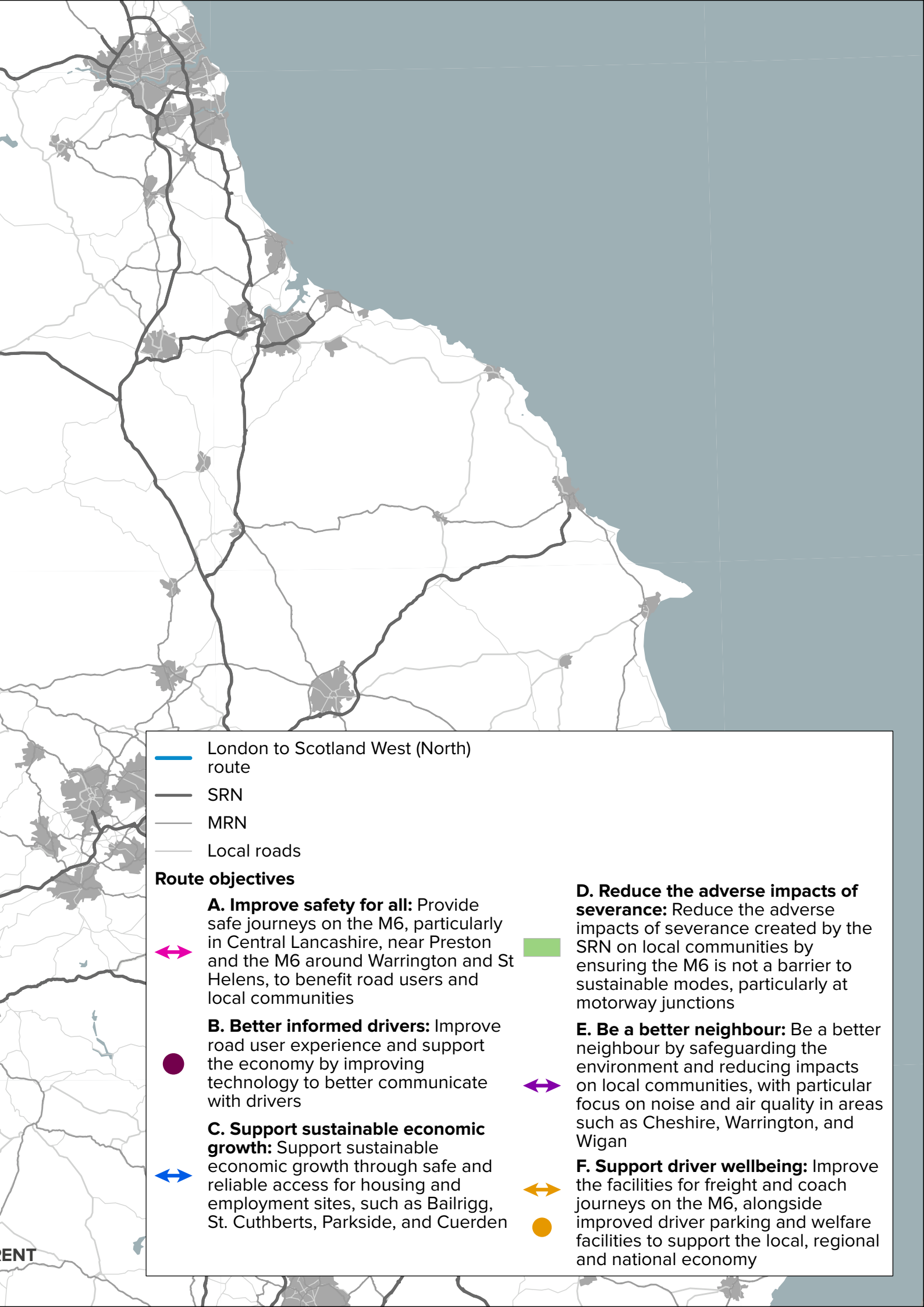


Figure 21: Route objectives


London to Scotland West (North) route
SRN
MRN
Local roads
Route objectives
A. Improve safety for all: Provide safe journeys on the M6, particularly in Central Lancashire, near Preston and the M6 around Warrington and St Helens, to benefit road users and local communities
B. Better informed drivers: Improve road user experience and support the economy by improving technology to better communicate with drivers
C. Support sustainable economic growth: Support sustainable economic growth through safe and reliable access for housing and employment sites, such as Bailrigg, St. Cuthberts, Parkside, and Cuerden
D. Reduce the adverse impacts of severance: Reduce the adverse impacts of severance created by the SRN on local communities by ensuring the M6 is not a barrier to sustainable modes, particularly at motorway junctions
E. Be a better neighbour: Be a better neighbour by safeguarding the environment and reducing impacts on local communities, with particular focus on noise and air quality in areas such as Cheshire, Warrington, and Wigan
F. Support driver wellbeing: Improve the facilities for freight and coach journeys on the M6, alongside improved driver parking and welfare facilities to support the local, regional and national economy

A. Improve safety for all

Objective

Provide safe journeys on the M6, particularly in Central Lancashire, near Preston and the M6 around Warrington and St Helens, to benefit road users and local communities

Context

The Department for Transport (DfT) has identified 'Improving safety for all' as a key priority in its *Planning ahead for the strategic road network*[48] document. As such, this objective seeks to address the occurrence of collisions on the route. The M6 has varying characteristics, with some sections being in very rural settings, contrasting with other parts that provide access to major conurbations. Similarly, some sections have closely spaced junctions, contrasting other sections where there are long distances between junctions.

Collision data suggests that locations with a higher occurrence of collisions tend to lie close to densely populated areas, and where there are high traffic volumes and congestion. This is supported by feedback from interested parties, which identified specific areas around Warrington and Preston as being of particular concern.

Our network considerations

Based on collision data and feedback from interested parties, there are existing safety issues at M6 Junction 23, east of St Helens, and Junctions 20 and 21, east of Warrington. These are specific to the junctions and not the mainline motorway and as such would unlikely be alleviated by the conversion of 10-miles of M6 into an ALR smart motorway as will occur through the Junction 21A to 26 improvement scheme.

Some motorway mainline collisions have occurred on the M6 between Junctions 29 and 33, and most notably between Junctions 32 and 33, where there have been three fatal, 26 serious and a number of slight collisions in the latest available data period of 2015-2018. Similarly, on the section of the M6 between Junctions 19 and 17, there have been four fatal, 26 serious and a number of slight collisions from 2015-2018. The impact of the Junction 16 to 19 ALR smart motorway scheme will be monitored by National Highways.

Queuing east of Warrington at Junction 21 often reaches the M6 mainline around Thelwall viaduct, with queuing also occurring on the M62 mainline as it passes through Junction 10 (Junction 21A M6 Croft Interchange). The cause of this is traffic merging from the M6 in both a northbound and southbound direction. These issues could be addressed by the planned Junction 21A to 26 improvement scheme.

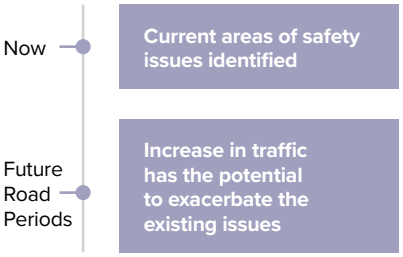
Outcomes

- Number of collisions reduced, contributing to a safer network for all users
- Reduced risk for vulnerable road users, such as walkers, cyclists and horse riders
- Reduced risk to people living near the route

DfT's Strategic objectives

Improving safety for all

Timeframe based on the issues and constraints identified



48 Department for Transport (2021) *Planning ahead for the Strategic Road Network.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045938/planning-ahead-for-the-strategic-road-network-developing-the-third-road-investment-strategy.pdf

B. Better informed drivers

Objective

Improve road user experience and support the economy by improving technology to better communicate with drivers

Context

This objective targets the quality of communications provided for users of the M6. Recognising road users' need to be informed before and during journeys, it seeks to reduce areas of low information provision on the route. The M6 is a crucial link between England and Scotland and carries large, long distance, traffic volumes in both directions every day. Notable traffic demands include freight and commercial traffic, with the M6 connecting ports, multimodal interchanges, airports, the West Coast energy industry, and freight distribution centres to the wider network.

At present, all lane running (ALR) smart motorway provision is located between Junction 16 and Junction 19. Along other parts of the route, monitoring of speed, traffic volumes or other data collection is limited or non-existent. A further technology upgrade is planned between Junction 21A and Junction 26 in the form of an ALR smart motorway.

Existing channels of communication with route users are limited to Variable Message Signs and the Live Traffic Info application. National Highways' *Strategic business plan*[49] sets out plans on how to make better use of digital data and technological capabilities to deliver safer, smoother and more reliable journeys on the route. Current journey reliability on the route is shown in Figure 22. Technology is important for all SRN routes, but particularly for longer distance journeys with a high mix of commercial, business and leisure purposes.

With the increased use of rail freight interchanges, the M6 has become integral to freight distribution. Real time information is important to the continuity of supply chains, which are dependent upon reliable on-time planning information before and during journeys. Distribution and logistics development planned around Wigan, St Helens and Warrington, and linked to the Liverpool Freeport, has been identified as increasing demand in this regard. Timely information is crucial to supply-chains, on-time deliveries and commercial operations influencing the wider UK economy. In the UK, a total of approximately 1.65 billion tonnes of freight are lifted by all modes every year. Over one-third of freight tonnes lifted comes from the northern ports, covering both international and domestic traffic.

Timely and regular information in the most helpful locations for road users regarding local and regional operation can help to maintain or regulate smooth traffic flow and improve reliability. It would help drivers to plan their journeys to avoid delay and reduce frustration. Technology can help drivers and businesses to make future plans and increase the resilience of the network, thus improving wider UK connectivity. Integrated communications for SRN and local authority roads would be beneficial to drivers for decision-making and dynamic route-planning.

National Highways has set out a *Digital roads*[50] vision for embedding digital, data, and technology in everything we do.

Our network considerations

There is ALR smart motorway provision along the route between Junctions 16 and 19. However, from Junction 19 northwards, particularly in areas within Cumbria and Lancashire, there is limited technology provision beyond standard Variable Message Signs. An ALR smart motorway scheme between Junction 21A and Junction 26 is under construction in the current road period. This difference between the technology provision in the southern and northern portions of the route was highlighted by interested parties.

49 National Highways (2020) *Strategic business plan 2020-2025.* https://nationalhighways.co.uk/media/3i5c454q/strategic-business-plan-2020-25.pdf
50 National Highways (2022) *Digital roads.* https://nationalhighways.co.uk/our-work/digital-data-and-technology/digital-roads/

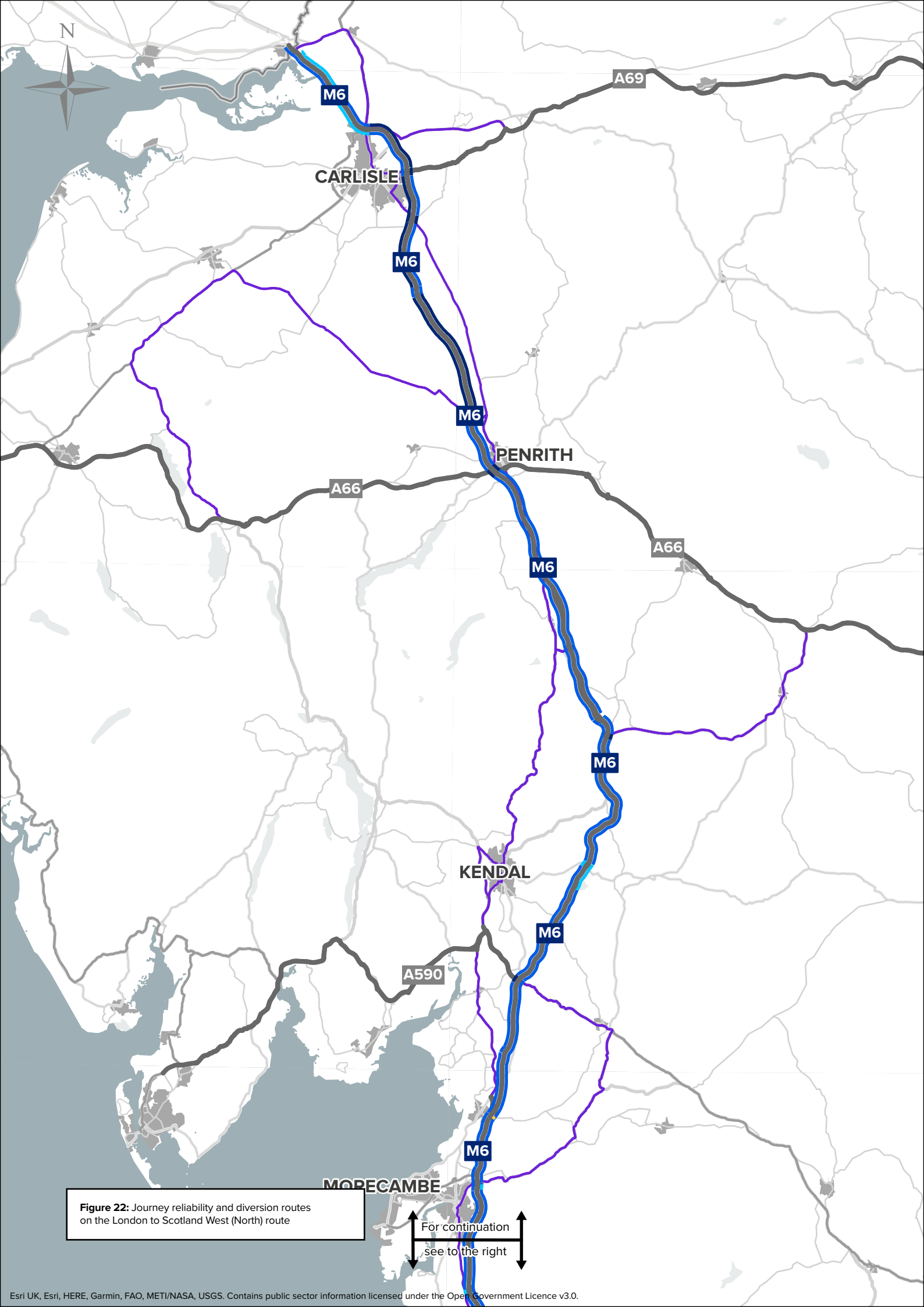
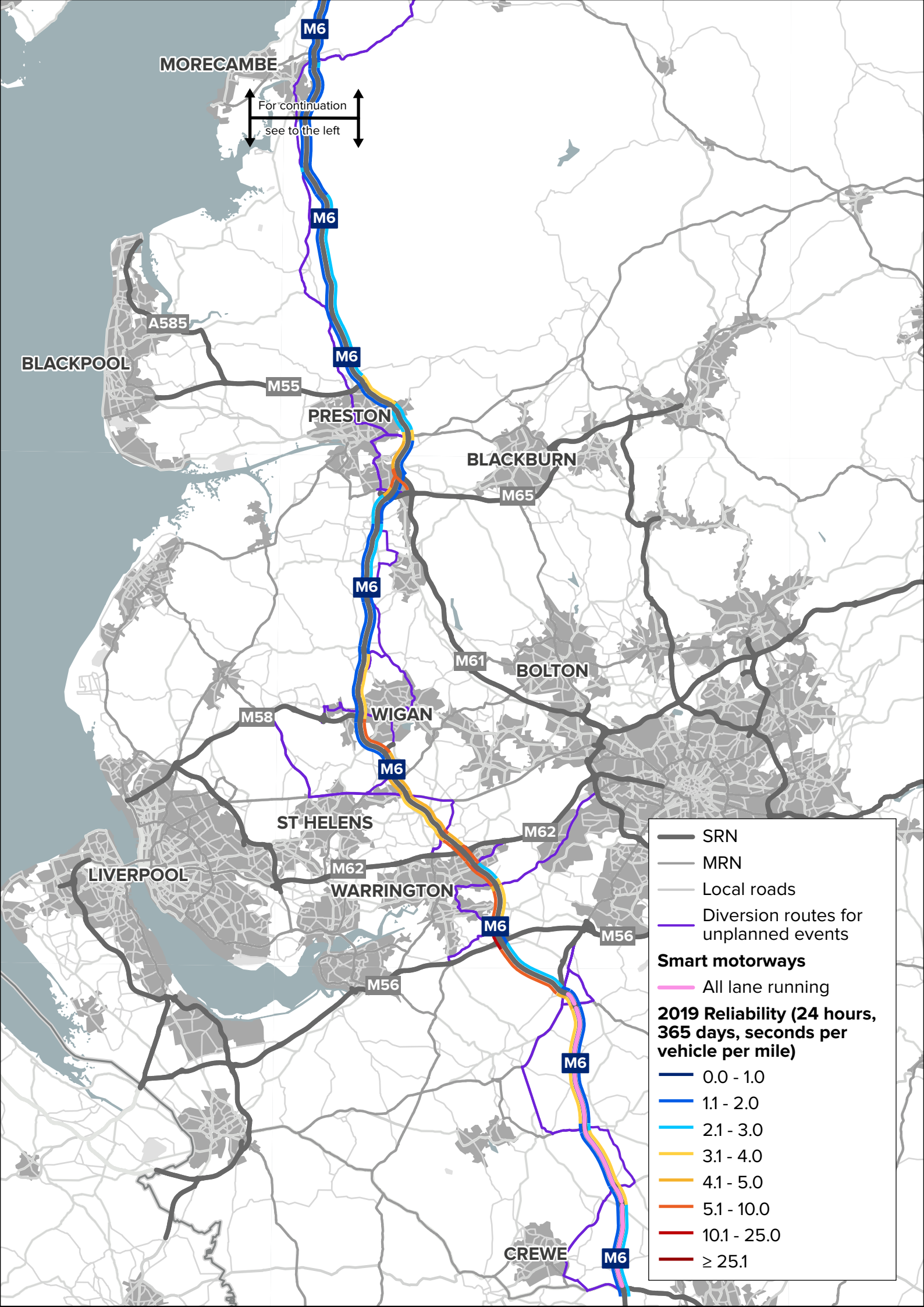


