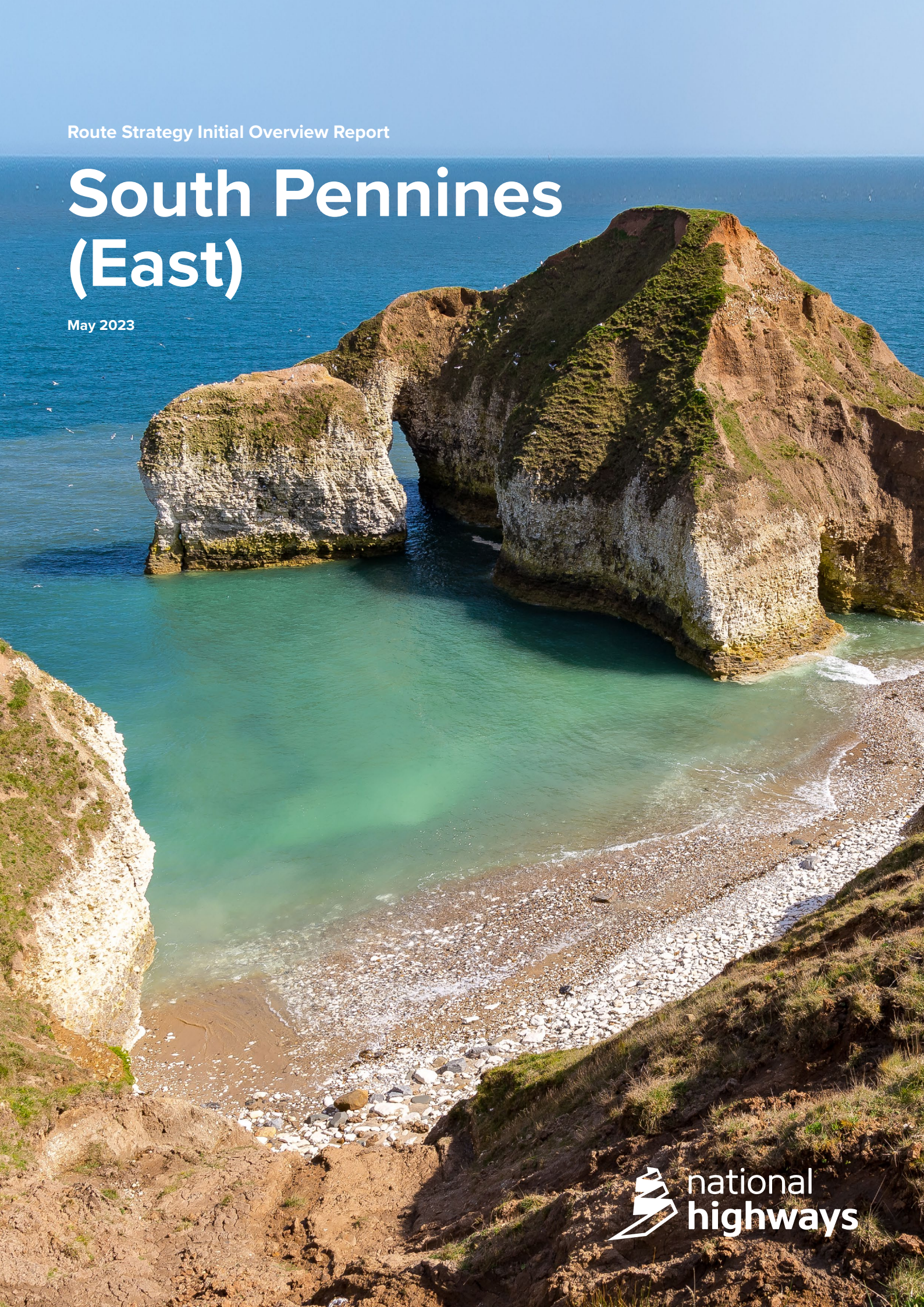
Route Strategy Initial Overview Report

South Pennines (East)

May 2023



national highways


Leeds
Halifax
Huddersfield
M 62

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The routes

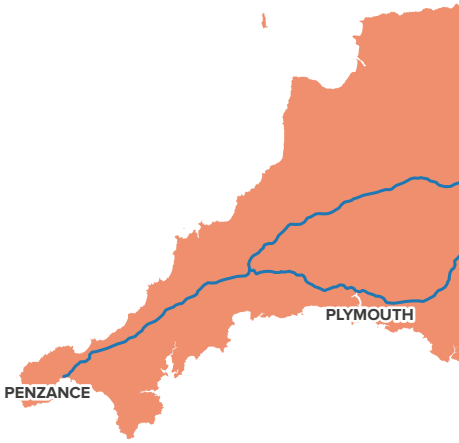
Routes

- London to Scotland West (North)
- London to Scotland East (North)
- South Pennines (East)
- South Pennines (West)
- North Pennines
- London to Leeds
- Midlands and Gloucestershire to Wales
- North and East Midlands
- South Midlands
- London to Scotland West (South)
- London to Scotland East (South)
- East of England
- Felixstowe to Midlands
- Kent Corridors to M25
- Solent to Midlands
- London Orbital and M23
- South Coast Central
- South West Peninsula
- Birmingham to Exeter
- London to Wales

Sub-national Transport Bodies

- England's Economic Heartland
- Midlands Connect
- South West Peninsula
- Transport East
- Transport for the North
- Transport for the South East
- Western Gateway

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.




N
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 South Pennines (East) 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 South Pennines (East) route serves a large area in the North of England. The route comprises approximately 163 miles of strategic road network (SRN), including part of the M62, M18, M180, M181, A63, A64, A160 and A180. It runs in an east–west direction, linking the A1 and the M1 to the east coast. The route mainly passes through rural areas, but in some parts passes close to urban centres, such as Hull.

The roads covered by the South Pennines (East) route connect with roads covered by other route strategies, including the South Pennines (West) route through the continuation of the M62. The route also adjoins the London to Scotland East (North) route and London to Leeds route in several locations. These routes provide north-south connections from the north of the country to London via the M1, the A1(M) and A1.

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

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.

Improving safety for all

- A proportion of the route is rated 1 or 2 stars in terms of its iRAP rating
- There are concentrations of collisions on certain sections of the A64 and M62
- There are safety issues where vehicles use non-approved diversion routes, which pass through communities that are less able to accommodate increased traffic, such as Heslerton and Malton
- Collisions involving walkers, cyclists and horse riders have occurred, most notably along the A64 from Welburn to Musley Bank

Network performance

- There are several parts of the route which currently experience notable average peak period delays, particularly along the A64 and A63
- Seasonal delay occurs on the route, particularly along the A64, and is likely to have an impact on the visitor economy
- An increase in traffic on the route arising from future housing and employment growth is expected to result in additional delays, particularly on sections of the A64, the A63 near Hull, and the M18 east of Rotherham

Improved environmental outcomes

- There are receptors within 100 metres of the SRN which may be more likely to experience adverse air quality impacts, including Malton and Rillington to Sherburn on the A64, South Cave to Hessle on the A63, and east of Doncaster on the M18
- Climate emergencies have been declared by local authorities within the South Pennines (East) route area, with a number having AQMAs. The City of York has also proposed a clean air zone
- There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, particularly around the M18 and A63
- There are environmental designations and heritage sites withinthe South Pennines (East) route area, such as the Howardian Hills AONB adjacent to the A64 and Humber Estuary Special Area of Conservation near the M62
- Our interested parties raised the issue of severance, which can discourage the use of active modes to access local centres, despite potential demand
- Parts of the route are at risk of flooding from surface water, including sections of the M18, M180, A180, A63 and A64
- Maintaining and protecting Areas of Outstanding Natural Beauty (AONBs), areas with environmental designations and cultural heritage
- Minimising greenhouse gas emissions
- Building resilience to future climate change

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

Growing the economy

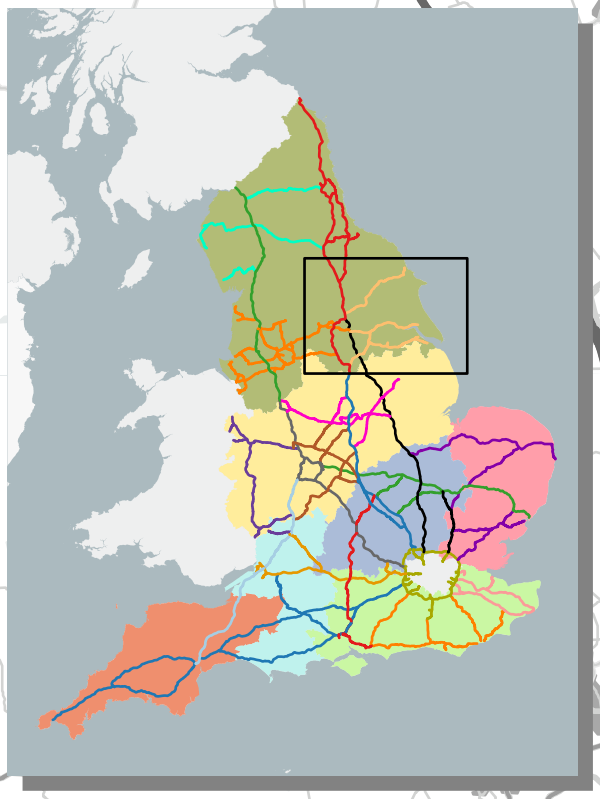
- East-west connectivity is enabled by the route, which plays a key role in supporting economic growth in the North
- There is expected to be a continuation of growth of freight activity on the M62, A63 and M180 to the Humber ports and distribution centres in Doncaster
- There are strategic growth sites planned around the Humber Freeport, as well as near Grimsby, Humberside Airport and York, which will generate traffic on the route
- Several areas within the South Pennines (East) route are priority areas for levelling up. These include North Lincolnshire and North East Lincolnshire on the A180 and M180 corridor, Doncaster and Rotherham on the M18 corridor, Wakefield and Hull on the M62/A63 corridor, and Scarborough on the A64 corridor
- There are significant visitor destinations near to the route, including York which is one of the top 10 city attractions in the North of England for domestic and international visitors

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

- Satellite-navigation systems providing unsuitable diversion routes during congested periods
- Limited provision of electric vehicle charging points outside of main urban centres, such as York, Hull, Scunthorpe, and Grimsby



A19
A168
A64
YORK
A64
LEEDS
M1
A1(M)
PONTEFRACT
M62
M62
M18
A1
M1
M180
DONCASTER
A1(M)
M18
M1
SHEFFIELD
A1


N
SCARBOROUGH
A64
BRIDLINGTON
KINGSTON UPON HULL
A63
A63
A160
A180
A180
SCUNTHORPE
M181
M180
GRIMSBY
South Pennines (East) 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**	**Improving 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** Improve the safety of the route, particularly the A64 between Hopgrove and Flaxton, Welburn to Musley Bank, and Rillington to Sherburn, and on the A180 and A160 near Immingham	✓					
B	**Support the visitor economy** Support better access to visitor attractions in York and the east coast via the A64 to grow the visitor economy and tackle seasonal delays		✓		✓		
C	**Enable sustainable economic growth and levelling up** Enable sustainable economic growth and levelling up near the route, enabling improved freight access to Freeport sites in Hull, Immingham, and Goole; and logistics hubs in locations such as Doncaster				✓		
D	**Respond to climate change by sustaining a resilient network** Contribute to safeguarding the environment with consideration to areas at risk of flooding such as M18 and M180 west of Scunthorpe, A63 South Cave to Port of Hull, and A64 near Seamer		✓	✓			
E	**Minimise traffic from the SRN diverting through local communities** Minimise traffic from the SRN diverting through local communities, particularly in Malton from the A64, Brough and North Ferriby from the A63, and Hatfield and Thorne from the M18	✓	✓	✓			
F	**Be a better neighbour by safeguarding the environment** Be a better neighbour by reducing air quality and noise impacts on local communities in Scunthorpe, Hull and Malton, on the A64 and M18 in Doncaster and the clean air zone in York			✓			✓
G	**Reduce severance for sustainable transport modes** Reduce severance for sustainable transport modes in towns and cities such as Malton, Goole, Howden, Brigg, and Hull, to benefit local communities, connectivity and the environment	✓		✓			

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: 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 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
- identify the locations for further consideration to inform our investment programmes and guide our vision

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

5 HM Government (November 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

- 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:

- 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

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 South Pennines (East) 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.