Figure 22: Journey reliability and diversion routes on the London to Scotland West (North) route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WARRINGTON
M56
CREWE
SRN
MRN
Local roads
Diversion routes for unplanned events
Smart motorways
All lane running
2019 Reliability (24 hours, 365 days, seconds per vehicle per mile)
0.0 - 1.0
1.1 - 2.0
2.1 - 3.0
3.1 - 4.0
4.1 - 5.0
5.1 - 10.0
10.1 - 25.0
≥ 25.1

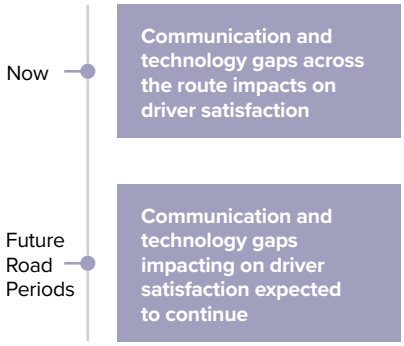
Outcomes

- Improved supply of information to road users before and during journeys
- Road users are able to make informed decisions about their route, including in the event of a planned or non-planned closure on the route, resulting in safer, smoother and more reliable journeys, and increased driver satisfaction

DfT's Strategic objectives

- Improving safety for all
- Network performance
- Managing and planning the SRN for the future
- A technology-enabled network

Timeframe based on the issues and constraints identified



C. Support sustainable economic growth

Objective

Support sustainable economic growth through safe and reliable access for housing and employment sites, such as Bailrigg, St. Cuthbert's, Parkside, and Cuerden

Context

This objective recognises that the SRN has a key role to play in facilitating sustainable economic growth as set out in the *Union connectivity review*[51] and the TfN *Major roads report*[52]. National Highways' Licence and Planning Circular also specify the role the SRN plays in economic growth. The Government's levelling up policy is also linked directly to the delivery of economic growth opportunities outside London and the South East. The objective also recognises the crucial function the M6 plays in providing access to employment located directly off the M6 or further afield via connecting routes.

For areas in Cheshire and Merseyside, there are significant logistics and housing proposals alongside the planned HS2 route. Major housing and employment sites are planned close to the M6, for instance the Bailrigg and Cuerden developments in Lancashire, Parkside in Merseyside, and St. Cuthbert's Garden Village in Cumbria. These proposals are listed below:

- South of Carlisle, the proposed St. Cuthbert's Garden Village is in close proximity to the route, and will include around 10,000 new homes, employment opportunities, community facilities and a new Carlisle southern link road connecting with M6 Junction 42
- North Lancaster has been identified as a significant growth area. Strategic housing areas are planned near M6 Junction 34. Employment opportunities are expected to grow via the development of the North Lancaster Business Park. Further plans are also being developed for significant housing growth at the proposed garden village at Bailrigg to the south of Lancaster, and employment and tourism opportunities at The Eden Project North in Morecambe
- Significant development is planned at the Cuerden site to the west of M6 Junction 29. A strategic location south of Preston, Cuerden is accessible for major cities, including Manchester, Liverpool, and Leeds. Indicative plans suggest this key site will bring more than 3,000 jobs to the area
- Significant development is planned to the west of M6 Junction 26 within the *West Lancashire Local Plan*[53]. It includes a large housing and employment at Skelmersdale with approximately 2,100 dwellings and 52 hectares of land planned for employment use
- There is expected to be an increase in economic activity in the St Helens and Warrington areas with the planned Haydock Park development near to M6 Junction 23 with the A580, which aims to deliver up to 16,000m^2 of employment space. Other significant developments in the area are Parkside East, Parkside West and employment allocations at Florida Farm, Penny Lane, and Millfield Lane
- Significant housing developments are planned to the south of Warrington in the vicinity of M6 Junction 20, including the proposed South East Warrington Urban Extension which will deliver 4,300 homes, and adjacent developments at Grappenhall Heys and Appleton, which will deliver a further 955 homes
- M6 Junction 17 is expected to experience significant traffic growth over the coming years because of the extensive growth aspirations of the wider area, including the Capricorn development located on land directly west of M6 Junction 17, and from developments connected with the future HS2 Crewe Hub

51 Sir Peter Hendy CBE (2021) *Union Connectivity Review Final Report.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1036027/union-connectivity-review-final-report.pdf
52 Transport for the North (2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021/
53 West Lancashire Borough Council (2013) *West Lancashire Local Plan 2012-2027.* https://www.westlancs.gov.uk/planning/planning-policy/the-local-plan/the-local-plan-2012-2027.aspx

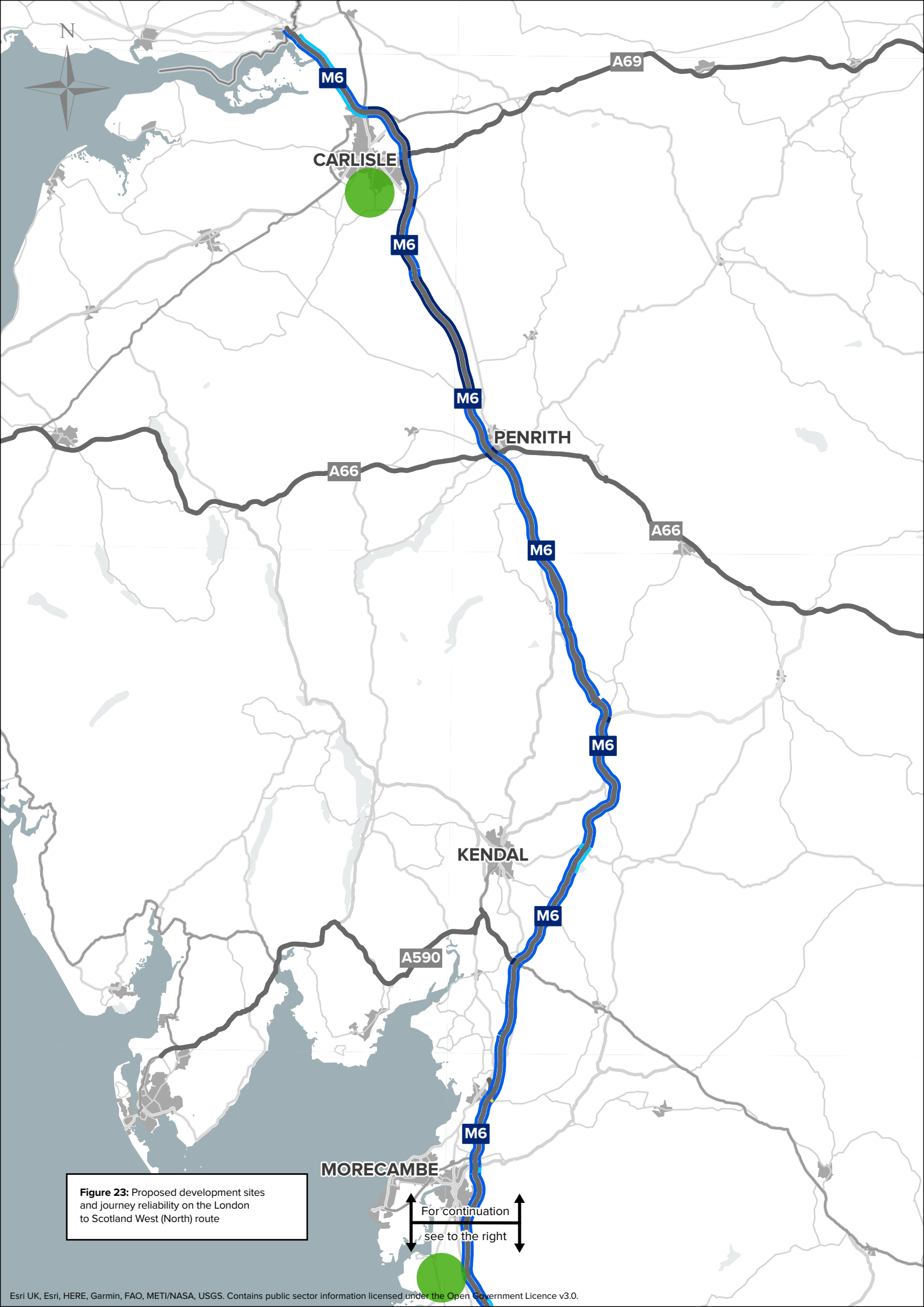
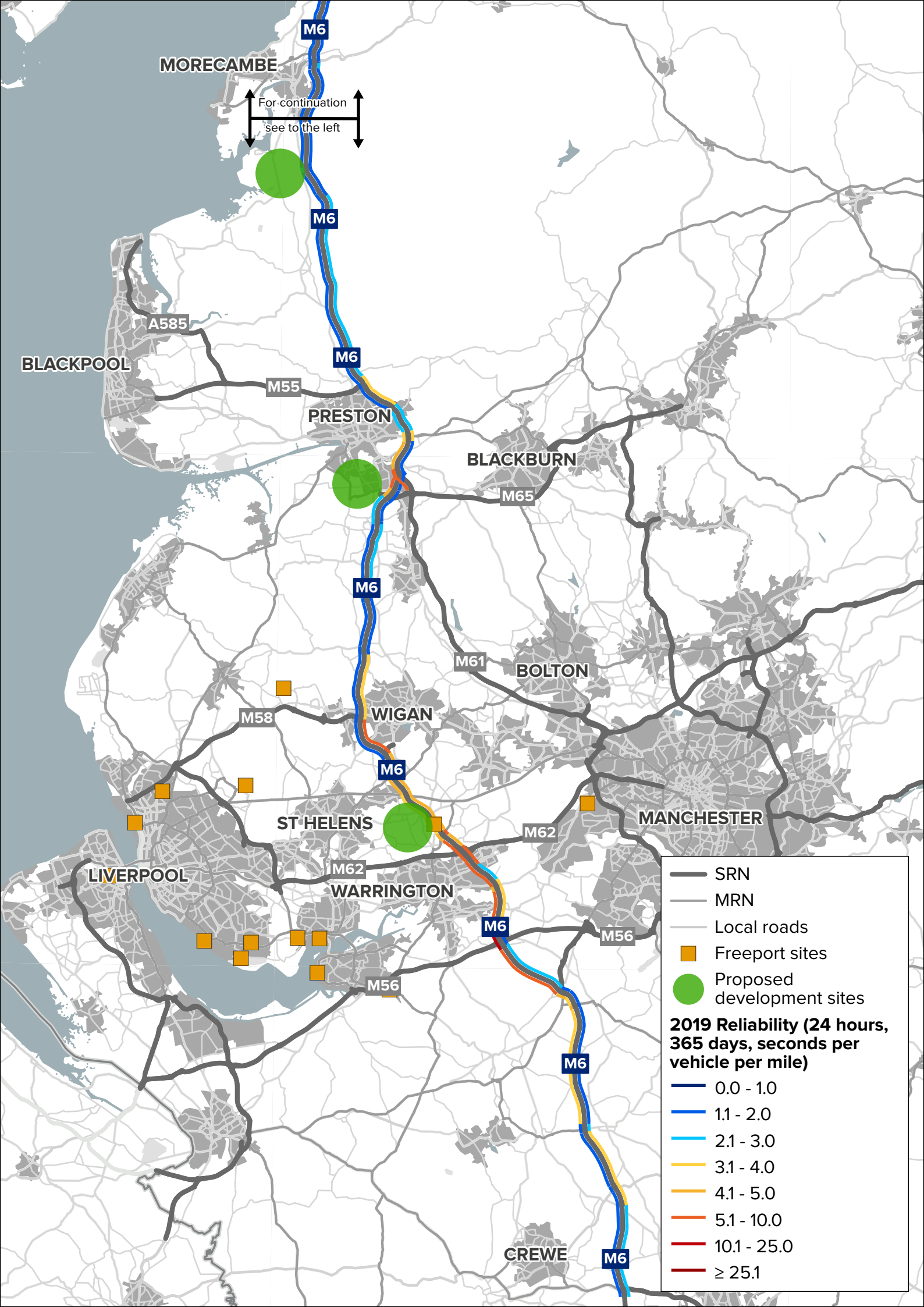


Figure 23: Proposed development sites and journey reliability on the London to Scotland West (North) route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SRN
MRN
Local roads
Freeport sites
Proposed development sites
2019 Reliability (24 hours, 365 days, seconds per vehicle per mile)
0.0 - 1.0
1.1 - 2.0
2.1 - 3.0
3.1 - 4.0
4.1 - 5.0
5.1 - 10.0
10.1 - 25.0
≥ 25.1

Our network considerations

Barriers to economic growth include poor accessibility and congestion, which in turn can contribute to safety issues. The M6 itself to the north of the route is relatively reliable, although we recognise that there are recurring issues in particular locations to the south. The locations of some recurring issues align with areas of proposed significant economic growth, which are expected to worsen with future traffic growth. These include:

- Junction 17 – A534
- Junction 23 – A580 – east of St Helens
- Junction 26 – M58 & A57 – west of Wigan
- Junctions 29 to 32 – Preston ring road
- Junction 30 – M6/M61 merge – south of Preston
- Junction 34 – M6/A683 connecting Heysham Port to the north of Lancaster

Outcomes

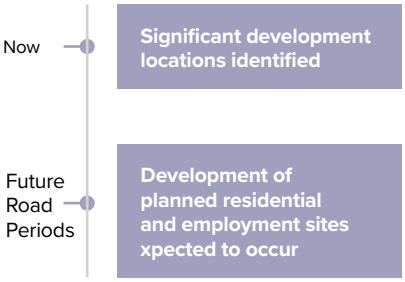
- Support for the delivery of sustainable planned housing and employment development across the route with full engagement in the planning process
- Increased sustainable travel to access new developments to reduce transport-related emissions
- Support for the levelling up of the region

DfT's Strategic objectives

Network performance

Growing the economy

Timeframe based on the issues and constraints identified



D. Reduce the adverse impacts of severance

Objective

Reduce the adverse impacts of severance created by the SRN on local communities by ensuring the M6 is not a barrier to sustainable modes, particularly at motorway junctions

Context

We appreciate that motorway junctions should not be an actual or perceived barrier to public transport, walking, cycling or horse riding, and that there is an opportunity to work with local authorities to ensure this is not the case. To support sustainable travel choices, public transport and active travel users should be able to efficiently cross junctions. The needs of users making shorter distance journeys on the SRN should not be overlooked, and improvements to other transport networks can support journeys off the SRN. We are mindful of opportunities to support government's ambition to make walking and cycling the natural choice for short journeys.

The objective also recognises inequalities in transport services provided, and how this affects choices and opportunities for people. We have an appreciation that we can play a part in encouraging a shift towards more sustainable modes of transport. With the environment primarily catering for car users at many of our junctions at present, there is an opportunity to provide better facilities for walkers and cyclists, and offer priority to public transport.

Our network considerations

Figure 24 shows the National Cycle Network in the region of the London to Scotland West (North) route. There are challenges relating to active travel in terms of severance and safety, with walkers and cyclists required to use heavily trafficked junctions to cross the M6. It is noted that the section of M6 between the M56 and M65 (Junctions 20 to 30) has a higher percentage of serious or fatal walking, cycling and horse riding collisions than other parts of the route.

Although private car journeys are likely to continue to be the primary means of access into many rural areas in Lancashire and Cumbria, there may be potential for improvements to existing bus services in towns such as Carlisle, Penrith, Carnforth, and Lancaster. From Lancashire southwards, there are major employment hubs with junctions often optimally located to offer multimodal choices for travel into the urban areas of Greater Manchester and Merseyside, and Warrington, through park and ride facilities, buses or rail. Traffic flows and congestion at junctions along the M6 can impact the ability for public transport to efficiently cross the route, with issues arising at locations such as Junction 23 of the M6 with the A580. Active travel modes also experience severance where the SRN intersects with 'desire lines', the preferred and often quickest route between two points. This can form a barrier and discourage active travel users from completing their journey.

Outcomes

- Reduced severance caused by the SRN to nearby communities
- Improved reliability of public transport through improved journey times and reduced delay
- Increased uptake in active travel for shorter-distance journeys near the SRN, meaning reduced congestion on the SRN and local road network
- Healthier lifestyles, contributing to improvements in public health

DfT's Strategic objectives

Improving safety for all

Improved environmental outcomes

Timeframe based on the issues and constraints identified

Now

Locations of severance identified on the route, impacting upon local communities and the environment

Future Road Periods

Delays expected to increase in these locations, thereby exacerbating the existing severance issues

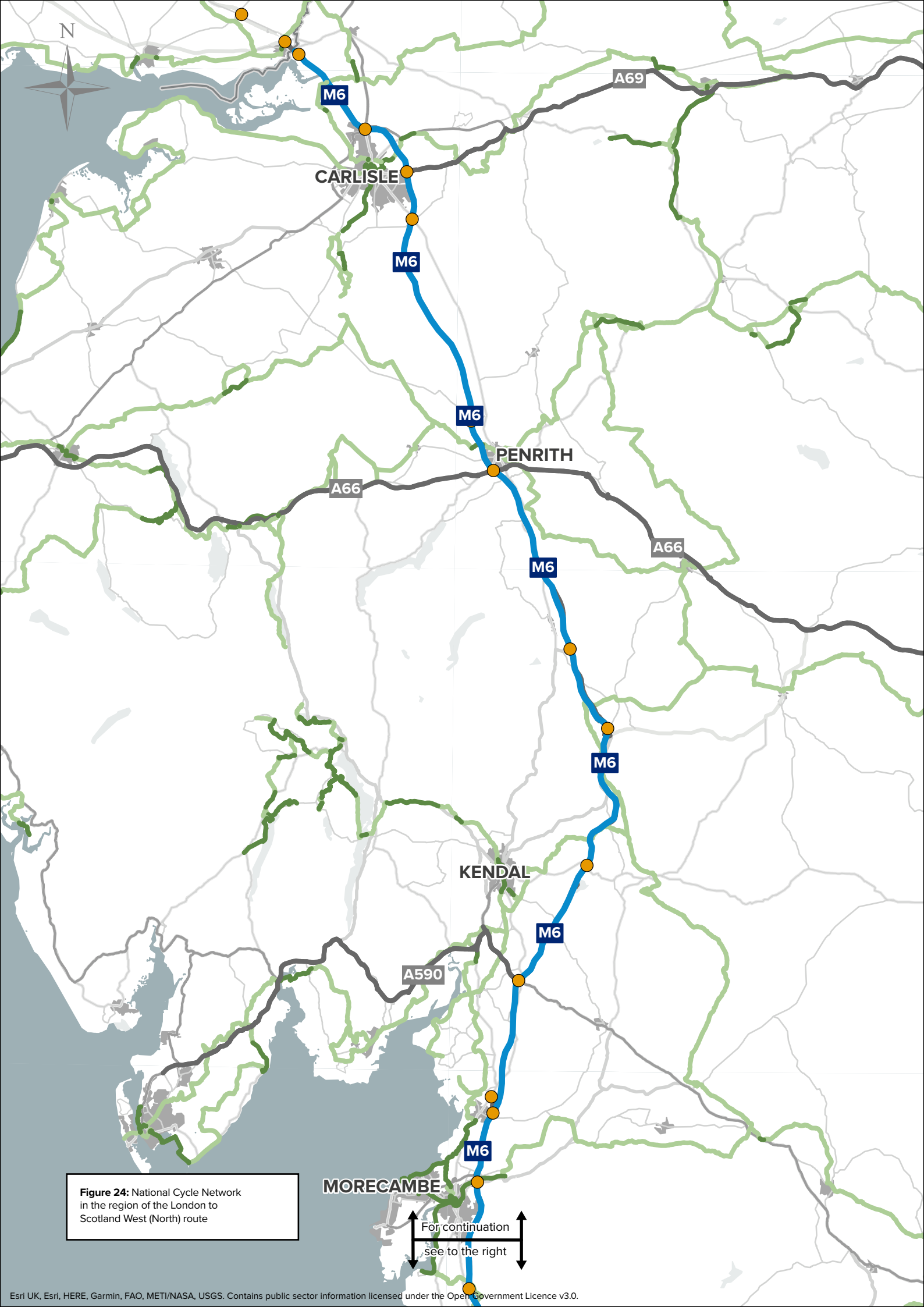
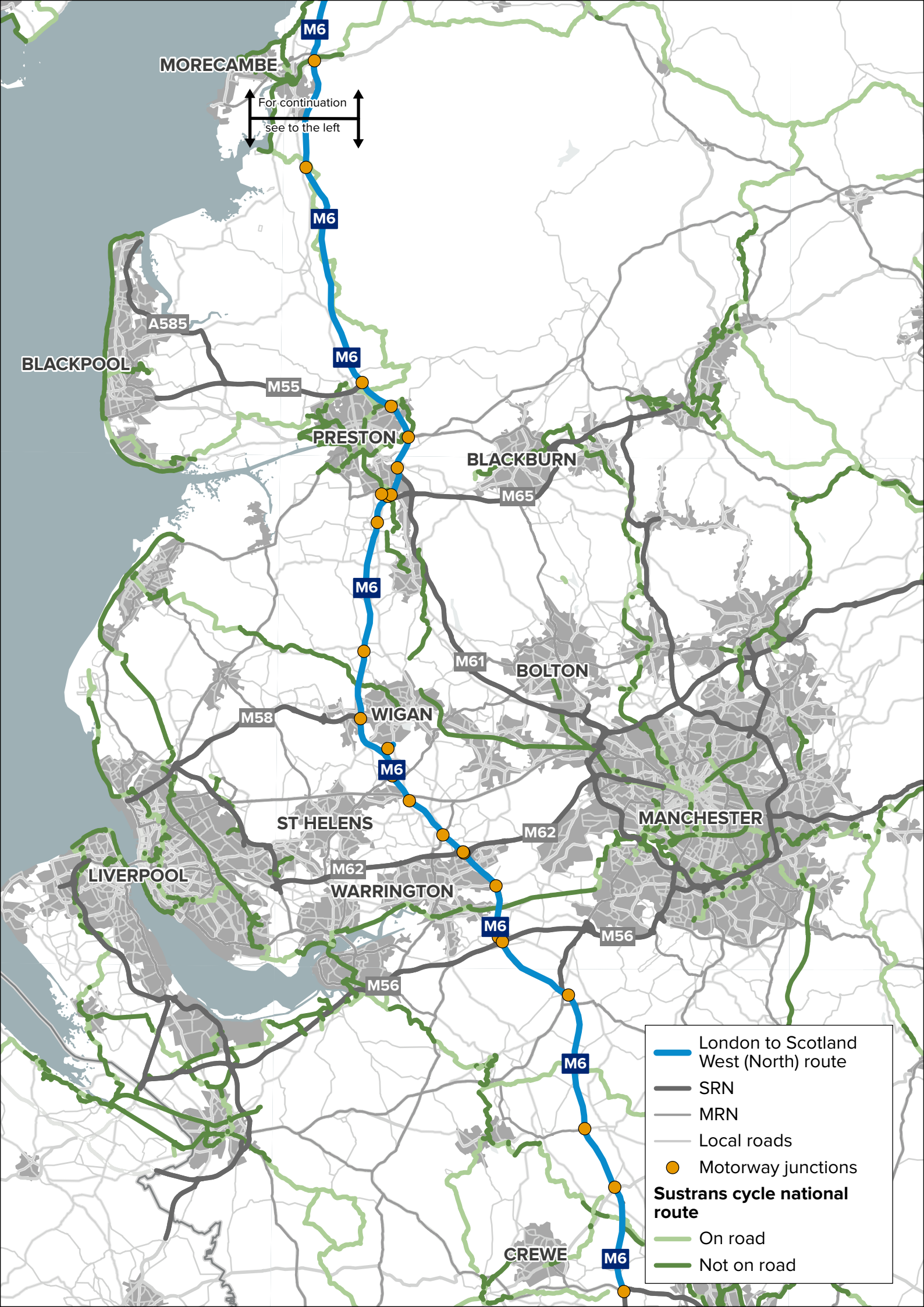


Figure 24: National Cycle Network in the region of the London to Scotland West (North) route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CREWE
M6
London to Scotland West (North) route
SRN
MRN
Local roads
Motorway junctions
Sustrans cycle national route
On road
Not on road

E. Be a better neighbour

Objective

Be a better neighbour by safeguarding the environment and reducing impacts on local communities, with particular focus on noise and air quality in areas such as Cheshire, Warrington, and Wigan

Context

Poor air quality is linked to high traffic volumes and often high proportions of heavy goods vehicles (HGVs). Transport emissions have an environmental and societal impact on surrounding landscapes and communities adjacent to the SRN. Where surrounding land uses are densely populated, emissions are a potential issue for more people, with Public Health England expressing concerns over long term exposure to air pollution. There is a national commitment to reducing harmful transport emissions, supported by the TfN's Major roads report[54] and the DfT's Planning ahead for the Strategic Road Network[55]. The effects of traffic can be mitigated by the absorption of emissions, and the lack of motorway 'greenery' along the route was raised by interested parties. It was suggested that including green space, trees and vegetation into improvement schemes would increase biodiversity, improve air quality and reduce negative impacts from traffic.