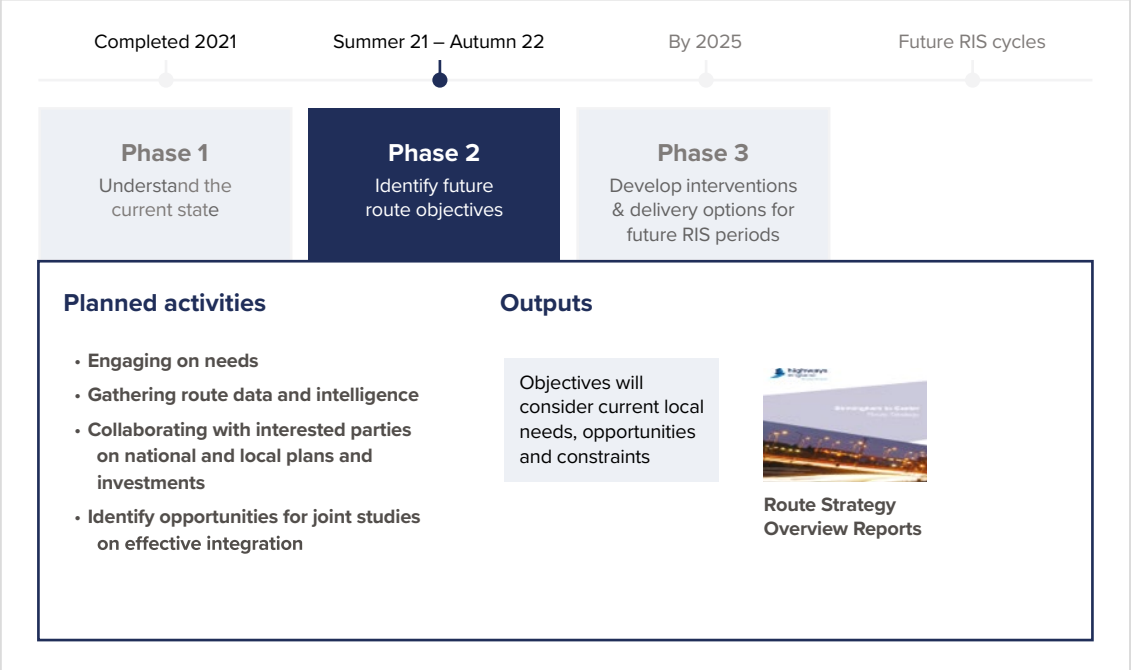


Figure 1: The route strategies delivery phases

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.

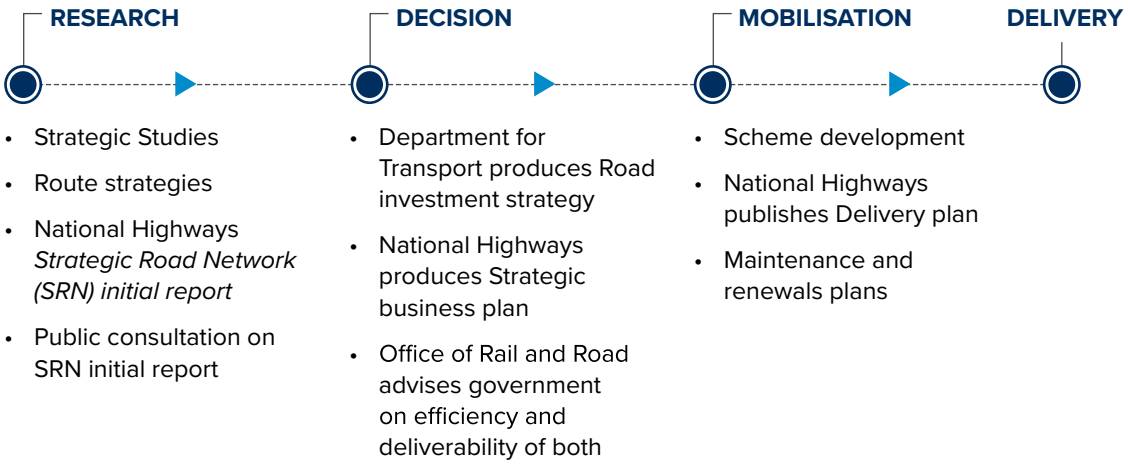


Figure 2: The RIS development cycle

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/

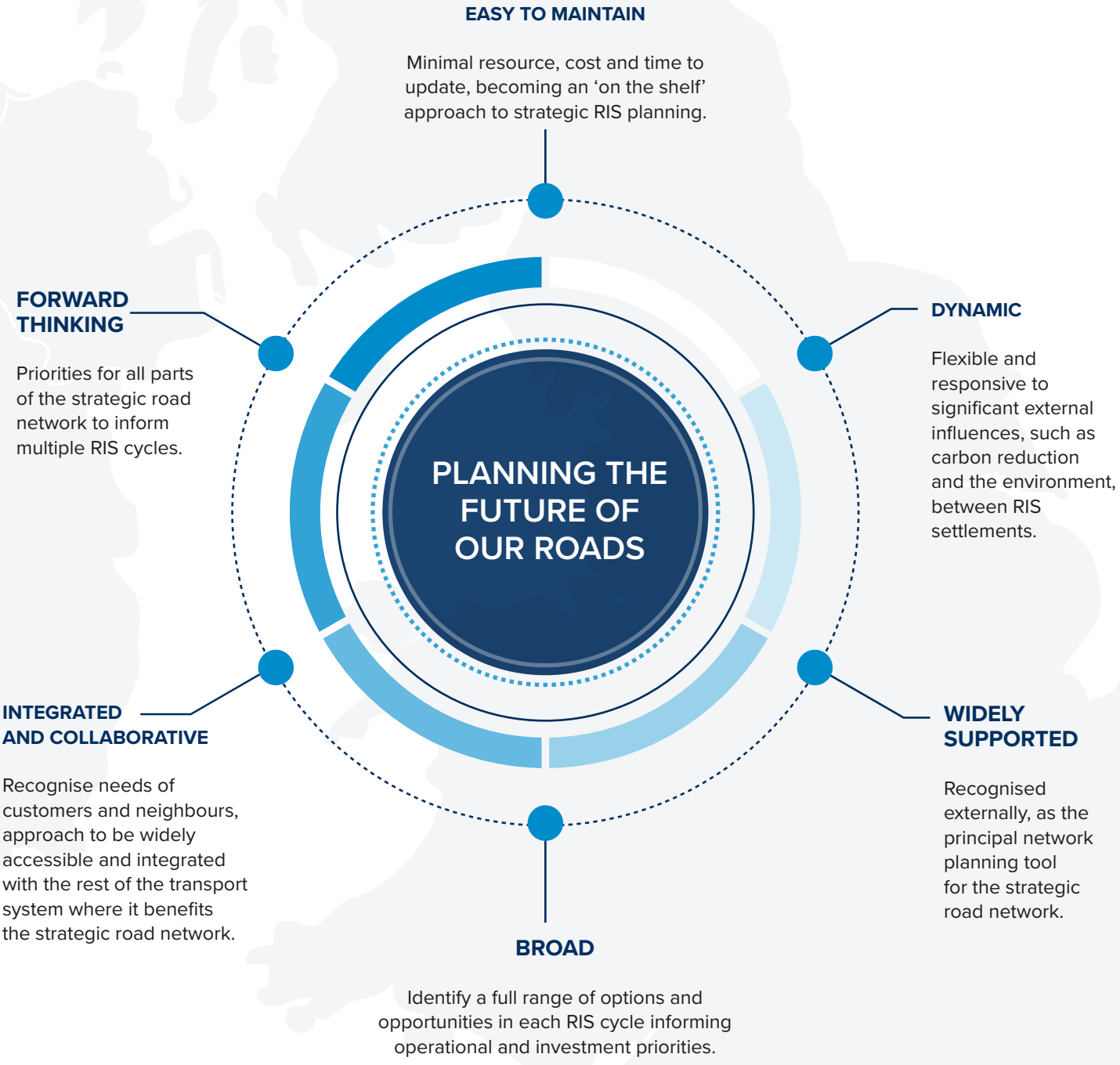


Figure 3: Our ambition for route strategies

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.

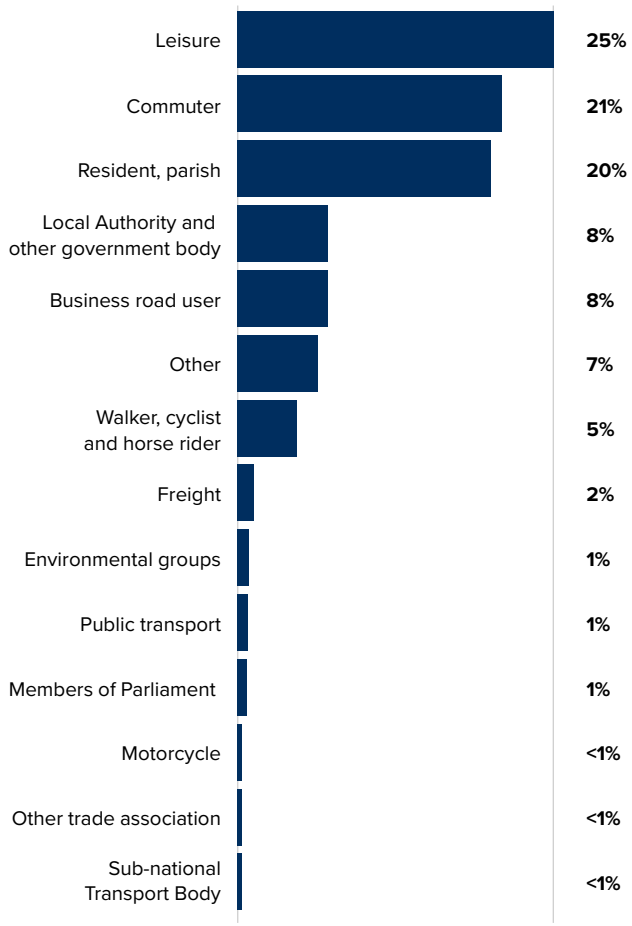


Figure 4: All responses to online tool by participant type

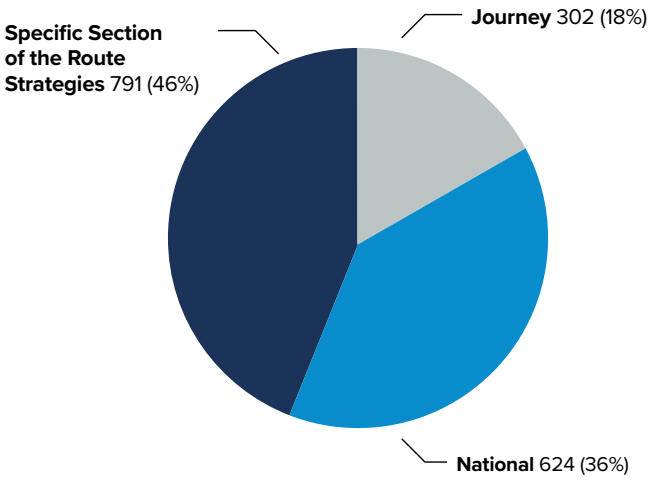


Figure 5: All response to online tool by type

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

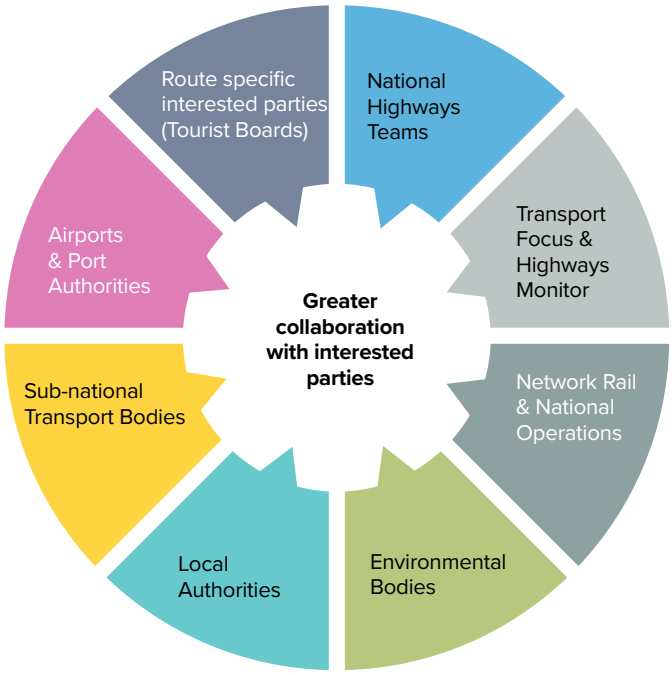


Figure 6: Interested parties involved in the route strategy engagement

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.