This objective recognises that the SRN is important for the movement of local road traffic as well as for strategic trips. But it also notes that transport is a key contributor to the UK's carbon emissions. Two important ways to address this are to make vehicles non-polluting and increase road vehicle occupancy to displace other road journeys. Supporting the broader Transport decarbonisation plan[56] outlined by the DfT, National Highways has published details of our pathway to achieving 'net zero highways' by 2030 for corporate activities, by 2040 for maintenance and construction, and by 2050 for the use of the SRN[57].

Our network considerations

Figure 25 shows Air Quality Management Areas (AQMAs) and the locations of receptors which may be more sensitive to air quality and noise impacts. From Cheshire through to the Lancashire border, the M6 sits within a number of AQMAs, which cover urban areas around Wigan, Warrington and Preston, as well as out-of-town employment areas.

The negative impact of air quality on areas of housing and employment along the M6 route is more likely to be felt in populated areas where there are receptors within 100 metres of the SRN, including in Preston, east of Crewe, Ashton-in-Makerfield, and Warrington.

There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, including near Alsager, Gathurst near Wigan and around Preston and Carlisle. Interested parties have suggested we increase the use of sustainable modes by enhanced access to onward sustainable transport links, combined with improved integration with other modes, such as bus and rail to provide local connections and reduce vehicle emissions in urban areas.

Outcomes

- Improved air quality and noise levels for communities along the route

DfT's Strategic objectives

- Network performance
- Improved environmental outcomes

Timeframe based on the issues and constraints identified

Now	Areas of delay intersect with environmentally sensitive areas
Future Road Periods	Continuation of the above issue, and potential exacerbation with increased traffic from planned growth

54 Transport for the North (2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021/
55 Department for Transport (2021) *Planning ahead for the Strategic Road Network.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045938/planning-ahead-for-the-strategic-road-network-developing-the-third-road-investment-strategy.pdf
56 Department for Transport (2021) *Decarbonising Transport, A Better Greener Britain.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf
57 National Highways (2021) *Net zero highways: our 2030 / 2040 / 2050 plan.* https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf


SAVE TIME
FLAVOURS

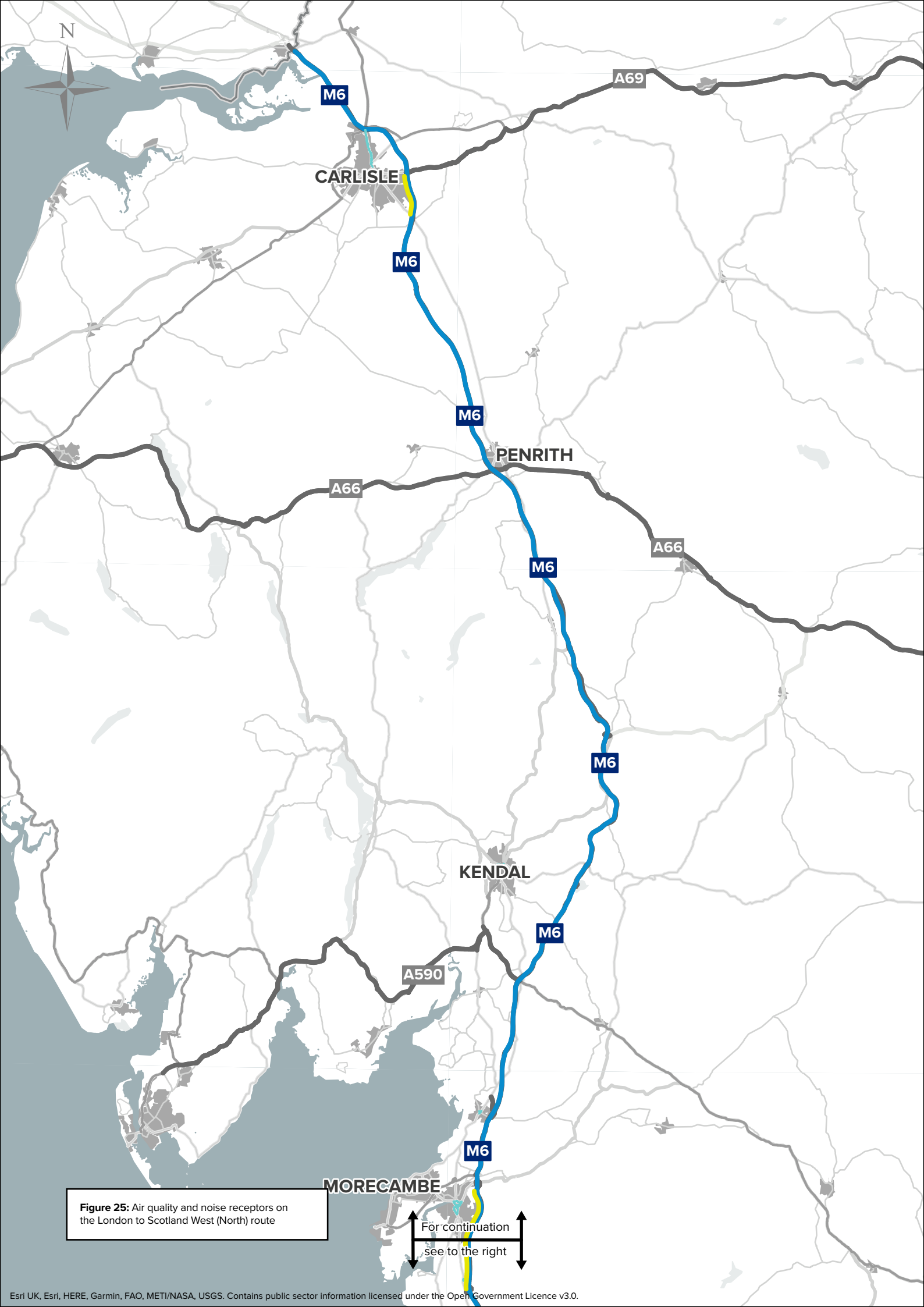
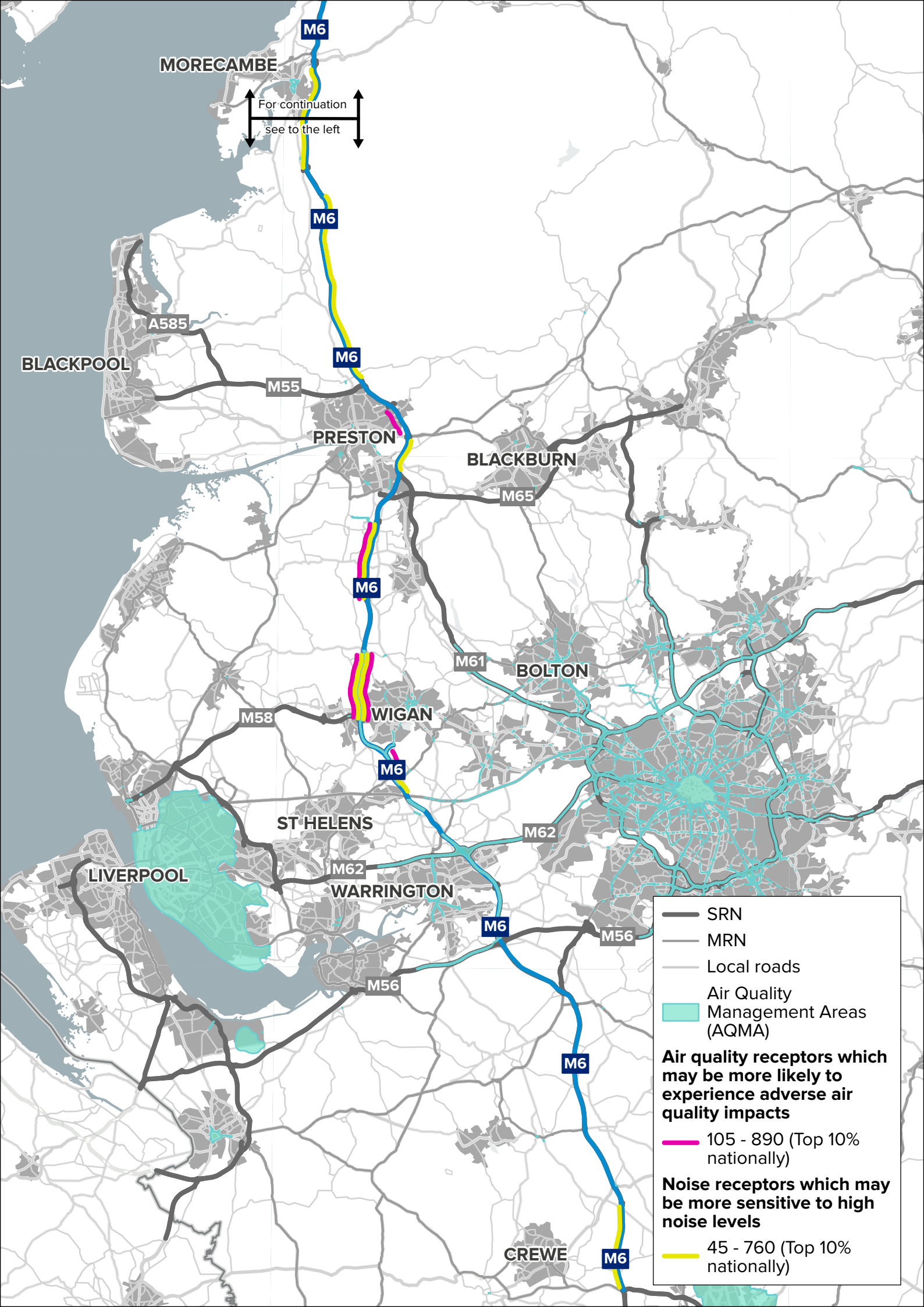


Figure 25: Air quality and noise receptors on the London to Scotland West (North) route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Local roads
Air Quality Management Areas (AQMA)
Air quality receptors which may be more likely to experience adverse air quality impacts
105 - 890 (Top 10% nationally)
Noise receptors which may be more sensitive to high noise levels
45 - 760 (Top 10% nationally)

F. Support driver wellbeing

Objective

Improve the facilities for freight and coach journeys on the M6, alongside improved driver parking and welfare facilities to support the local, regional and national economy

Context

This objective recognises that there is a need for a consistent level of provision of service facilities along the route. There is a need for HGV and coach parking spaces for use on mandatory breaks. Provision of these would help ensure that drivers do not need to leave the SRN and park in inappropriate locations, such as on local roads and laybys. The published *National survey of lorry parking*[58] undertaken by the DfT in 2017 showed that there were 2,573 lorry parking spaces within recognised facilities, such as motorway service areas and independently owned or managed truck stops. It was estimated that 15% of practical additional spaces are needed, equivalent to 61 lorry parking spaces. HGV facilities along any long-distance route vary in terms of their capacity, charging availability, sustenance, price, location, information, and security. However, it is noted from views shared by our interested parties that users' needs are not currently being met.

The issue may well be one of locational availability and information, as well as quality of provision, and this could be set to worsen in the future given the expected increase in industrial storage and distribution development.

The number of transport, logistics, and warehousing business premises increased by 88% in the ten years to 2021. In 2011, transport and storage business units accounted for less than 5.5% of the total in local authority areas along the London to Scotland West (North) route. By 2021, almost every local authority had seen growth, with transport and storage accounting for 7.5% of the total business units in Carlisle and Wigan, and for over 12% in St Helens.

There is an opportunity to address a lack of charging stations for electric vehicles directly along the M6. We acknowledge that although service facilities are equipped with charging stations along the entire route, the coverage and capacity are not consistent.

Our network considerations

The Port of Liverpool creates high demand from areas within northern Cheshire to Chorley and Preston, with locations around St Helens and Warrington in particular considered to have insufficient parking provision, and other areas with less suitable provision. Parking demand within the St Helens and Warrington areas is reported to be very high. In locations where parking along the SRN is scarce, users may opt to use the local road network which can result in parking in inappropriate locations.

Although no specific locations were raised, interested parties believe that additional electric vehicle charging capacity will be required across the network to meet demand in the future.

A perceived lack of infrastructure could hinder the switch to an electric vehicle fleet by the public, as well as cause logistical issues for commercial operators. Although charging facilities exist at service stations, the provision of these has been market led and there may be gaps in the context of long-distance travel.

Outcomes

- Improved provision of service facilities for all long-distance trip purposes
- Road users are supported in their choice to travel by electric vehicles across the route

DfT's Strategic objectives

- Improving safety for all
- Growing the economy
- A technology-enabled network

Timeframe based on the issues and constraints identified

Now	Current issues identified with lack of suitable provision and electric charging for HGV and coach drivers
Future Road Periods	Current issues of lack of suitable provision for HGV and coach drivers expected to continue

58 Department for Transport (2017) *National Survey of Lorry Parking.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/723349/national-survey-of-lorry-parking-report.pdf

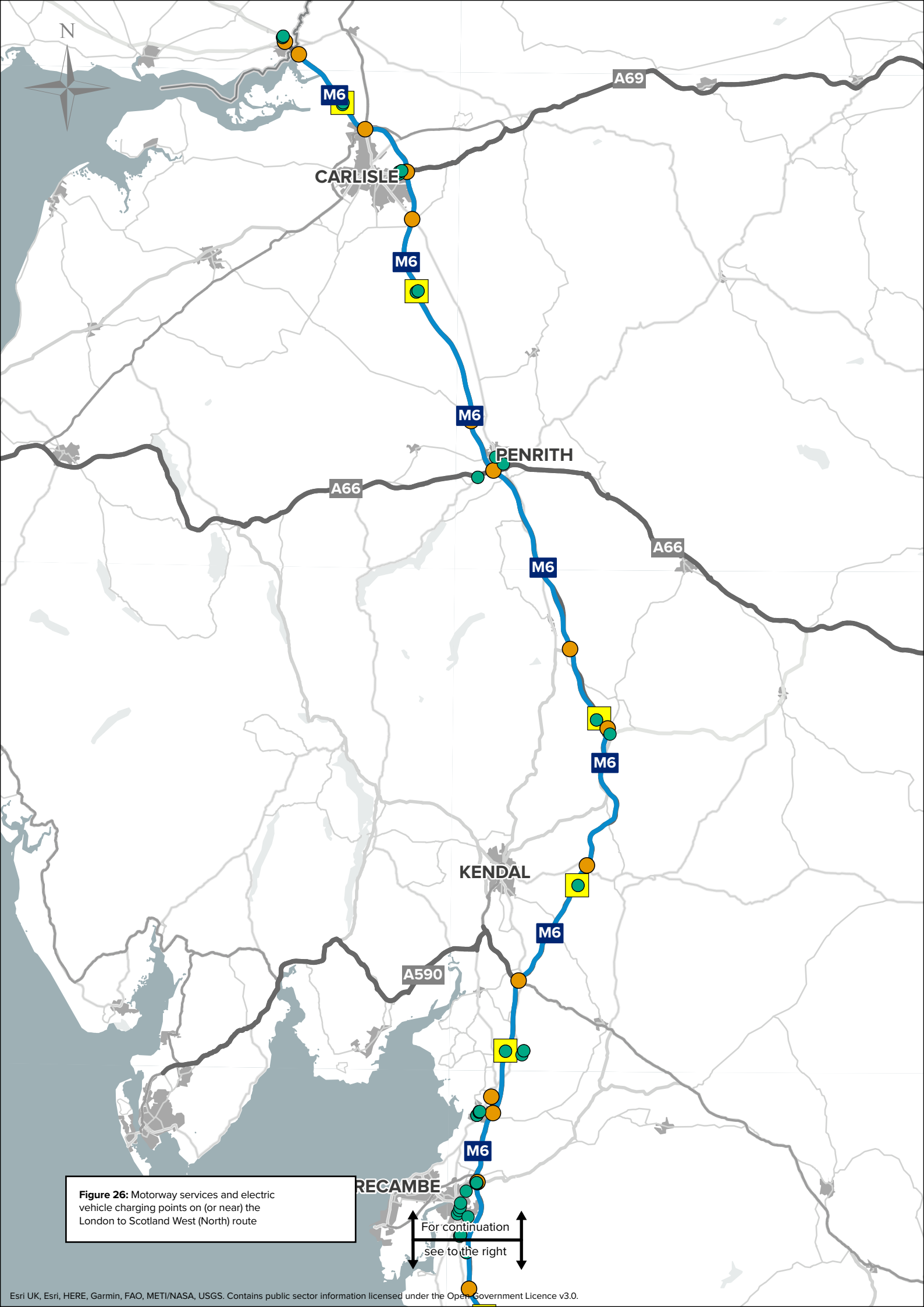


Figure 26: Motorway services and electric vehicle charging points on (or near) the London to Scotland West (North) route

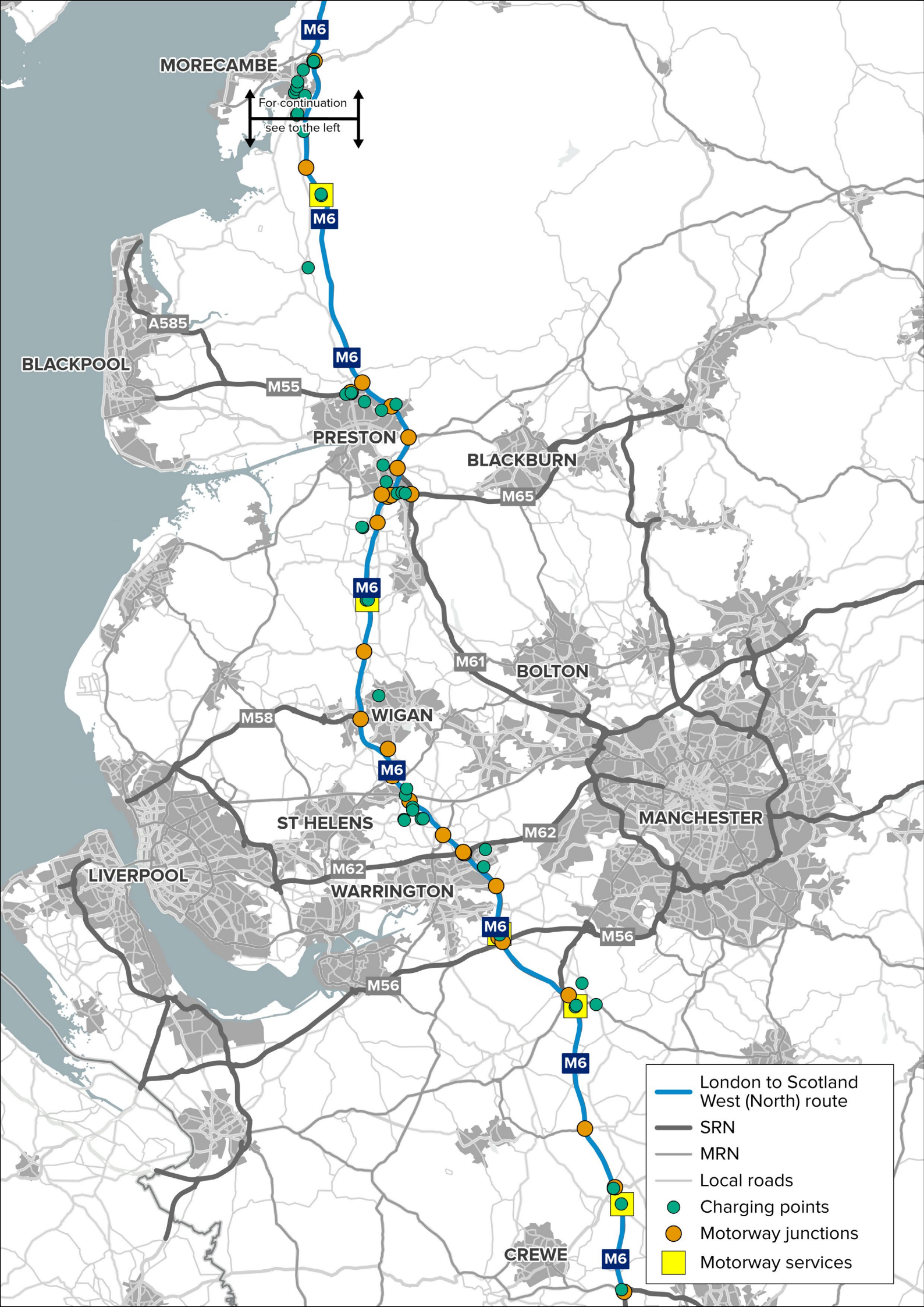

M6
MORECAMBE
For continuation
see to the left
M6
A585
BLACKPOOL
M6
M55
PRESTON
BLACKBURN
M65
M6
M61
BOLTON
M58
WIGAN
M6
ST HELENS
M62
MANCHESTER
LIVERPOOL
M62
WARRINGTON
M6
M56
M56
M6
CREWE
M6
London to Scotland West (North) route
SRN
MRN
Local roads
Charging points
Motorway junctions
Motorway services

Table 2: Evidence used to inform objectives

Objective		Extent	Chapter 3 Views raised by our customers and neighbours	Chapter 4 Integration with our partners' strategies and priorities	Chapter 5 Challenges and issues identified
A	**Improve safety for all** Provide safe journeys on the M6, particularly in Central Lancashire, near Preston and the M6 around Warrington and St Helens, to benefit road users and local communities	• M6 Junction 29-33 (32-33 in particular) • M6 Junction 23 • M6 Junction 17-19 (may now be alleviated by delivery of Junction 16-19 smart motorway scheme)	**Improving safety for all** Interested parties highlighted safety concerns on sections, particularly the M6 around Preston and at M6 Junction 23.	**DfT** has identified "Improving safety for all" as a key priority in its Planning ahead for the strategic road network. **TfGM** Transport Strategy 2040 Policy 15 states they will "deliver initiatives to improve highway network safety, with a focus on walking and cycling."	**Improving safety for all** Two junctions along the M6 in Cumbria feature adjoining SRN A-roads with a star rating of 1. The M6 itself at these locations has a rating of 3. There are locations with a concentration of slight collisions at junctions with other significant roads such as: • M6 Junction 20 (M56), south-east of Warrington • M6 Junction 21 (A57), east of Warrington • M6 Junction 23 (A580), east of St Helens Sections of the route away from major junctions which have a number of collisions involving someone being killed or seriously injured include: • A 20 kilometre section of the M6 between Junctions 31 and 33 • The section of the M6 between Junctions 19 and 17
B	**Better informed drivers** Improve road user experience and support the economy by improving technology to better communicate with drivers.	Full route extent from Junction 16 to Junction 45 (excluding Junction 21A-26 and Junction 16-19).	**A technology-enabled network** Interested parties highlighted the significant room for improvement in both local and SRN driver information provision, particularly in terms of wider network operation. Diversion routes were noted as being a concern.	**TfN** published its *Strategic transport plan* in 2019, informed by the initial Major roads report. It identifies that local and strategic roads vital for economic growth and aims to increase efficiency, reliability, integration, and resilience in the transport system.	A technology-enabled network There are significant gaps in technology between Junction 19 and Junction 45 of the M6. There are some existing channels of communication with route users, limited to Variable Message Signs and the Live Traffic Info application. National Highways' *Strategic business plan* sets out plans on how to make better use of digital data and technological capabilities to deliver safer, smoother and more reliable journeys on the route.

Objective		Extent	Chapter 3 Views raised by our customers and neighbours	Chapter 4 Integration with our partners' strategies and priorities	Chapter 5 Challenges and issues identified
C	**Support sustainable economic growth** Support sustainable economic growth through safe and reliable access for housing and employment sites, such as Bailrigg, St. Cuthbert's, Parkside, and Cuerden.	• M6 Junction 22 and Junction 23 in St Helens • M6 Junction 29 • M6 Junction 33 and Junction 34 • M6 Junction 42	**Network performance** and **Growing the economy** Interested parties raised M6 Junction 23 in terms of safety issues and congestion impacts on the A580. It is considered to be a barrier to cycle/ pedestrian movement and a constraint to growth, including Liverpool Freeport site.	The area features prominently in the **Department for Levelling Up, Housing and Communities** *Levelling Up White Paper*. **TfN** has recently launched a major new research programme on Transport-Related Social Exclusion in the North to develop the evidence base underpinning its Strategic transport plan objectives to improve inclusivity and access to opportunities for all. TfN's Strategic transport plan also has an overarching theme of transforming economic performance and improving access to opportunities for all.	**Growing the economy** The M6 corridor provides cross-border connectivity by carrying traffic between England and Scotland. There are proposals for further growth in the immediate cross-border areas, supported by The Borderlands Initiative. Other growth proposals include: • St. Cuthbert's Garden Village including the new Carlisle southern link road • North Lancaster strategic housing planned near M6 Junction 34 • North Lancaster Business Park • Bailrigg Development • Cuerden site to the west of M6 Junction 29 • Haydock Park development near to Junction 23 • Parkside East and Parkside West • Capricorn development associated with the future HS2 Crewe Hub around M6 Junction 17 • Employment land allocations at Florida Farm, Penny Lane, and Millfield Lane

Objective		Extent	Chapter 3 Views raised by our customers and neighbours	Chapter 4 Integration with our partners' strategies and priorities	Chapter 5 Challenges and issues identified
D	**Reduce the adverse impacts of severance** Reduce the adverse impacts of severance created by the SRN on local communities by ensuring the M6 is not a barrier to sustainable modes, particularly at motorway junctions.	Full route extent from Junction 16 to Junction 45.	**Improving safety for all and Improving environmental outcomes** Interested parties felt that there are limited sustainable travel connections around the M6 for public transport and active travel options, either through severance of a route, no ability to provide a route, or a lack of priority at motorway junctions.	Encouraging active modes for shorter, local journeys accords with the aims of **TfN's** *Transport decarbonisation* strategy which sets out a decarbonisation trajectory of a 56% reduction in emissions by 2030 to be achieved through mode-shift and demand reduction. The **DfT** *Planning ahead for the strategic road network* report also recognises the interaction of the SRN with other modes, with the role of the SRN supporting other modes of travel.	**Improving safety for all** Only motorised traffic can use the M6, however the route can act as a barrier for non-motorised travel crossing the route. In particular Junctions 20 to 30 have a higher percentage of serious or fatal collisions which involved walkers, cyclists or horse riders than other parts of the route.
E	**Be a better neighbour** Be a better neighbour by safeguarding the environment and reducing impacts on local communities, with particular focus on noise and air quality in areas such as Cheshire, Warrington, and Wigan.	• M6 Junctions 16 to 27 • M6 Junctions 28 to 32	**Improving environmental outcomes** Interested parties have raised concern around flooding at M6 Junction 33, a general lack of roadside greenery which could promote biodiversity and improve air quality. The suitability of diversion routes was also a concern.	There is a national commitment to reducing emissions from transport, which is supported in TfN's *Major Roads report,* **DfT's** *Planning Ahead for the strategic road network and the Electric Vehicle Infrastructure Strategy.* **TfN's** *Transport decarbonisation strategy* commits to a regional near-zero carbon surface transport network by 2045.	**Improving environmental outcomes** Some of the route passes next to and through National Parks, as well as passing close to several AONBs. There are receptors within 100 metres of the SRN which may be more likely to experience adverse air quality impacts, including near Ashton-in-Makerfield, at Gathurst near Wigan, around Preston and south-east of Lancaster. There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, including near Alsager, Gathurst near Wigan and around Preston and Carlisle.

Objective		Extent	Chapter 3 Views raised by our customers and neighbours	Chapter 4 Integration with our partners' strategies and priorities	Chapter 5 Challenges and issues identified
F	**Support driver wellbeing** Improve the facilities for freight and coach journeys on the M6, alongside improved driver parking and welfare facilities to support the local, regional and national economy	Full route extent from Junction 16 to Junction 45	**Network performance** Poor lorry parking facilities encourages the use of inappropriate local road routes. Lorry parking needs to consider night shifts and the 'just on time delivery' industry approach. Facilities on the route for long-distance trips (commercial and private) are expensive and not always designed to meet user needs.	This objective aligns with the **DfT's** Union Connectivity review for long-distance travel. The M6 directly connects Scotland and England and is the only motorway to do so, with over 50,000 cross-border journeys every day. The **TfN** Strategic transport plan has an aim to support businesses to move freight and goods efficiently and across modes.	**Growing the economy** The route has a critical economic function in supporting the growth of the Government's levelling up agenda, to achieve a thriving North of England, where world class transport supports sustainable economic growth. The Port of Liverpool creates high demand from areas within northern Cheshire to Chorley and Preston, with locations around St Helens and Warrington in particular considered to have insufficient parking provision, and other areas with less suitable provision. Parking demand within the St Helens and Warrington areas is reported to be very high.