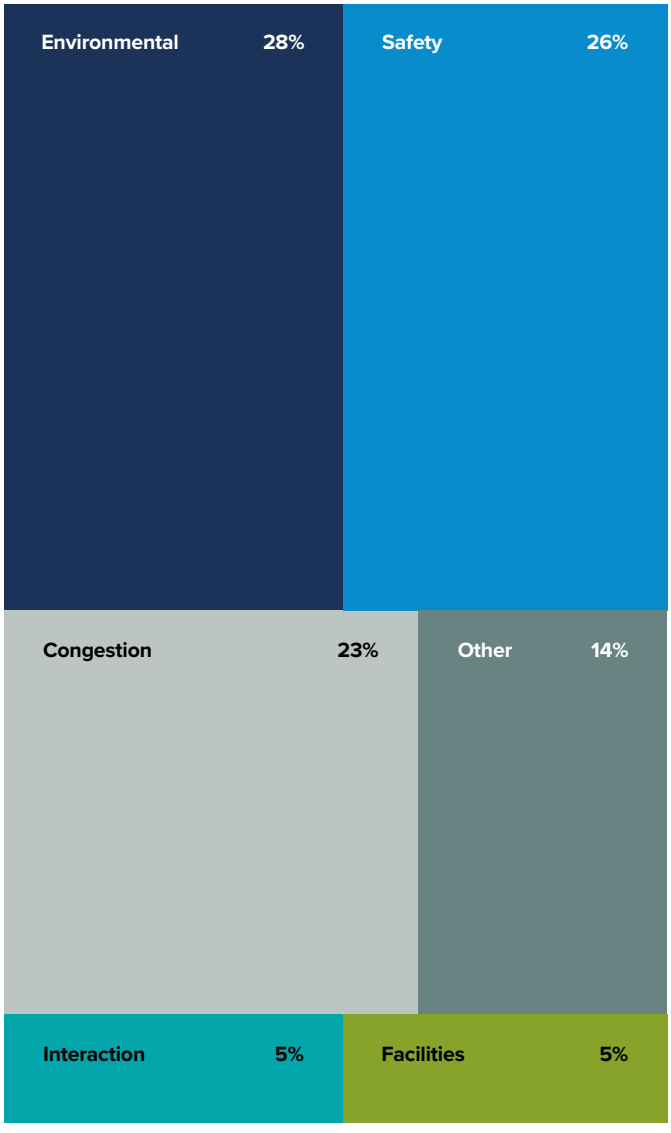


Figure 8: National themes from feedback through the online tool

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 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 (June 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 visa 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.

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 of travel, 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 & 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 Hendy, P. (November 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 appropriately 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.

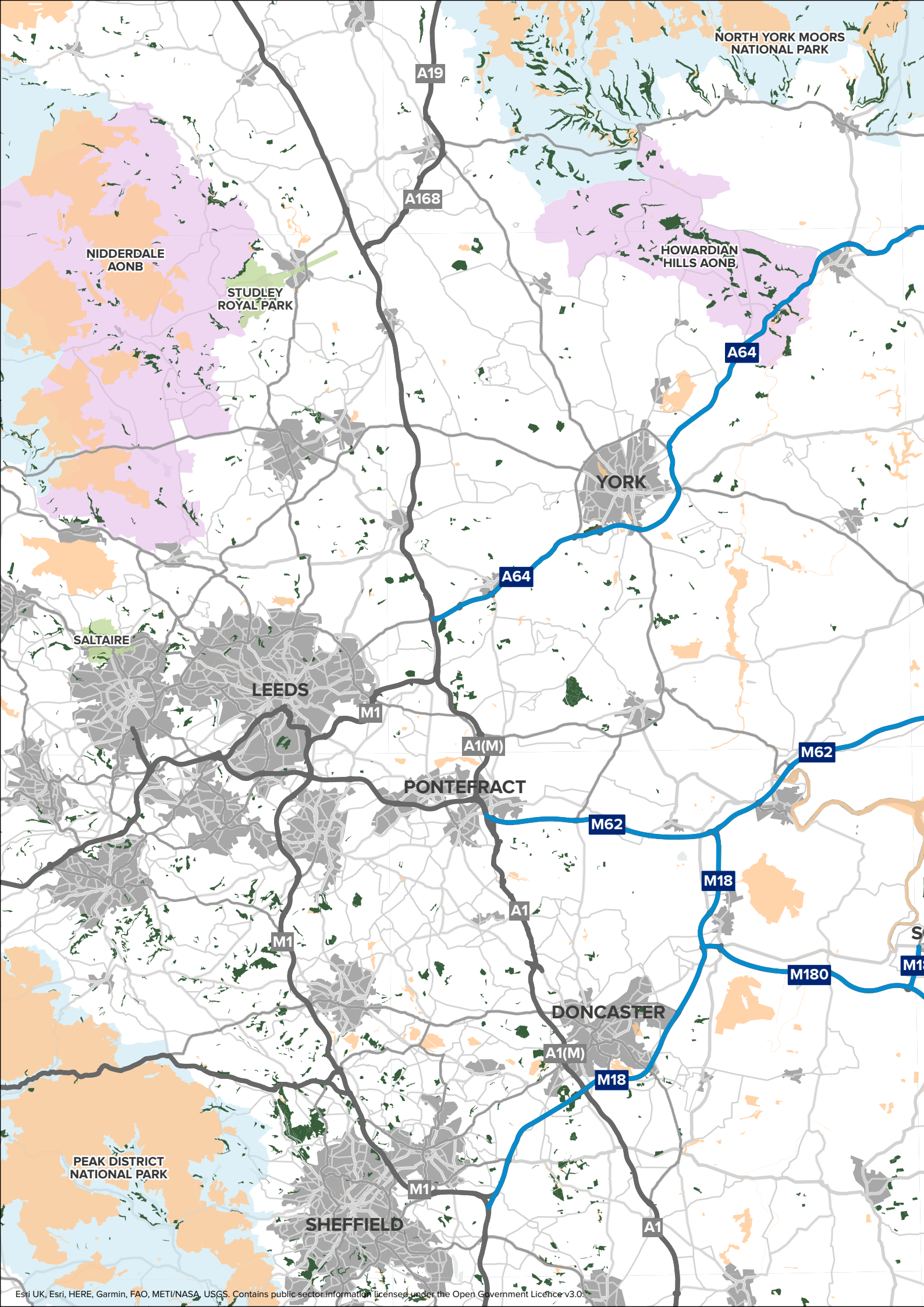
We know that good asset management is about understanding our customers and interested parties, identifying what they need and then using our assets effectively to deliver the right level of service. We are working to understand what satisfies our customers, and what we can do to influence this.

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: Our ambition 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 (2021) *Digital roads*. https://nationalhighways.co.uk/our-work/digital-data-and-technology/digital-roads/


NORTH YORK MOORS NATIONAL PARK
A19
A168
NIDDERDALE AONB
STUDLEY ROYAL PARK
HOWARDIAN HILLS AONB
A64
YORK
A64
SALTAIRE
LEEDS
M1
A1(M)
M62
PONTEFRACT
M62
M18
A1
M1
M180
DONCASTER
A1(M)
M18
PEAK DISTRICT NATIONAL PARK
M1
SHEFFIELD
A1
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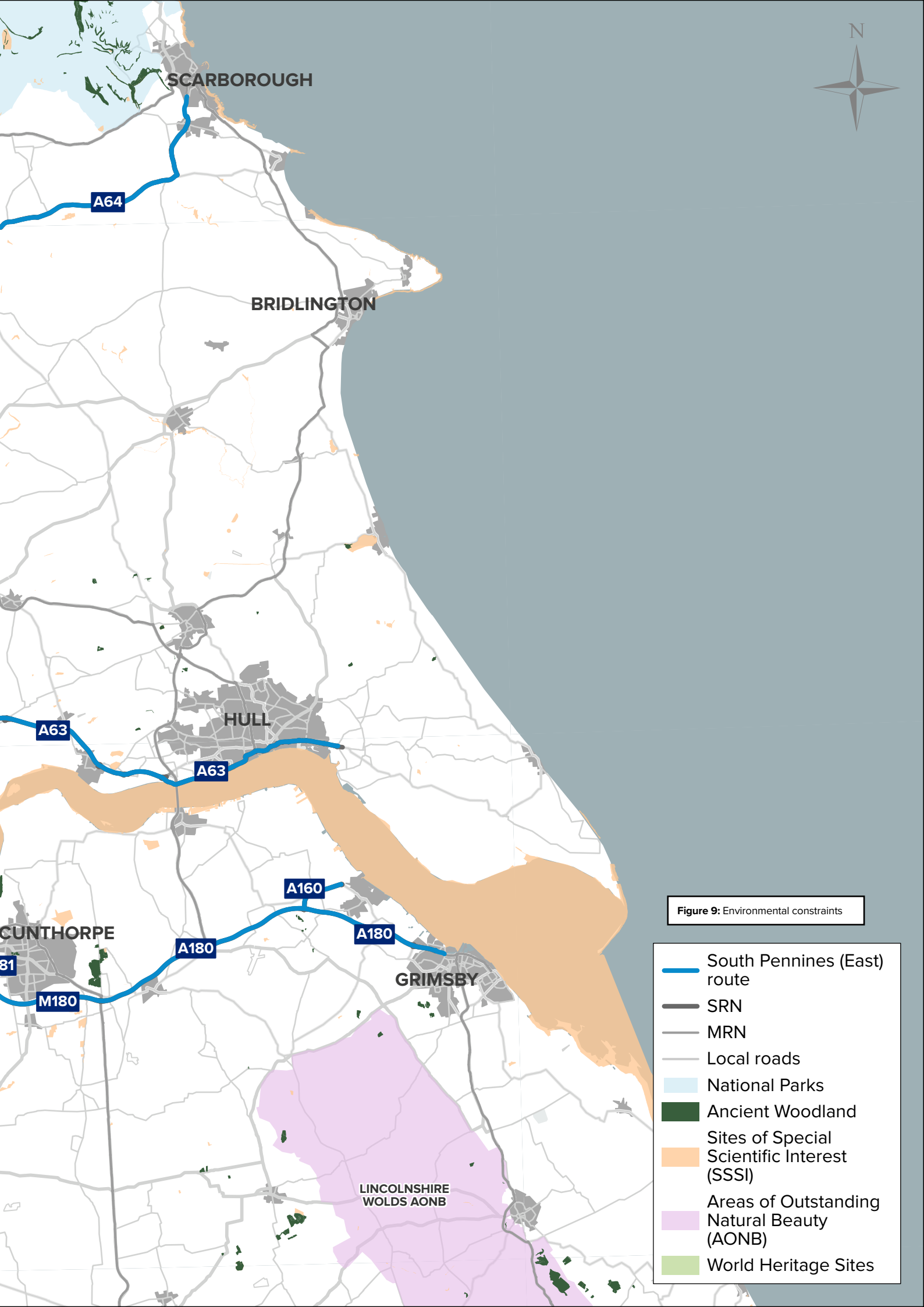


Figure 9: Environmental constraints

Our network connects the country

02 The route

The South Pennines (East) route serves a large area in the North of England. The route comprises approximately 163 miles of strategic road network (SRN), including part of the M62, M18, M180, M181, A63, A64, A160 and A180. It runs in an east-west direction, linking the A1 and the M1 to the east coast. The route mainly passes through rural areas, but in some parts passes close to urban centres, such as Hull.