Unlocking regional potential

07 Locational areas for consideration and potential collaboration

We know the importance that investment in our network can make locally, regionally and nationally. It can make areas more attractive for inward investment, unlock new sites for employment and housing and facilitate regeneration. It can also ease congestion, improve our customers' journeys and support environmental improvements.

In this chapter, we outline our proposed locational areas for further consideration, which will be explored in future road periods to achieve the London to Scotland West (North) route objectives and the Department for Transport's (DfT) six strategic objectives. These do not represent a commitment as funding will be considered as part of the development of the third Road investment strategy (RIS) and other investment processes.

Furthermore, they do not represent a final list of our potential investment locations and will be refined in our final Route strategy overview report, published alongside our RIS3 *Strategic business plan* and *Delivery plan* for 2025-2030.

Alignment with government objectives

Route strategies are aligned to the DfT's six strategic objectives and will also contribute to the RIS3 performance metrics set as part of the RIS-setting process.

Improving safety for all

Safety is our top priority and we are committed in the second road period (2020-2025) to reducing the number of road users killed or seriously injured on the strategic road network (SRN), by 50% (from the 2005-2009 baseline) by the end of 2025, with a long-term vision of zero harm. This includes our contractors adopting a Safe System approach to ensure roadworker safety. Our operational and strategic planning teams continue to work to prevent incidents from occurring and are focused on reducing incident severity through a package of activities promoting safer roads, safer people, safer vehicles and coordinated collision response. We are also learning from other organisations and interested parties about what works best and are collaborating with them to improve safety for all. Safety is embedded in our study programme to inform future investment priorities for RIS3 and beyond.

Network performance

Our operational and strategic planning teams continue to explore what steps can be taken to make journeys more reliable and not subject to delay, as well as safer, while protecting and respecting the environment. This involves working with our partners, such as sub-national transport bodies and other operators including Network Rail, to consider interventions to improve network performance. We recognise the SRN does not stand alone from other transport infrastructure, in particular local roads, and users expect journeys to be seamless regardless of transport mode or ownership. Through our study programme we will identify appropriate types of intervention recognising the need for integration, environmental and technological consideration balanced against costs.

Improved environmental outcomes

We are continuously working to ensure our roads work more harmoniously with the communities that live alongside them and the environments that surround them. We embed environmental considerations into all our activities, ranging from managing and operating the network to infrastructure design, scheme delivery and ensuring we meet our wider statutory obligations. In developing our programmes, we will consider a broad range of interventions, including technology-enabled solutions and integration with other operators' networks, as we understand the gravity of the climate situation and are committed to playing our part in reducing carbon emissions. Our carbon policy commitments are:

- as a net zero Britain will still travel by road in 2050, we will ensure we can support a properly maintained, future-ready road network that is fitted to support the transition to electric vehicles, and is key to reducing emissions from transport
- this programmatic coordinated delivery approach will act as a catalyst for: production management, off-site construction, reducing network disruptions, unlocking economies of scale, and supporting delivery of net zero targets
- it will also help us understand how interventions should be delivered, either through grouping or as standalone projects
- we expect this approach will create opportunities for increased efficiency, and enable us to deliver more within our funding. We also expect this approach to help us support the Government's long-term aims for the nation, such as contributing to net zero carbon, and social values

Growing the economy

We recognise that the strategic road network is a significant economic asset for the UK and is essential for people to access jobs, and for businesses to move goods around the country. Our regional planning teams continue to work closely with local planning authorities to support sustainable growth and development aspirations, including by trying to improve integration between transport modes. We also continue to work with businesses to understand their needs, such as quality lorry parking facilities and ensuring reliable and resilient integration with ports, airports and rail terminals to access global markets. The SRN also has a role in achieving the Government's moral, social and economic programme of levelling up the United Kingdom. Our forward intervention programme will seek to support the growth agenda where possible and appropriate.

Managing and planning the SRN for the future

We recognise that our network is complex and varied and requires careful stewardship to keep it in good condition. Our ongoing maintenance programme is essential to safety and keeping our roads open, while our renewals activity allows us to maintain, safeguard and modernise all our assets, and provide increased resilience in relation to extreme weather. Research and data help us to understand what our network needs over the short and long term, and to inform our planning. We continue to be committed to delivering our work in a way that minimises disruption to our customers and maximises value to taxpayers.

A technology-enabled network

In designing our intervention programmes, we will consider our Digital Roads vision for how we harness data, technology, and connectivity to improve the way the SRN is designed, built, operated and used for the future. This will enable safer journeys, faster delivery and an enhanced customer experience for all. The vision is structured around three themes: Design & Construction, Operations, and Customers. The approach embeds digital, data and technology across the intervention programmes, providing the building blocks for a digital future for roads.

Programmatic approach to investment

As part of our new route strategies process, we are developing a more programmatic approach to how we develop our investment plans. This will help us determine the complexity of potential investments and what high value interventions are more deliverable.

This programmatic coordinated delivery approach will act as a catalyst for; production management, off-site construction, reducing network disruptions, unlocking economies of scale and supporting delivery of net zero targets.

It will also help us understand how interventions should be delivered, either through grouping or as standalone projects.

We expect this approach will create opportunities for increased efficiency, enable us to deliver more within our funding and in collaboration with other investment programmes.

We also expect this approach to help us support the Government's long-term aims for the UK, such as contributing to net zero carbon.

Figure 27 shows how the route objectives defined in the route strategies, along with the associated cluster analysis of performance metrics, help to refine an initial set of locations for future investigation. Further iterations of sifting as information and analysis evolves will help to inform the Government's setting of RIS3 (2025-2030) and beyond. The input from route strategies early on in this process will ensure that all schemes which are ultimately taken forward align with the route objectives.

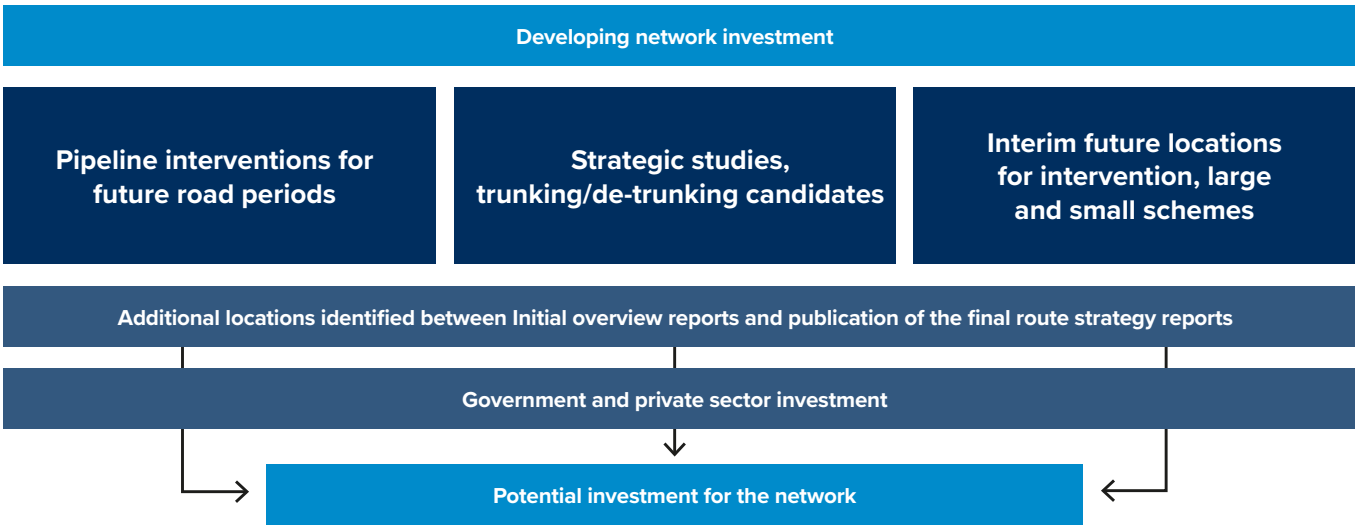


Figure 27: Process to identify potential investment on the network

Types of investment and funding sources

There are a variety of funding streams that enable us to invest in our network and that form part of our investment planning. These streams are summarised in the following section, along with the current committed schemes associated with each funding source for the London to Scotland West (North) route. Potential funding sources include:

- RIS Funding – a funding stream administered by National Highways, set by the Government's publication of the RIS:
  - RIS2 schemes are committed by DfT to be delivered as part of the Road investment strategy, as outlined in the following RIS2 table. The statement of funding confirmed that £24 billion will be provided during the second road period (2020-2025) to deliver this work, noting that some RIS2 commitments will continue into the third road period
  - RIS4 (2030-2035) pipeline schemes, previously earmarked for RIS3 (2025-2030), will continue to be developed in line with our statutory processes and considered for inclusion within RIS4. These are potential future schemes originally identified by National Highways and set as part of RIS2 by DfT. These schemes are not currently committed for construction.
- maintenance funding and asset renewal – within National Highways there is funding set aside for network maintenance and renewing ageing assets across the network. The budget for these is included in the RIS settlement
- potential targeted funding streams may be made available to National Highways during the third road period as part of the wider RIS settlement, focused on making improvements that will make the biggest difference and deliver lasting benefits
- other external sources of funding delivering infrastructure enhancements on, or close to, the SRN including central government, third parties, private sector developments, and inward investment

RIS2

The following scheme is committed for the second road period (2020-2025) on the London to Scotland West (North) route:

Scheme number	Scheme	Description	Start of works	Open for traffic
Committed for the second road period (2020-2025)				
1	6 Junctions 21A to 26 smart motorway[59]	Upgrade of the M6 between Junctions 21A and 26 to smart motorway with all-lane running, variable mandatory speed limits, queue detection and automatic signalling, improved driver information and CCTV systems and radar stopped vehicle detection.	2021	2022-23 (May be subject to change to align with the outcome of the Transport Select Committee report)

RIS4 pipeline

The following uncommitted schemes are in the pipeline for consideration for inclusion in the fourth road period (2030-2035) on the London to Scotland West (North) route:

Scheme number	Scheme	Description
1	M6 Junction 22	Upgrade of M6 Junction 22

Other notable schemes

A500 Dualling[60]: On the London to Scotland West (North) route, in addition to the RIS2 and RIS3 pipeline schemes listed above, there is a committed scheme on the A500 in Cheshire, involving the dualling of the single carriageway section of A500 Alsager Road between Meremoor Moss Roundabout and M6 Junction 16. The scheme is being promoted by Cheshire East Council and is subject to final funding decisions with works planned to start in 2024.

M6 Junction 33A South Lancaster Growth Catalyst: There is another committed scheme at M6 Junction 33A as part of the South Lancaster Growth Catalyst. This scheme involves the construction of new northbound entry and southbound exit slips off Hazelrigg Lane next to the University of Lancaster, a link road to Junction 33 alongside the M6 and an upgrade and extension to Hazelrigg Lane crossing the West Coast Main Line. Initially announced as a RIS2 scheme, the scheme is funded through the Housing Infrastructure Fund and will be delivered by local authorities with our support. Construction on the scheme is due to begin in 2024-25, with the scheme open to traffic during the third road period.

A66 Northern Trans-Pennine[61]: On the adjacent North Pennines route, the A66 Northern Trans-Pennine project is committed for the second road period (2020-2025) and will promote improvement of M6 Junction 40. The project as a whole involves upgrading the remaining single carriageway sections of the A66 to dual carriageway. This will provide additional capacity and ensure the A66 is a consistent standard throughout. The project has benefited from the Government's 'project speed' initiative to help economic recovery. It is due to be open to traffic by 2029-30.

59 National Highways, *M6 junction 21A to 26 smart motorway.* https://nationalhighways.co.uk/our-roads/north-west/m6-junction-21a-to-26-motorway-upgrade/
60 Cheshire East Council, *A500 Dualling.* https://www.cheshireeast.gov.uk/highways_and_roads/roadworks/major-projects/a500-dualling.aspx
61 National Highways *A66 Northern Trans-Pennine.* https://nationalhighways.co.uk/our-roads/a66-northern-trans-pennine/

Strategic studies, trunking and de-trunking

National Highways undertakes strategic studies to analyse complex problems that may need to be addressed over multiple road periods. Strategic studies often involve close working with key partners, including sub-national transport bodies and DfT, and can be used to help to decide on whether to fund any proposed improvements in the future.

National Highways were asked to explore changes to the SRN to ensure the network aligns with RIS2 strategic priorities reflected in the Strategic business plan[62]. This Plan relates to improving connections between main urban centres, to international gateways, to peripheral regions (for levelling up) and strategic cross-border routes (to strengthen union connectivity). It included a commitment to explore potential asset ownership changes between ourselves and local highway authorities that could be implemented no earlier than the start of RIS3. The DfT have produced a shortlist of eighteen trunking and two de-trunking candidates, identified following the draft RIS2 public consultation in 2018, for us to assess desirability and viability of asset transfer. De-trunking is the process of returning a National Highways road to local Highway Authority control and visa versa for trunking.

These candidates were put forward by a range of external stakeholders including local authorities, Local Enterprise Partnerships and chambers of commerce, then shortlisted by DfT. There is ongoing work to review the assessment evidence and recommendations, after which government ministers are expected to announce the candidates that will progress to the detailed development stage, which will be led by National Highways and incorporated in the forward study programme and wider RIS3 process.

Locations identified through route strategies for future investigation

National Highways undertakes route studies to investigate problems at identified locations across the network. In addition, locations of interest have been raised by Interested Parties through the route strategy engagement process.

To supplement this, as part of the route strategies process outlined in this document, National Highways has used cluster analysis to identify further locations for future investigation and undertaken an exercise to align these locations to the route objectives for the London to Scotland West (North) route.

The cluster analysis allows decision-makers to easily identify which sections of roads should be prioritised for further investigation. The assessment is a two-part process. In the first part, for each route strategy, the objectives are defined geospatially. This allows us to identify over which sections of the SRN the objectives converge, therefore quickly identifying the links that help us to achieve the maximum number of objectives. The second part of the assessment uses our understanding of the network from performance data to allow a further filter to remove links that are already performing well. This results in a filtered shortlist of SRN links or sections of roads that should be prioritised for further investigation. These have been grouped into areas of interest where they are in close proximity geographically. Should a location not be identified for further investigation as part of this initial process, this does not preclude it from being added to the list of areas of interest in the future.