To the west, the route joins the South Pennines (West) route through the continuation of the M62. The route adjoins the London to Scotland East (North) route and London to Leeds route in several locations. These routes provide north-south connections from the north of the country to London via the M1, the A1(M) and A1. The route also links international gateways, including Humberside Airport from the M180, and Hull Ferry Terminal from the A63. Doncaster Sheffield Airport announced its closure in September 2022 however the Gateway East development provides opportunity for growth in this area.

The South Pennines (East) route passes through the East Riding of Yorkshire, Doncaster, Selby, North Lincolnshire, North East Lincolnshire, Kingston upon Hull, Scarborough, Ryedale, and York, and provides access to the urban centres of Hull, Goole, Scunthorpe, Grimsby, York, and Scarborough.

The route area has an active economy with almost 880,000 jobs[15]. The biggest employers vary across the area, with tourism being the dominant sector in Scarborough and manufacturing being the dominant sector in Ryedale and North Lincolnshire. The SRN has an important role in sustaining and growing the local economy, helping to move goods from the manufacturing sector, and transporting people to tourist destinations.

Despite some economic strengths, much of the South Pennines (East) route falls within the Government's priority areas for levelling up. These include North East Lincolnshire, North Lincolnshire, Doncaster, Wakefield, Scarborough and Hull[16].

15 Office for National Statistics (2021) *NOMIS 2020, Region - Business Register and Employment Survey (BRES): open access.* https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=189

16 HM Government (2022) *Levelling Up in the United Kingdom - White Paper.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052708/Levelling_up_the_UK_white_paper.pdf

The SRN on the route is made up of both A-roads and motorways. These roads are inconsistent in terms of layout, providing varying levels of journey quality. The A63 is a dual carriageway, providing access to the Hull urban area and to the Port of Hull for freight transport. It performs a range of functions and caters for different types of journeys and users. Within Hull itself, the road functions as part of the local road network, with priority junctions and frequent crossings for local communities and cyclists. This brings freight traffic into conflict with pedestrian journeys and negatively impacts on road user experience. The A63 Castle Street improvement scheme, currently in the early stages of construction, is expected to improve access to the port, reduce congestion, enhance safety, and better connect the city centre with tourist and recreational facilities.

The M62 connects with the A63 and provides vital east-west connectivity with West Yorkshire, Greater Manchester, Liverpool City Region and Cheshire in the South Pennines (West) route area. It enables access to Hull and the East Riding of Yorkshire, connecting road users from other key north-south routes, such as the M18, A1(M) and M1. These interchanges are critical parts of the network and can cause disruption to road users making long-distance journeys if they are congested or closed.

The M18 connects with the M62 and M180, providing a connection with Doncaster and Goole, as well as to the M1 and A1's north-south connectivity, and the wider SRN. It is a key route for accessing the ports on the east coast, such as Hull, Immingham and Grimsby, from the south of the country. It also acts as a key route between the major South Yorkshire urban centres of Sheffield, Rotherham, and Doncaster. Several distribution centres near Doncaster are located along the M18, underpinning its importance in carrying freight, and providing access to employment for local people.

The M180, A180 and A160 corridor provides a key east-west connection for freight vehicles accessing the ports of Immingham, Hull and Grimsby. Combined, these ports handle 17% of the nation's imports and exports[17]. Immingham is the UK's largest port by tonnage and Hull is the UK's leading timber port and has a focus on the offshore wind sector[18]. The ports support 24,000 jobs and contribute significantly to the local and national economy. The Humber Freeport is anticipated to bring further growth and freight activity to the area.

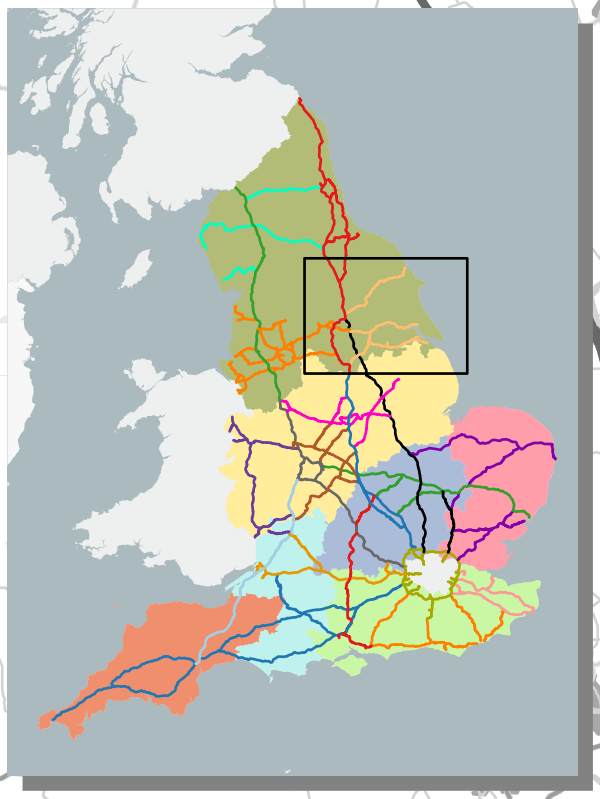
17 Humber Freeport 2022 https://www.greaterlincolnshirelep.co.uk/priorities-and-plans/game-changers/freeport/
18 Associated British Ports (2022) *Immingham:* https://www.abports.co.uk/locations/hull/

An important role of the route is to support the visitor economy in the North, which accounts for a substantial number of journeys on the transport network. There were over 420 million visitors to the North of England in 2019, with 150 million visits to Yorkshire and the Humber[19]. The A64 provides access to many tourist hubs, including York, Scarborough, and the wider east coast. York and Scarborough rank in the top five in the North for domestic overnight visitor spend. Much of the A64 north of York is single carriageway, so seasonal demand from July to September can cause disruption. This affects local communities and road users at critical times.

This route strategy is based on the road network as of the start of the second road period (2020–2025). During the first road period (2015-2020), the A160 and A180 Port of Immingham Improvement was opened to traffic, in 2017. This scheme aimed to provide better access to the Port of Immingham and the surrounding area.

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.

19 Transport for the North (2021) *Visitor Economy and Transport in the North of England.* https://transportforthenorth.com/reports/visitor-economy-and-transport-in-the-north-of-england-final-report/



A19
A168
A64
YORK
A64
LEEDS
M1
A1(M)
M62
PONTEFRACT
M62
M18
A1
M1
M180
DONCASTER
A1(M)
M18
M1
SHEFFIELD
A1

Figure 10: The route

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 South Pennines (East) 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 South Pennines (East) 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 South Pennines (East) 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 South Pennines (East) 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 South Pennines (East) route to inform our route objectives. The themes have been aligned with the DfT's six strategic objectives:

i) Improving safety for all

- Issues were highlighted with access points, junctions, crossing points, inconsistent network layout, and severance, all leading to high collision rates along the A64 and M62

ii) Network performance

- Congestion on the SRN, particularly along the A64 and M18, was raised as impacting the reliability of the network. There was concern that congestion is likely to affect strategic journey times, deterring outside investment and dissuading people from visiting the area
- Seasonal traffic along the A64 was highlighted as a cause of delay and was said to be discouraging tourism
- A lack of suitable Diversion Routes for Unplanned Events (DRUEs) around the SRN was highlighted as a cause of traffic diverting through smaller towns and villages, such as Malton, North Ferriby, Knottingley, Habrough and Hatfield

iii) Improved environmental outcomes

- A lack of network resilience was highlighted when weather events occur, particularly flooding resulting in the closure of roads such as the A64 and M180
- The importance of addressing air quality issues was raised, with several Air Quality Management Areas in the route area, including in Malton, Scunthorpe and Hull
- Noise complaints have been received in locations such as the A63, M62 Junction 24 and A180

iv) Growing the economy

- The importance of freight vehicles using the SRN was highlighted, particularly on the M180 and M18 corridor, in order to access ports and distribution centres
- Capacity constraints and limited driver facilities for HGVs were raised as a current issue, with unreliable journey times impacting on delivery efficiency
- The Humber Freeport is anticipated to bring further growth and has the potential to generate more freight activity

v) Managing and planning the SRN for the future

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

vi) Technology-enabled network

- There is a current lack of technology on the route to support road users with electric vehicles, particularly on rural sections of the A64, M180 and A180 corridor, and M62
- There is a lack of real time traffic and diversion information, and technology to communicate with road users

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

Engagement quotes from customers and neighbours

M62 and A63:

- "There are congestion issues on the eastern end of M62 and A63 corridor, including access to the Greenport facilities on the Humber and safety issues." (Route strategies engagement)
- "We're concerned about future flooding risk and sea level rises at eastern end of M62 and A63 corridor." (Route strategies engagement)
- "Smart motorways felt like things were moving and accidents were being made clear to drivers" (Transport Focus, SRUS)
- "The traffic flow had no delays, the roads were free from debris, clearly marked, smooth road surface" (Transport Focus, SRUS)
- "Traffic was heavy but moving well, this part of the road system is in a good state of repair" (Transport Focus, SRUS)
- "Minimal traffic and lots of lanes for overtaking and maintaining distance throughout the journey. Clear signage to Leeds." (Transport Focus, SRUS)
- "On a Saturday morning traffic is fairly light on that part of the A63 so I was able to reach my destination in good time." (Transport Focus, SRUS)

M18:

- "There's widespread congestion on the M18 to A1(M); the junction layout of the M18 Junction 5 means vehicles wait and tail back onto the motorway." (Route strategies engagement)
- "Traffic flowing freely. No potholes or ruts in the slow lane" (Transport Focus, SRUS)

M180:

- "From Junction 5 to Brocklesby Interchange on the M180, it can be slow moving when it narrows to two lanes. The Freeport, South Humber Bank and port developments have the potential to generate even more heavy goods vehicles and compound the problem." (Route strategies engagement)
- "No traffic issues, smooth, quality road surface." (Transport Focus, SRUS)
- "It was fairly quiet on the roads and is a good road with no potholes or any other problems" (Transport Focus, SRUS))

A64:

- "There's a lack of journey time reliability on the A64, which also has big impact on reliability of public transport (e.g. Coastliner service) with potential knock impact on people being willing to use this service & impacts on tourism." (Route strategies engagement)
- "The A64 experiences bottlenecks and junctions interrupt traffic flow, particularly: Hopgrove to Jinnah, and Crambeck to Malton. These issues happen all year round, not just high tourism season." (Route strategies engagement)
- "There's a lack of pedestrian and cycle paths along sections of road (e.g. Crambeck-Malton), and a need to upgrade existing paths (Norton–Rillington). The strategic road network is effectively a barrier to active & sustainable travel choices." (Route strategies engagement)
- "Safety & journey time reliability impacts of number of junctions & resulting stop-start nature of traffic." (Route strategies engagement)
- "Road was fairly quiet and reasonable order" (Transport Focus, SRUS)

Figure 11: Quotes from customers and neighbours

Route satisfaction

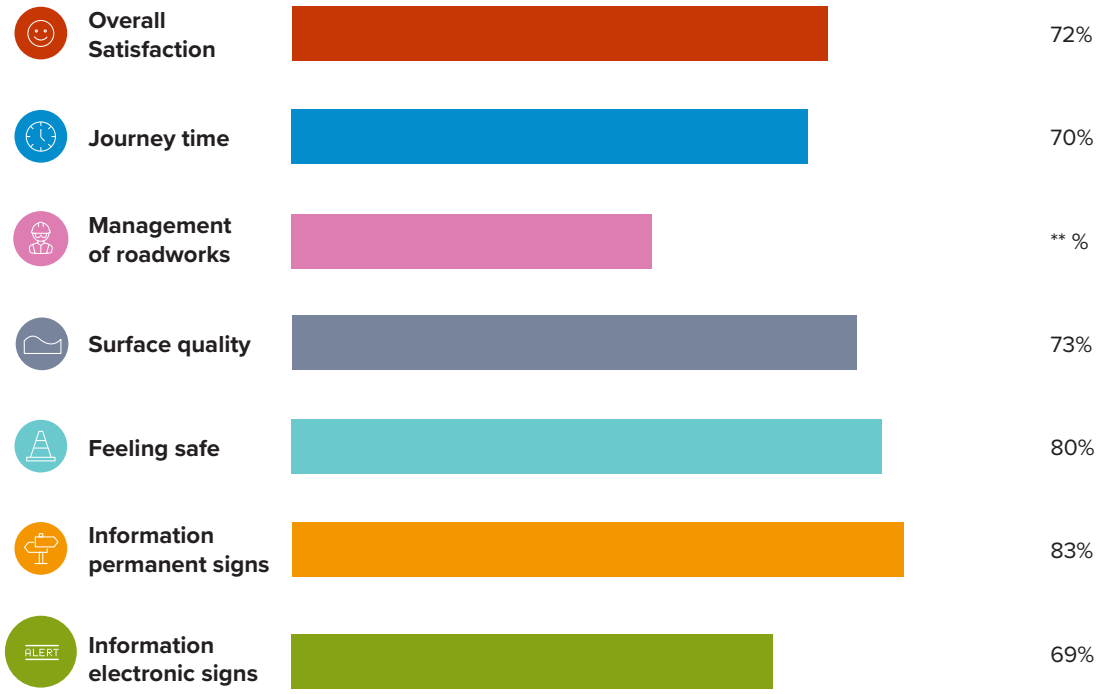
Satisfaction scores have been obtained from Transport Focus through their Strategic Roads User Satisfaction Survey from the last 12 months to May 2022. It covers the roads in this route but it should be noted that the satisfaction scores may not fully align with the extent of the roads in the route. 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



Individual road M18, M62, M180, A63, A64, A180, A1033

Last 12 months* ** May 2022 (last 12 months)

** result hidden as less than 75 responses

*** 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/


highways england
Delivering in partnership with
Balfour Beatty
home
safe
and well

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.

22 Department for Transport (2020) *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

At a more local level we also work with local authorities, who are the highway authorities for local roads, including those on the MRN. 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 seamless customer journeys. The local authority planning teams 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 pertinent to the South Pennines (East) route are summarised below:

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.

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 (December 2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021/

East Coast-Scotland, improving rail reliability, speed and reach along the East Coast Main Line and other key lines to provide enhanced strategic and local connectivity in the North East, the north of Tyne, Tees Valley, Sheffield City Region, City of York, and North Yorkshire, as well as onward connections into Scotland.

Yorkshire-Scotland, building on existing road investment commitments to further strengthen road connectivity between the Midlands, Sheffield City Region, East Riding, West Yorkshire, North Yorkshire, Tees Valley, the North East, the North of Tyne, and Scotland.

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 two schemes located within the South Pennines (East) Route: the A1237 Dualling (Phase 2) near York and A1079 Improvement Scheme near Wilberfoss. The schemes are ready to be taken forward into construction in the period 2022-2024, with the A1237 scheme granted £70 million funding in September 2021.

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*[29]. This report draws on evidence and policy in TfN's Strategic transport plan[30], work on future travel scenarios, the Transport decarbonisation strategy and *Freight and logistics strategy*[31]. It represents a position statement.

28 Transport for the North (2021) *Transport Decarbonisation Strategy.* https://transportforthenorth.com/decarbonisation/
29 Transport for the North (2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021
30 Transport for the North (2019) *Strategic Transport Plan.* https://transportforthenorth com/wp-content/uploads/TfN-final-strategic-transport-plan-2019.pdf
31 Transport for the North (2021) *Draft Freight and Logistics Strategy* https://transportforthenorth.com/wp-content/uploads/Freight-Strategy-Master-Consultation-version-v0.1.pdf

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.

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.

Within the South Pennines (East) route area, the MRN provides connections to towns in East Riding, such as Beverley, Bridlington, Market Weighton, Pocklington and Driffield. Several A-roads in the MRN connect to the SRN, including the A15 Humber Bridge connecting the A63 with A180. Sections of the A18 and A1029 surrounding Scunthorpe Town Centre also form part of the MRN.

Within this area there are two established Mayoral Combined Authorities (MCA): South Yorkshire and West Yorkshire. As part of the Government's City Region Sustainable Transport Settlements fund, both authorities have been allocated a share of the £5.7 billion fund for local transport improvements[32]. Some of these schemes may interact with the SRN, and we will work with the relevant authorities to ensure they do so effectively. Further devolution deals are planned in North Yorkshire and county deals are expected in Hull and East Riding.

32 UK Government (2021) *City Region Sustainable Transport Settlements: confirmed allocations*. https://www.gov.uk/government/publications/city-region-sustainable-transport-settlements-confirmed-delivery-plans-and-funding-allocations

Freight and logistics

The future of freight: *A long-term plan (DfT June 2022)*[33] 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[34]. Prior to the impact of Covid-19 there were 7.4 million jobs in the region[35]. The North of England contributes over £364 billion GVA towards the UK economy[36].

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 region a strong freight capability across transport modes. Relevant to this route, these assets include:

- key freight ports at Immingham and Hull, as well as more minor ports in Goole, Grimsby and Scarborough
- Humberside Airport, where there are plans to expand freight capacity
- a strategic rail network comprised of the East Coast Main Line and trans-Pennine Line
- several freight distribution centres near Doncaster, Howden, Hull and York

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.

Our engagement with interested parties highlighted that the M18, A63 and M180 are key to east-west freight journeys and that there is currently a lack of facilities and infrastructure for freight drivers.

33 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
34 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
35 Office for National Statistics (May 2021) *Labour Force Survey (Jan-Mar 2020).* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/headlinelabourforcesurveyindicatorsforallregionshi00
36 Office for National Statistics (2021) *Regional Gross Value Added (balanced) by industry: all ITL regions.* https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry

In terms of current provision for lorry and coach parking, this is generally at a low level along much of the South Pennines (East) route. A shortage of parking facilities can lead to unsafe and informal parking as well as non-compliance with mandatory breaks and rests[37]. The National planning policy framework states that provision of adequate lorry parking and recognising local shortages is important to reduce the risk of them parking in inappropriate locations without suitable facilities[38]. The Department for Transport's 2017 *National survey of lorry parking*[39] showed that Yorkshire and the Humber utilises 70-84% of its on-site lorry parking facilities. This figure is continuing to grow and likely to reach a "critical" level of utilisation (over 85%) by 2024, making it very difficult for drivers to find parking spaces. Providing drivers with suitable facilities is important to improving driver morale, perception and road safety. For the Yorkshire & Humber region, it was estimated that 20% of practical additional spaces are needed, equivalent to 142 lorry parking spaces. The survey defines a lorry park being, in practice, full at 85% capacity due to the size and positioning of vehicles and difficulty manoeuvring.

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.

37 Department for Transport (2022) *The Strategic Road Network and the delivery of sustainable development.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1093964/circular-02-2013-update.pdf
38 Ministry of Housing, Communities & Local Government (2021) *National Planning Policy Framework.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf
39 Department for Transport, Aecom (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

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.

The Network Rail Delivery plan for 2019-2024[40] 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 local customers and stakeholders, more quickly than if such decisions were to be made at a national level.

The national rail network in the South Pennines (East) includes the TransPennine Express from York to Scarborough via Malton, the Yorkshire Coast Line from Scarborough to Hull via key stations such as Bridlington and Beverley, Hull to Leeds via Selby or Goole, and Grimsby to Doncaster via Scunthorpe.

The key stations are:

- York
- Hull
- Scarborough
- Selby
- Scunthorpe

The Trans-Pennine Line is a key freight route that connects Immingham to the Port of Liverpool. There is also a freight rail route connecting Hull and Selby to this route. Selby is identified as a strategic rail freight interchange.

Our interested parties highlighted that there is currently a lack of coherence between planning on the SRN and other modes, such as the rail network, discouraging transfer to more sustainable modes of transport.

The Network Rail Eastern regional strategic plan[41] sets a vision to get people and goods to where they need to be, while supporting the country's prosperity. Key improvements include the trans-Pennine route upgrade between Manchester and York, aimed at improving capacity and journey times.

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.

40 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/

41 Network Rail (2021) *Eastern Regional Strategic Plan.* https://www.networkrail.co.uk/wp-content/uploads/2021/05/Eastern-Strategic-Plan.pdf

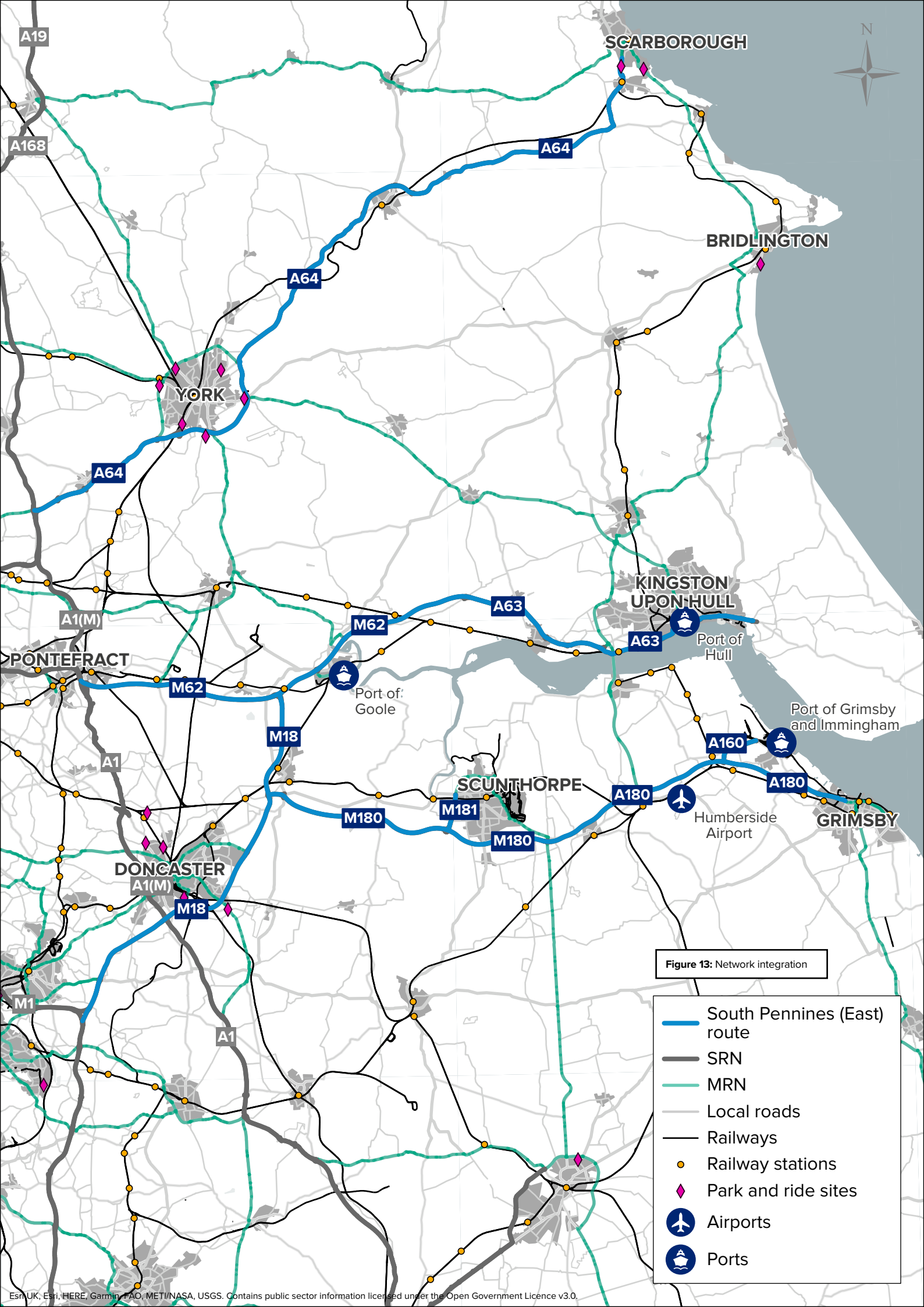


Figure 13: Network integration

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[42] 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.