The use of regional traffic models for the 2031 scenario has helped identify locations for further investigation based on the forecast network operation in the future to plan the future of the network beyond the current RIS3 cycle. Typically, this has resulted in the extension of some areas of interest, as shown in the table of locations overleaf. In the final publication version of the Route strategy overview reports, additional data from the regional traffic models will also be considered to enable the identification of locations for further investigation in future road periods.

62 National Highways (2020) *Strategic Business Plan: 2020–2025.* https://nationalhighways.co.uk/strategic-business-plan/

Further development of any proposed mitigation at each location will follow National Highways' internal processes. In order to fund any proposed improvements, National Highways will draw on the funding streams as previously identified.

Route strategies and regional traffic models

The route strategies have utilised the National Highways regional traffic models (RTMs) to identify future performance and delay on the network, which is the best data currently available.

Working with key stakeholders and interested parties, we have set out a number of potential candidate intervention locations which may require further development upon validation to check their alignment with the route strategy objectives.

New national traffic growth forecasts have now been released by the Department for Transport and as we carry out this exercise, we will consider how updated growth forecasts will impact on the identified areas for further investigation.

Alongside these more traditional road improvement schemes we will also need to support and encourage modal shift through transport integration and embrace emerging technologies to improve the performance of the network.

The impact on carbon and the environment will be central to all our thinking on which interventions are proposed to be taken forward.

Identified locations for future investigation and collaboration

Our analysis has set out the potential constraints and opportunities across the network and, in parallel, we are developing a RIS programme that is more resilient to changing priorities, and responsive to the environmental agenda.

We have a wide range of potential intervention types within our toolkit, including both non-road and road-based solutions, to help us achieve our objectives. These could include:

Potential non-road interventions:

- Supporting wider network initiatives to improve the customer experience, such as provision and enhancements of facilities for the freight industry and electric vehicle charging
- Exploiting technology to improve safety and network operation, including roll out of connected corridors
- Delivering a portfolio of measures to encourage active travel
- Making environmental enhancements to minimise the impact of the SRN on surrounding communities
- Encourage modal integration and influencing demand for vehicles, particularly at interfaces with urban centres

Potential roads interventions:

- In addition to Lower Thames Crossing we will continue to progress those remaining schemes in RIS1 and RIS2[63] that will not be in construction at the end of RP2, as well as the RIS4 pipeline. All these schemes will be kept under constant review
- The pipeline schemes announced in RIS2 is the most developed portfolio of potential interventions and we propose a renewed focus to ensure schemes: are resilient with an acceptable value for money; consider the Carbon Management in Infrastructure standard; are affordable, with lower cost options being developed; are environmentally responsible; are deliverable; and, have strong stakeholder support and / or are a good strategic fit with other government strategies e.g. ports, levelling up

63 Plans for new smart motorways have now been cancelled and previously paused smart motorways will now not go ahead.

We will also develop a significant portfolio of smaller safety and congestion interventions that improve localised issues as well as route treatments that address comparably poor safety performance (International Road Assessment Programme 1-star and 2-star roads) along selected all-purpose trunk road corridors.

Table 3 and Figure 28 show the areas identified for further investigation, where interventions have the potential to help us achieve the majority of route objectives.

In line with National Highways' internal processes, we will draw upon a wide range of funding streams, further developing any proposed mitigation to the issues identified, exploring:

- collaboration and integration opportunities
- synergies with existing planned schemes
- opportunities with asset and maintenance priorities as set out in chapter 5.5

As part of the ongoing evolution of the route strategies toward final publication we will further strengthen its role in being a strategic planning tool for interested parties who have a stake in the SRN and its future.

Table 3: Areas of interest for further investigation

Area location	Area of interest	Area issues	Now	Future road periods
M6 Junction 17	**A**	In terms of impacts on **noise and air quality**, the route is in close proximity to a number of receptors in Sandbach. The junction is close to development sites at Sandbach which are important for **economic growth. Poor reliability** and **delay** have been noted.	✓	✓
M6 Junction 19 to 21	**B**	**Poor reliability** and **delay**, including **seasonal delay** have been noted on this section, particularly at junctions. Risk of **flooding from surface water** is high at points along this section, especially around Junction 20. In terms of impacts on **noise and air quality**, the route is in close proximity to a number of receptors east of Warrington, as well as smaller villages close to Junction 19. At Warrington, the route passes close to potential strategic development sites which are important for **economic growth**. There is a **lack of technology** along this section with limited electric vehicle charging infrastructure along the SRN.	✓	✓
M6 Junctions 22 and 23	**C**	**Poor reliability** and **delay,** including **seasonal delay** have been noted at these two junctions. There are a number of industrial sites close to Junctions 22 and 23 and therefore delay and congestion at this junction could limit **freight capacity and connectivity**, particularly when considered against the Liverpool Freeport growth aspirations. There is also a risk of **flooding from surface water**, especially around Junction 22.	✓	✓
M6 Junction 29 to 33	**D**	**Poor reliability** and **delay**, including **seasonal delay** have been recorded. These delays are expected to worsen in the future, particularly around Junction 30 and on the approaches to Junction 32. **Safety** is considered to be an issue between Junctions 30 and 32 and to a lesser extent between Lancaster Forton Services and Junction 33. Pedestrian and cyclist related collisions have occurred at these junctions. In terms of impacts on **noise and air quality**, the route is in close proximity to a high number of receptors around Preston and smaller villages nearby, which may be more likely to experience adverse air quality and noise impacts. Preston is a **priority area for levelling up** with the route also serving the **growth area** and strategic Cuerden site.	✓	✓

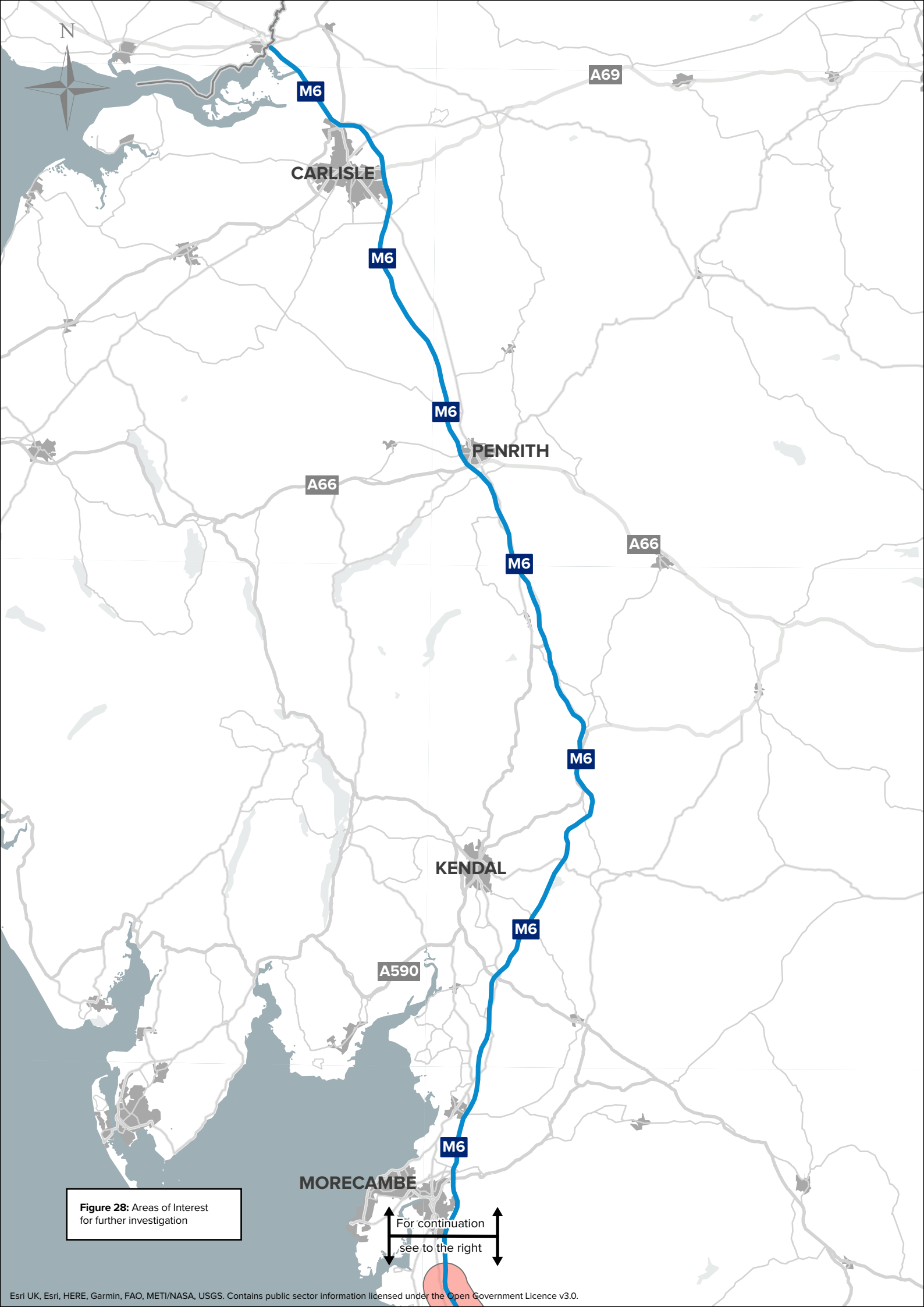
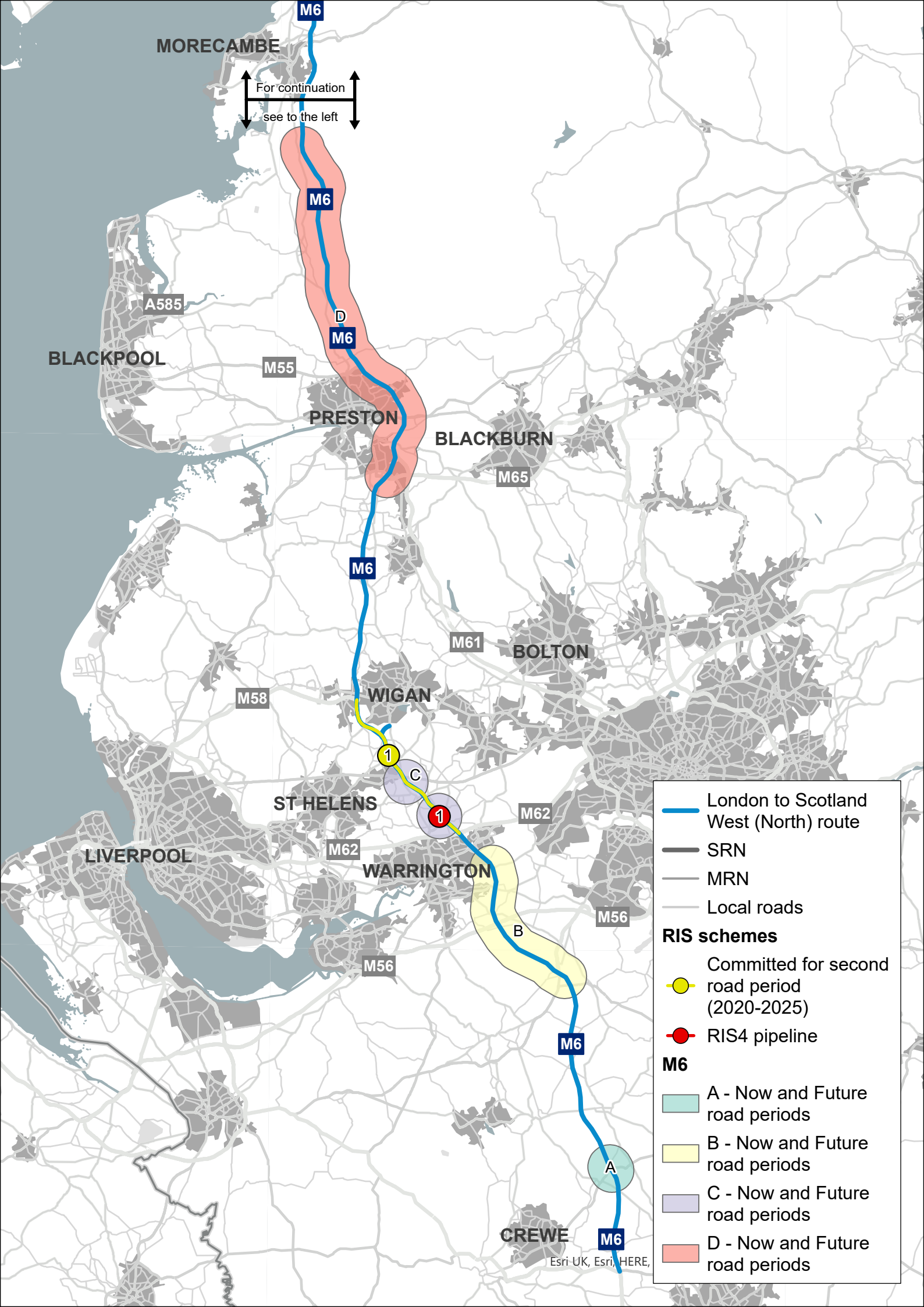


Figure 28: Areas of Interest for further investigation


MORECAMBE
For continuation
see to the left
M6
A585
BLACKPOOL
M55
PRESTON
BLACKBURN
M65
D
M6
M6
M61
BOLTON
M58
WIGAN
1
C
ST HELENS
1
M62
M62
LIVERPOOL
WARRINGTON
M56
B
M56
M6
A
CREWE
M6
Esri UK, Esri, HERE,
London to Scotland West (North) route
SRN
MRN
Local roads
RIS schemes
Committed for second road period (2020-2025)
RIS4 pipeline
M6
A - Now and Future road periods
B - Now and Future road periods
C - Now and Future road periods
D - Now and Future road periods

What happens next

08 Next steps

Our route strategies allow informed decisions to be made about our network. They have informed our *strategic road network* (SRN) *Initial report,* which sets our vision and priorities for the third road period (2025–2030) and beyond (from 2030). They are a forward planning tool for National Highways and our interested parties in their decision making, helping identify locations on our network for further consideration to inform investment opportunities, as well as to support decisions in prioritising potential solutions to enable us to continue to operate and maintain our network.