There are no direct connections to Scotland or Wales on the South Pennines (East) route, but the route plays a key role in providing east-west connectivity to the South Pennines (West) route and onward to Wales, as well as connecting to Humberside Airport which provides connectivity to devolved nations.

Efficient supply chains are crucial in delivering economic growth and attracting investment to the UK. Freight connectivity is an essential part of the successful operation of supply chains. The South Pennines (East) route supports the movement of goods to freight hubs in Wakefield, Doncaster, and the region's ports and airports.

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.

The South Pennines (East) route provides connectivity to international ports, Freeports and distribution centres, as well as Humberside Airport. The M180 and A180 corridor and M62 and A63 corridor provide vital east-west connections to international ports within the route area, and onward east-west connections to Leeds, Manchester, and the wider SRN. The number of freight journeys is high on most of the route and is expected to increase as the Freeport sites expand.

42 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, the latest available data shows that the following sections of the route have iRAP star ratings of 1 or 2:

- A64 Hopgrove to Flaxton
- A64 Welburn to Musley Bank
- A64 Malton to Ganton
- A64 Staxton to Crossgates
- A63 Hull
- A160 Immingham

On the A63 in Hull, we will monitor collision statistics once the A63 Castle Street improvement scheme, which is currently under construction, is completed. On the A160 at Immingham, we will monitor collision statistics once the A160 and A180 Port of Immingham improvement scheme is reflected in the data.

As shown in Figure 15, there are notable sections of the route where people have been killed or seriously injured, including:

- A64 Hopgrove to Flaxton
- A64 Rillington to Sherburn
- M62 Knottingley to Eggborough
- M62 Goole to Howden
- A180 between M180 Junction 5 and the A160 junction

On the A180, we will monitor the impact of the A160 and A180 Port of Immingham improvement scheme.

Based on the STATS19 data, there are also several collisions involving walkers, cyclists or horse riders which have occurred along the A64 from Welburn to Musley Bank.

Using the latest RSF Crash Risk Map data, we found the route experiences collisions involving walkers, cyclists or horse riders (WCH), particularly along the A63 as it passes through Hull.

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

Our interested parties raised concerns associated with improving safety, particularly where the route passes near or through rural settlements. An example raised was Heslerton, where there are several uncontrolled junctions and crossing points coupled with high volumes of traffic travelling at over 50mph. This is reflected in the 1 or 2 iRAP star rating of the A64 Malton to Ganton section, and the A64 Rillington to Sherburn section highlighted in the STATS19 data. Our interested parties also flagged that disruption and congestion caused by collisions can contribute to vehicles rerouting along narrow rural routes. This was a particular issue in Ryedale, in places such as Malton.

Key challenges

- A proportion of the route is rated 1 or 2 stars in terms of its iRAP rating
- There are concentrations of collisions at certain sections of the A64 and M62
- There are safety issues where vehicles use non-approved diversion routes, which pass through communities that are less able to accommodate increased traffic, such as Heslerton and Malton
- Collisions involving walkers, cyclists and horse riders have occurred, most notably along the A64 from Welburn to Musley Bank

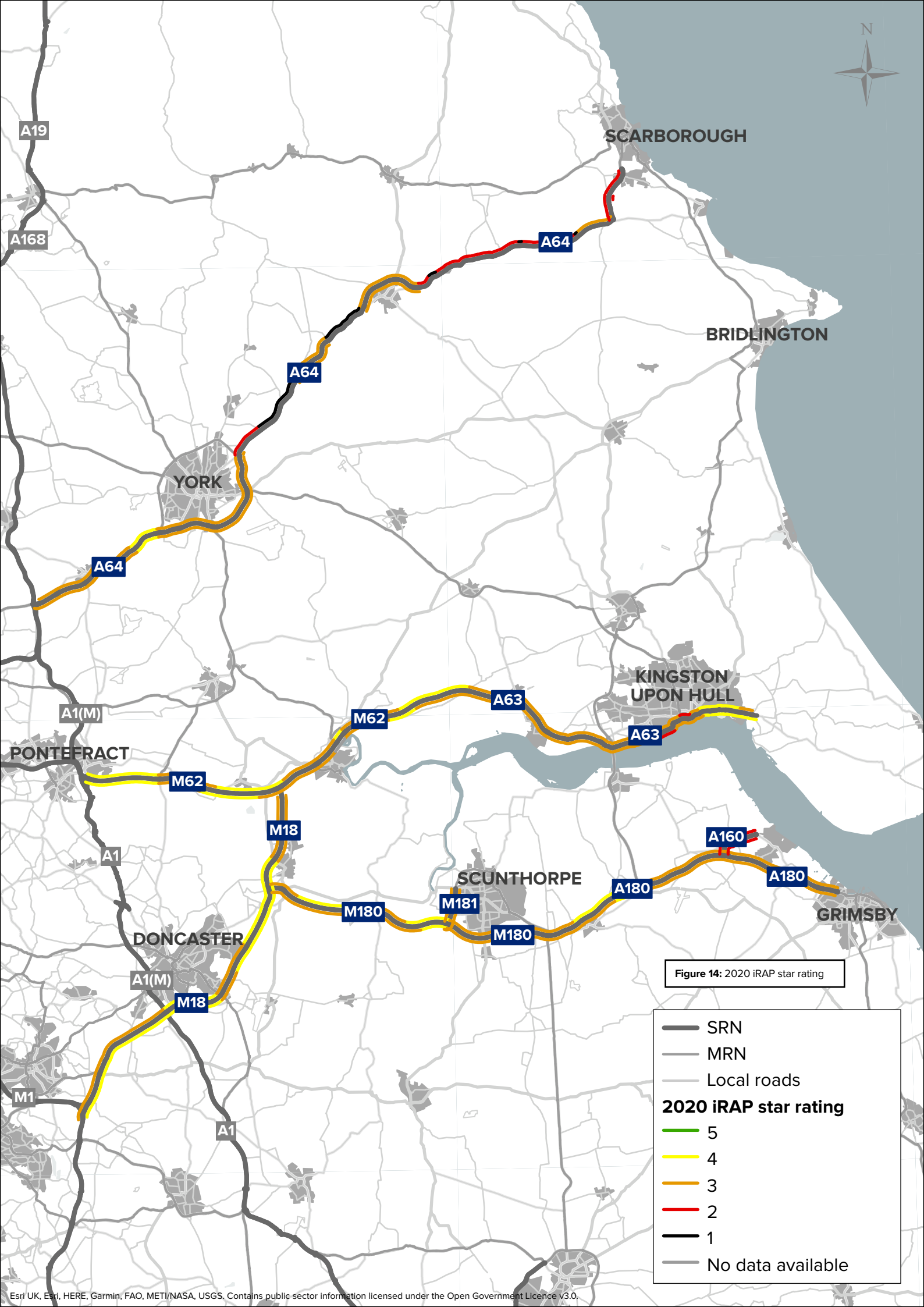


Figure 14: 2020 iRAP star rating

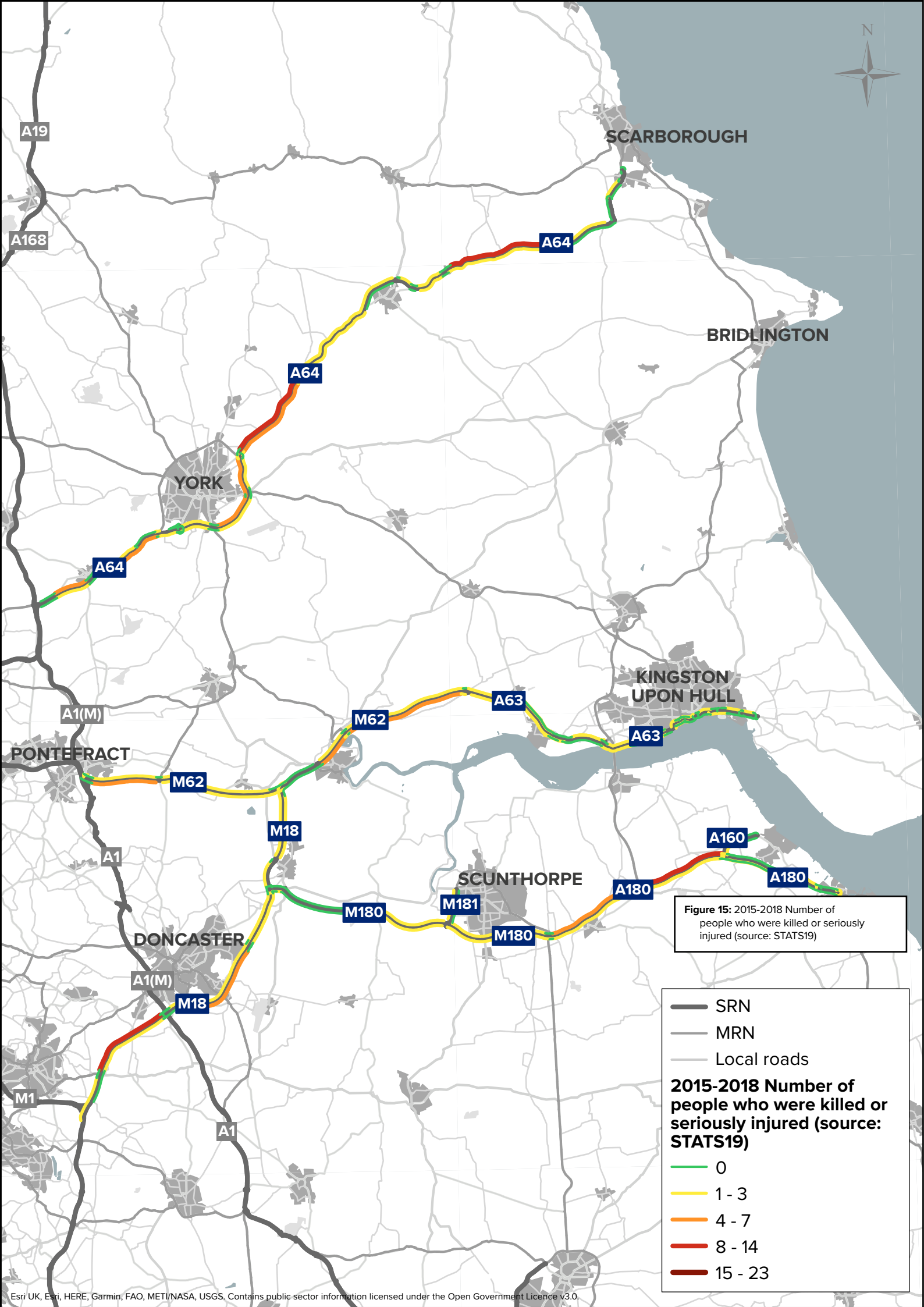


Figure 15: 2015-2018 Number of people who were killed or seriously injured (source: STATS19)

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 South Pennines (East) 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.

As shown in Figure 16, there are several parts of the route which experience notable average delays in the morning peak period:

- A63 Hull (up to 97 seconds per vehicle per mile)
- A64 Hopgrove (up to 57 seconds per vehicle per mile)
- A160 Immingham (up to 50 seconds per vehicle per mile)
- A180 in Grimsby (up to 24 seconds per vehicle per mile)
- M62 Junction 33 to 34 (up to 12 seconds per vehicle per mile)

On the A63 in Hull, we will monitor levels of delay once the A63 Castle Street improvement scheme, which is currently under construction, is completed. On the A160 at Immingham, we will monitor levels of delay once the A160 and A180 Port of Immingham Improvement is reflected in the data.

Our interested parties highlighted concerns about delays on the A64, adding that seasonal tourist traffic heading for York and the east coast can add to congestion. This is reflected in the data. The following parts of the route experience delays of over 15 seconds per vehicle per mile higher during the Friday afternoon peak period compared to free-flowing conditions:

- A64 Hopgrove to Flaxton
- A64 Malton to Rillington (north-eastbound only)
- A63 Hull

On the A63 in Hull, we will monitor the impact of the A63 Castle Street improvement scheme upon completion.

These seasonal delays affect the ability of the visitor economy to grow, both in York and areas on the east coast along the A64. Our interested parties have highlighted that congestion and delay on the network encourages traffic to divert into rural locations away from the SRN, particularly on the A64 in Ryedale, which impacts on the safety and environment of places such as Malton.

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.

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.

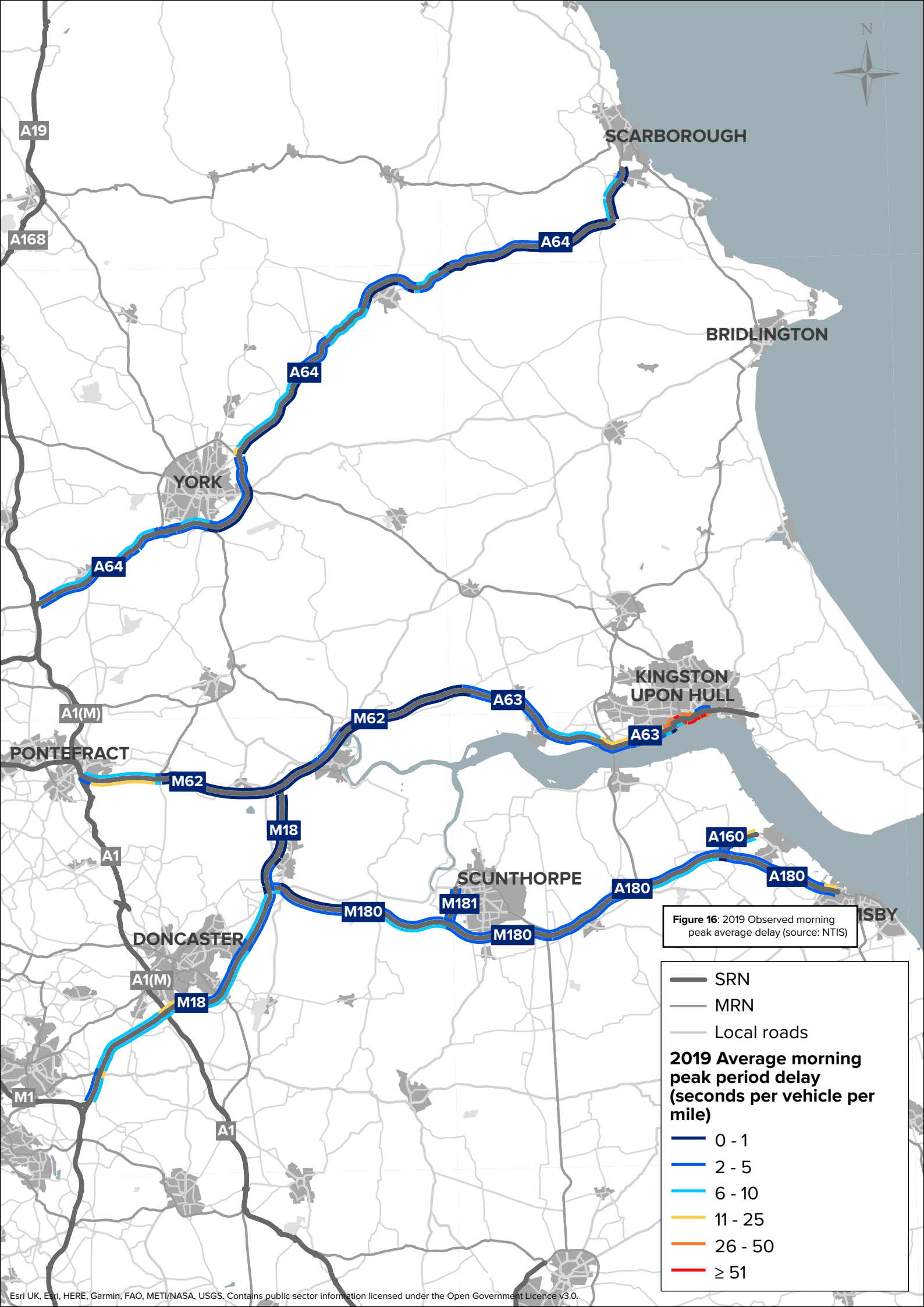


Figure 16: 2019 Observed morning peak average delay (source: NTIS)

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.

Considering the projected growth in traffic in future years with proposed housing and employment developments, the route is expected to experience additional delays by 2031. As shown in Figure 17, these delays are expected to affect the following route sections:

- A64 Staxton to Seamer
- A64 Flaxton to Welburn
- A63 Hull
- M18 east of Rotherham

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

Key challenges

- There are several parts of the route which currently experience notable average peak period delays, particularly along the A64 and A63
- Seasonal delay occurs on the route, particularly along the A64, and is likely to have an impact on the visitor economy
- An increase in traffic on the route arising from future housing and employment growth is expected to result in additional delays, particularly on sections of the A64, the A63 near Hull, and the M18 east of Rotherham

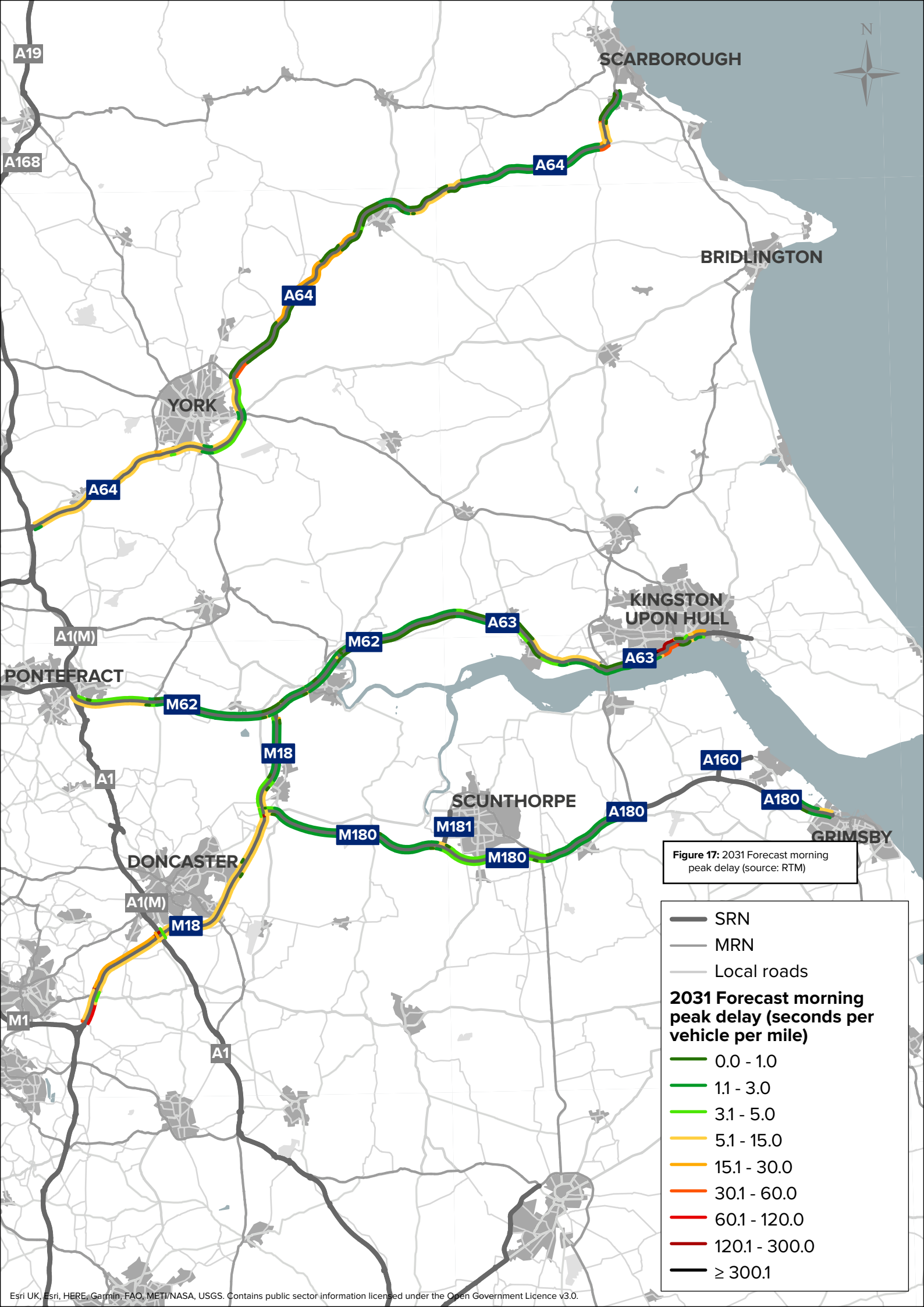


Figure 17: 2031 Forecast morning peak delay (source: RTM)

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*[43] 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[44], 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 South Pennines (East) area. In the future, we will also 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).

Given that air pollution is the top environmental risk to health in the UK and the fourth greatest threat to health overall[45], poor air quality can negatively impact the health and well-being of road users and residents in areas across the South Pennines (East) route area. In terms of air quality, there are receptors within 100 metres of the SRN which may be more likely to experience adverse air quality impacts, including:

- A64 Rillington to Sherburn
- A64 Westbound near Malton
- A63 South Cave to Hessle
- M18 east of Doncaster

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.

43 National Highways, *Net zero highways: our 2030 / 2040 / 2050 plan.* https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf
44 Climate Change Committee (2021) *Independent Assessment of UK Climate Risk.* https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/
45 DEFRA (2019) *Clean Air Strategy.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf

Several local authorities served by the route have declared climate emergencies, including Hull, Scarborough, York, Doncaster and East Riding of Yorkshire. Each has acknowledged that they need to act on the causes and impacts of climate change.

A number of these areas contain designated Air Quality Management Areas (AQMAs). These are areas unlikely to achieve the national air quality objectives based on the issues and constraints identified. Hull AQMA directly covers part of the route, yet there are several AQMAs located adjacent to the route, such as Scunthorpe, York and Malton, through which traffic leaving or joining the route travels. The City of York has also announced proposals for a clean air zone, which is expected to encourage the use of low emission vehicles.