Alignment

They also align with the National Highways *Connecting the country: Our long-term strategic plan to 2050*[64] which sets out our 2050 vision for the SRN to be part of a seamlessly integrated transport system that meets our customers' needs by connecting the country safely and reliably, delivering economic prosperity, social value and a thriving environment. *Our long-term strategic plan to 2050* describes the short, medium and long-term steps to 2050 we believe are needed to make our vision a reality over successive road periods and has been informed by extensive horizon scanning, foresight analysis and engagement with key stakeholders across nine focus areas. The route objectives identified in the route strategies, which also respond to the needs of stakeholders, road users and communities, and the locations for further consideration to achieve these objectives are aligned with the 2050 vision.

Informing the next stage of planning

The route objectives and locations for further consideration will be used to inform our study programmes and consider opportunities for developing integrated and collaborative solutions with our interested parties.

The extensive engagement we have undertaken ensures feedback from our customers and neighbours is used to inform investment decisions. They will help us consider the interaction of our SRN with other transport networks, including the major road network and local roads. We also expect interested parties will use our route strategies to inform their wider investment programmes, supporting collaborative decision making.

For both the Route strategy initial overview reports and *Our long-term strategic plan to 2050*, there will be an opportunity for stakeholders, road users and communities to provide their feedback. This will be alongside DfT's separate consultation on the *SRN initial report* published at the same time.

The 20 finalised Route strategy reports and *Our long-term strategic plan to 2050* will be published by 2025, the end of the current road period (2020-2025), informing the *Strategic business plan* and *Delivery plan.*

Provide your feedback

To find out more about our route strategies and the development process, please visit our website: nationalhighways.co.uk/our-roads/our-route-strategies

64 National Highways (2022) *Connecting the country: Our long-term strategic plan to 2050.* https://nationalhighways.co.uk/connectingthecountry

Glossary of terms

Term	Acronym	Description
Active users and active modes of transport		Active users and active modes of transport refers to walkers, cyclists and horse riders.
Air quality management area	AQMA	If a local authority identifies any locations within its boundaries where the Air Quality Objectives are not likely to be achieved, it must declare the area as an Air Quality Management Area (AQMA). The area may encompass just one or two streets, or it could be much bigger. The local authority is subsequently required to put together a plan to improve air quality in that area - a Local Air Quality Action Plan.
Area of Outstanding Natural Beauty	AONB	An area of outstanding natural beauty (AONB) is one of the classes of land protected by the Countryside and Rights of Way Act 2000 (CROW Act). It protects the land to conserve and enhance its natural beauty.
All Lane Running	ALR	All Lane Running (ALR) motorways apply controlled motorway technology, permanently converting the hard shoulder as a running lane, and feature emergency areas.
A-roads		Major roads intended to provide large-scale transport links between regional towns and cities.
Assets		National Highways' assets include our infrastructure such as road pavements, structures and tunnels.
At-Grade Junction		An at-grade junction is a junction where two or more roads converge, diverge, meet or cross at the same height, as opposed to an interchange, which uses bridges or tunnels to separate different roads.
Clean Air Zone	CAZ	A clean air zone (CAZ) defines an area where targeted action is taken to improve air quality, and resources are prioritised and co-ordinated to deliver improved health benefits and support economic growth.
Collisions		The severity of a collision is based on the severity of the most severely injured casualty and is broken down into: **Slight collision:** One in which at least one person is slightly injured but no person is killed or seriously injured. **Serious collision:** One in which at least one person is seriously injured but no person (other than a confirmed suicide) is killed. **Fatal collision:** A collision in which at least one person is killed.
Department for Transport	DfT	Department for Transport (DfT) plan and invest in transport infrastructure to keep the UK on the move. DfT work with agencies and partners to support the transport network that helps the UK's businesses and gets people and goods travelling around the country.
Design-Build-Finance-Operate arrangements	DBFO	With a design-build-finance-operate arrangement, the private party provides financing and design, then builds and operates the facility. The public partner provides funding while the project is being used or is active.

Term	Acronym	Description
Diversionary Routes		National Highways agreed diversion routes represent the recommended routes for road users when a section of road has been closed.
Dynamic Hard Shoulder	DHS	Dynamic Hard Shoulder Running (DHS) motorways apply the controlled motorway technology and temporarily increase capacity by utilising the hard shoulder, and feature emergency areas. The hard shoulder is some of the time, but not always, used as a live running lane, with electronic signs to guide drivers when it is safe to use for live running.
Economic opportunity areas	EOAs	EOAs were developed to give us a more refined understanding of the types of priority economic growth opportunities that exist around the SRN and around the wider road and broader transport network. They are defined in terms of their common economic function and the spatial features of the location. These key growth areas are grouped by broad 'theme' (such as international gateways, multi-modal transport hubs, tourism destinations and housing locations) and their relative reliance on the SRN
Freeport		Freeports are special areas within the UK's borders where different economic regulations apply. Freeports in England are centred around one or more air, rail, or seaport, but can extend up to 45km beyond the port(s)
Heavy Goods Vehicle	HGV	A heavy goods vehicle (HGV) is a large vehicle intended for the transportation of heavy loads.
Growth Boards		Growth Boards have been established by some counties as a joined-up way of managing local future growth and supporting economic recovery.
International connectivity		Transport connectivity of the United Kingdom with Europe and the rest of the world.
In-vehicle Technology		This can be in-car systems that typically take the form of a touchscreen or display that is mounted on the dashboard. It can be a collection of hardware and software, which can provide information, data and connectivity to infrastructure to support the customer experience. It can also be the data and technology capability to enable the operation of the car (this might be connected services, autonomous capability, parking sensors, cameras etc.). It can be any technology within a vehicle.
Levelling up		Levelling up is a moral, social and economic programme for the whole of government. It places emphasis on ensuring no community is left behind.
Local Road Network		England's road network consists of motorways, major 'A' roads, and local classified and unclassified roads. The vast majority of motorways and major 'A' roads for the strategic road network (SRN) and are managed by National Highways. All other roads are managed by local authorities and make up the Local Road Network (LRN).
Major Road Network	MRN	The Major Road Network (MRN) is the middle tier of England's road network, comprising the busiest and most economically important local authority A-roads.
National Highways Licence		The Licence sets out the Secretary of State's statutory directions and guidance to National Highways.

Glossary of terms

Term	Acronym	Description
Noise Action Plans		Noise action plans provide a framework to manage environmental noise and its effects. They also aim to protect quiet areas in agglomerations (large urban areas) where the noise quality is good. Noise Action Plans provide a framework for the local management of the Important Areas.
National Traffic Information Service		The National Traffic Information Service (NTIS) is provided by National Highways. The Traffic England website provides a range of services to help you avoid delays and plan your journeys but NTIS also makes data available to subscribers for research purposes or for developers to include it in their own applications.
Noise Important Areas		Noise Important Areas (NIAs) for roads and railways are based upon the strategic noise maps results and are produced in line with the requirements set out in the noise action plans.
Office of Rail and Road	ORR	The Office of Rail and Road (ORR) is the independent safety and economic regulator for Britain's railways and monitor of National Highways.
Park and ride		A park and ride offers parking with public transport connections that allows commuters and other people heading to city centres to leave their vehicles and transfer to bus, rail or car share for the remainder of the journey.
Platooning		Heavy Goods Vehicle (HGV) platooning is the use of technology to allow HGVs to travel safely in close proximity at speed with the driver of the lead vehicle controlling the speed, acceleration and braking of the whole 'platoon'.
Receptor (Air quality and Noise)		Location which is sensitive to noise/air quality issues. 300m has been used as the parameter for noise receptors as it's an appropriate length to differentiate between SRN and local roads. 100m has been used for air quality as the distance by which pollutants travel in high concentrations that may have an impact on health.
Regional Traffic Model	RTM	National Highways has a suite of five regional traffic models (RTMs) covering England's SRN. The models allow us to identify future performance and delay on the network, assisting with the development of the route strategies
Reliability		Reliability is the difference between the typical travel time, allowing for recurring delays, and the observed travel time. This measures the amount of variation due to unexpected variations or unplanned events. Like delay, it is measured in seconds per vehicle per mile. It is a concern for most drivers, but particularly affects just-in-time freight traffic and other strategic journeys.
Road investment strategy	RIS	A Road investment strategy (RIS) is a strategy that outlines a long-term programme for National Highways' motorways and major A-roads with the stable funding needed to plan ahead.
Road period		The defined period of time over which the Government gives a funding commitment. The length of a road period will be specified at the beginning of the RIS development process. Road periods will be multi-year in order to provide the supply chain with increased certainty of investment and intent. Based on current practice within the other infrastructure sectors, it is expected that road periods will continue to be five years in length, though the actual length will be decided by the Government of the day.
Route objectives		Objectives for each route, informed by engagement and analysis, to support the current and future needs of customers and neighbours.

Term	Acronym	Description
Safe System approach		The Safe System is the current best practice safety culture in road safety, developed over many years and derived most notably from the Swedish Vision Zero and Dutch Sustainable Safety strategies. A best practice road safety culture approach based on the principles that humans make mistakes which could lead to serious injury or death for which it is a shared responsibility of the road user, road managers, vehicle manufacturers, etc. to take appropriate actions to ensure road collisions do not lead to serious or fatal injuries.
Seasonal delay		Seasonal delay refers to the difference between the average afternoon peak delay for Fridays in August 2019 (high demand in summer holidays) and the average delay during very low demand periods (in this case, Christmas day is used). This measure is designed to reflect the parts of the network that do not appear to have a problem on average over the year but have seasonal peaks. Seasonal delay is of interest to tourist traffic, particularly people travelling to airports, or other destinations where arriving later than intended could have significant implications.
Severance		Severance is where transport infrastructure or motorised traffic passes through settlements and acts as a physical or psychological barrier, limiting people's ability or desire to move through that area. This can reduce accessibility to key services, and damage local social networks and community cohesion.
Sites of Special Scientific Interest	SSSIs	A Site of Special Scientific Interest (SSSI) is the land notified as an SSSI under the Wildlife and Countryside Act (1981), as amended. SSSI are the finest sites for wildlife and natural features in England, supporting many characteristic, rare and endangered species, habitats and natural features.
Smart motorway		A smart motorway is a section of motorway that employs active traffic management (ATM) techniques to increase capacity through the use of technology including variable speed limits. There are three types of smart motorway: 1. Controlled Motorway: variable speed limits with the hard shoulder operating as it would on a conventional motorway. 2. Dynamic Hard Shoulder (DHS) Running: Variable speed limits with the hard shoulder selectively opened as a running lane during periods where traffic levels are too high for only three lanes of running traffic. When activated, vehicles can use the hard shoulder as a running lane. 3. All Lane Running (ALR): variable speed limits with the hard shoulder removed and converted to a permanent running lane. Smart motorways have a whole system of inter-related safety features, not present on conventional motorways, working together to help keep drivers and their passengers moving safely. The system includes: 1. Variable speed limits to help keep traffic moving, reducing frustrating stop-start traffic and making journeys quickery 2. Clearly signed and orange-coloured emergency areas set back from the road and with telephones linking directly to our control rooms. 3. Detection systems to monitor traffic for changes in flows 4. CCTV cameras that our operators are able to move and zoom to monitor and manage congestion and incidents, where notified. The system has the ability to see 100% of the carriageway 5. Detection systems to monitor traffic for changes in flows 6. Signs and signals to provide better information to drivers which can alert drivers to hazards ahead and display Red X signs to close lanes to other traffic when a stopped vehicle is identified 7. Enforcement cameras to deter the minority who break speed limits and ignore Red X signs 8. Radar stopped vehicle detection
Spatial planning		Spatial planning decides how land should be used or protected. It also organises, designs and makes decisions on where new homes, roads and other infrastructure should be built. Spatial planning aims to make places attractive, safe and environmentally friendly. National Highways is a statutory consultee in the planning system and we encouraged others to seek early advice from us if their development proposal is likely to impact the strategic road network.

Glossary of terms

Term	Acronym	Description
Special Areas of Conservation	SACs	A Special Area of Conservation (SAC) is the land designated under Directive 92/43/ EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.
Statutory consultee		Statutory consultees are those organisations and bodies, defined by statute, which local planning authorities are legally required to consult before reaching a decision on relevant planning applications.
Strategic Rail Freight Interchange		A large multi-purpose rail freight interchange and distribution centre linked into both the rail and road system
Strategic Road Network	SRN	The strategic road network (SRN) covers more than 4,500 miles of motorways and major A-roads.
Strategic Traffic / Strategic journeys		Long distance traffic / journeys
STATS19		Data on road traffic casualties on the roads in Great Britain are collected via the STATS19 process. These statistics are collected by police forces, either through officers attending the scene of incidents, from members of the public reporting the incident in police stations after the incident, or more recently online and then validated and published annually by DfT. STATS19 road traffic collision and casualty data is published annually by DfT in the Autumn and provides details of the previous calendar year. These reports have used the data available at the time of analysis, 2015-2018.
Sub-national Transport Bodies	STBs	Sub-national transport bodies (STBs) have a key role in formulating transport strategy and identifying investment priorities at the sub-national level, including for highways. There are 7 STBs in England, who are tasked with developing transport strategies and studies for their region. Through the development of their evidence bases with their constituent local authorities and Local Enterprise Partnerships, their work highlights multi-modal issues, need and opportunities, with investment priorities provided to the Secretary of State for Transport.
Transport-related social exclusion		Where limited access to transport or other issues with the transport system means that people cannot fully participate in society in the way they would like
Trunking / De-trunking		De-trunking is the process of returning a National Highways' road to the local highway authority control and visa versa for trunking
UNESCO World Heritage Site		Inscription as a UNESCO World Heritage Site is an acknowledgement of the global significance of such places.
Union connectivity		Transport connectivity between the nations of the United Kingdom.
Variable Messaging Signs		The Traffic Signs Regulations and General Direction 2016 (TSRGD) define a variable message sign as a device "...capable of displaying, at different times, two or more aspects...". These aspects may take the form of a sign prescribed by the TSRGD, a legend in accordance with Schedule 16 to TSRGD, a non-prescribed temporary sign or a blank grey or blank black face. Thus, the expression "variable message sign" (VMS) encompasses all types of variable sign from simple flap-type signs to complex light-emitting panels.
Vulnerable Road User		Walkers, cyclists and horse riders

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