Noise exposure has an adverse effect on human health and quality of life, as well as having implications on economic prosperity and the natural environment. This demonstrates the importance of addressing the management of noise issues and effects on road users and residents from the road network. There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, particularly around the M18 and A63.

The rural nature of the route means the SRN passes through several environmentally protected areas. These include the Humber Estuary Special Area of Conservation near the M62, and several heritage and conservation sites adjacent to the A64, most notably the Howardian Hills Area of Outstanding Natural Beauty (AONB) between Barton Hill and Malton. There are also 48 listed buildings within 100m of the A64 through Ryedale. This represents more than 50% of all the listed buildings that can be accessed from the South Pennines (East) network.

Other environmental considerations include the risk of flooding from surface water. The low-lying topography of much of this area heightens the flood risks across this route. Areas at heightened risk of flooding from surface water include:

- A180 east of Immingham
- M18 and M180 west of Scunthorpe
- A63 South Cave to A1033 Port of Hull
- A64 Tadcaster to Askham Bryan
- A64 Brambling Fields to Staxton
- A64 Seamer

This risk of flooding from surface water is likely to increase in the future due to the effects of climate change. Flooding has potential to cause operational issues on the route, such as closures to the SRN, its associated Diversion Routes for Unplanned Events (DRUEs), and other local roads.

Our interested parties also highlighted the impact of vehicles being diverted away from the SRN via non-approved routes onto rural parts of the network near Malton in Ryedale and raised the issue of severance of active travel routes caused by the SRN when accessing key centres such as York, Malton and Hull. The Department for Transport's Propensity to Cycle Tool[46] highlights the potential demand for active modes to access local centres such as York to Dunnington and Copmanthorpe, Malton to Swinton, Hull to Hessle, Howden, Hook and Airmyn to Goole and Brigg to Broughton. However, evidence suggests that current uptake for cycling is around 5% in most of these communities.

46 Propensity to Cycle Tool. https://www.pct.bike/

Key challenges

- There are receptors within 100 metres of the SRN which may be more likely to experience adverse air quality impacts, including Malton and Rillington to Sherburn on the A64, South Cave to Hessle on the A63, and east of Doncaster on the M18
- Climate emergencies have been declared by local authorities within the South Pennines (East) route area, with a number having AQMAs. The City of York has also proposed a clean air zone
- There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels, particularly around the M18 and A63
- There are environmental designations and heritage sites within the South Pennines (East) route area, such as the Howardian Hills AONB adjacent to the A64 and Humber Estuary Special Area of Conservation near the M62
- Our interested parties raised the issue of severance, which can discourage the use of active modes to access local centres, despite potential demand
- Parts of the route are at risk of flooding from surface water, including sections of the M18, M180, A180, A63 and A64
- 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

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

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 economy in the South Pennines (East) route area is oriented around the manufacturing, freight and tourism sectors. In combination with South Pennines (West), the route facilitates east–west travel across the North of England. It has a critical economic function in supporting levelling up, and the priorities of Transport for the North (TfN).

The M62, A63 and M180 are vital for access to the Humber ports and distribution centres, as well as providing connectivity into key north-south routes on the A1 and M1. The route's strategic location has the potential to support a growing freight and logistics industry, with large logistics hubs in Doncaster and expansion being sought through the Humber Freeport.

The Humber Freeport has the potential to lead to a large amount of development and increased freight activity across the route. It will include sites at the Ports of Hull, Immingham, and Grimsby, as well as in Scunthorpe and Goole, which would generate freight traffic on the A160, A180, M180, M18, M62 and A63.

Additional freight distribution sites are also planned near the A1(M)/M18 intersection near Doncaster. The existing sites are already nationally significant, contributing over £1 billion to the UK economy, handling over 50 million tonnes of cargo, and supporting over 20,000 jobs[47]. Recent labour market statistics from the Office for National Statistics also observed growth in the logistics sector across the route over the past ten years. This is most pronounced in Doncaster, where logistics accounts for 13% of all businesses in 2021 (compared to 5% in 2010)[48].

> The SRN has a critical economic function in supporting national and cross border connectivity and areas with high levels of deprivation

Humberside Airport handles 80 tonnes of cargo[49], but has plans to expand its freight capacity. This has the potential to generate additional freight traffic on the M18 and M180 and the wider SRN.

Based on our modelling of the current network, heavy goods vehicles (HGVs) associated with the freight, logistics and manufacturing sectors account for more than 30% of traffic flows on the A160 in Immingham, M180 between Thorne and Scunthorpe, and the M18 east of Doncaster. Our interested parties highlighted that the number of HGVs on the network is expected to increase with the Freeport developments.

Outside of the large Freeport development proposals, other strategic developments include the Grimsby West urban extension close to the A180, Humberside Airport expansion near the M180, and a strategic housing site near the A64 in York.

The visitor economy also supports regional growth. York is one of the top 10 city attractions in the North of England for domestic and international visitors (pre-COVID-19 pandemic)[50]. In 2019, international day visitors to York spent £7.7 million, the largest amount of any city in the North of England. Domestic visitors spent £543 million in York in 2019, and £567 million on the east coast.

47 Business Doncaster (2022) *Logistics.* https://www.businessdoncaster.co.uk/key-sectors/logistics/
48 Office of National Statistics (2021) *Interdepartmental Business Register.* https://www.ons.gov.uk/aboutus/whatwedo/paidservices/interdepartmentalbusinessregisteridbr
49 Civil Aviation Authority (2021) *Airport related statistics for 2021.* https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2021/annual-2021/
50 Transport for the North (2021) *Visitor Economy and Transport in the North of England.* https://transportforthenorth.com/reports/visitor-economy-and-transport-in-the-north-of-england-final-report/

According to visitor numbers, other key attractions in the area include Castle Howard via the A64 and The Deep in Hull via the A63. The area also benefits from several outdoor attractions, including the North York Moors National Park and the Howardian Hills Area of Outstanding Natural Beauty, located near the A64.

Growing both the freight and tourism sectors will contribute to the Government's levelling up agenda. The index of priority places for the levelling up fund places local authorities into categories, with 'category 1' areas representing those places deemed in most need of investment through this Fund. Several areas within the South Pennines (East) route fall in into this top priority category. These include North Lincolnshire and North East Lincolnshire on the A180 and M180 corridor, Doncaster and Rotherham on the M18 corridor, Wakefield and Hull on the M62/A63 corridor, and Scarborough on the A64 corridor.

Key challenges

- East-west connectivity is enabled by the route, which plays a key role in supporting economic growth in the North
- The expected continuation of growth of freight activity on the M62, A63 and M180 to the Humber ports and distribution centres in Doncaster
- There are strategic growth sites planned around the Humberside Freeport, as well as near Grimsby, Humberside Airport and York, which will generate traffic on the route
- Several areas within the South Pennines (East) route are priority areas for levelling up. These include North Lincolnshire and North East Lincolnshire on the A180 and M180 corridor, Doncaster and Rotherham on the M18 corridor, Wakefield and Hull on the M62/A63 corridor, and Scarborough on the A64 corridor
- There are significant visitor destinations near to the route, including York which is one of the top 10 city attractions in the North of England for domestic and international visitors

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 1,200 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, tunnels and structures

There are 575 structures across the route, including bridges and large culverts. According to an analysis of current data, 86% 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 2 structures in this route.

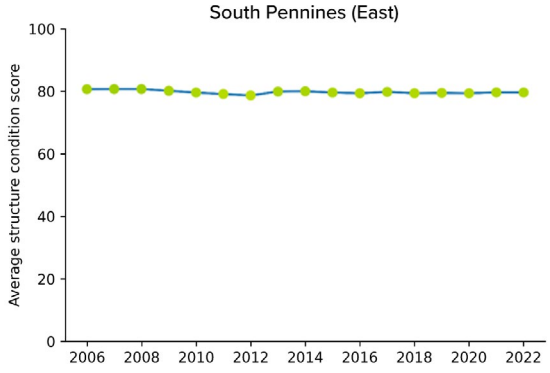


Figure 18: Average condition score of structures, since 2006

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 Opehrational 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

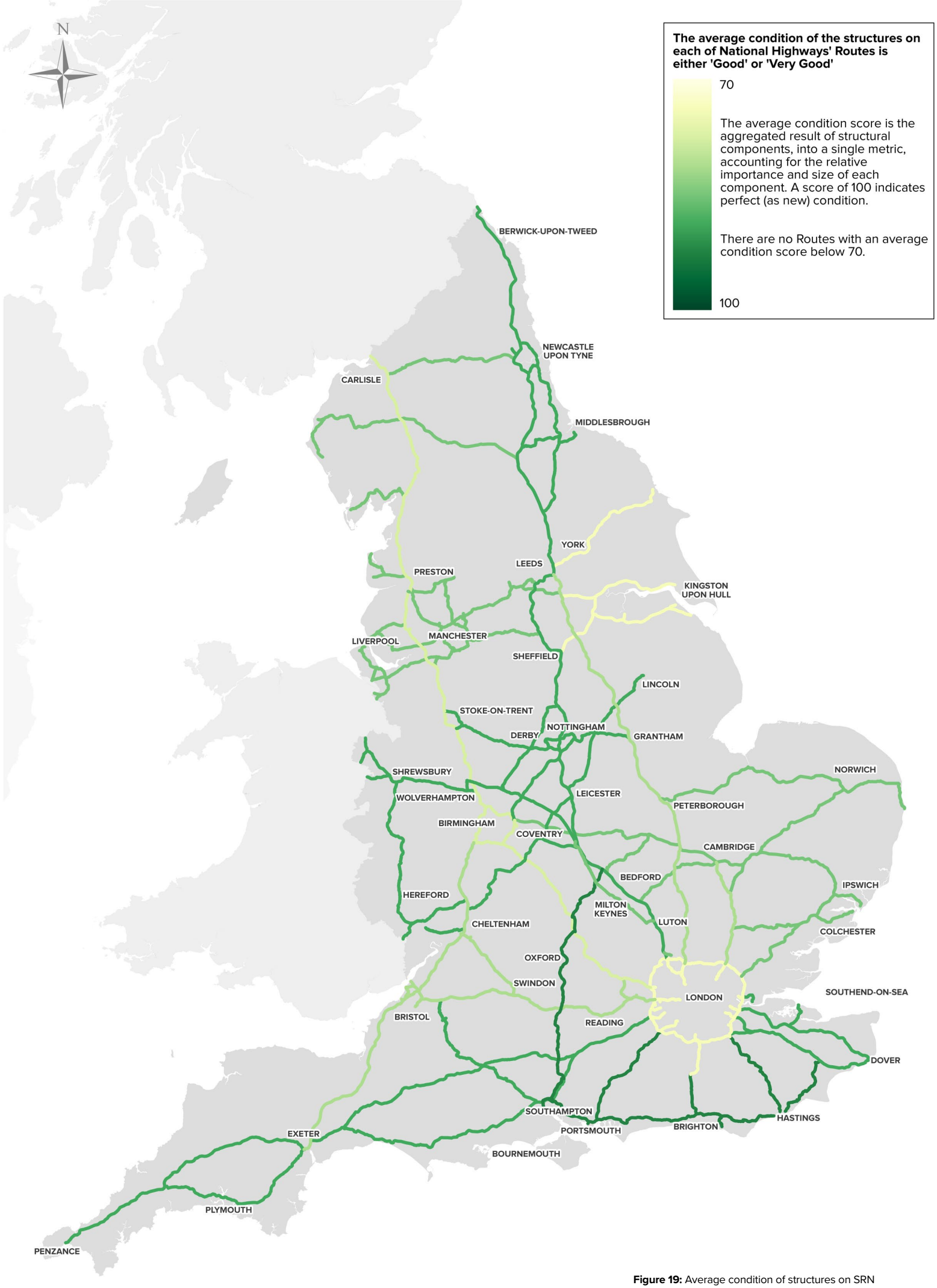


Figure 19: Average condition of structures on SRN

6. A technology-enabled network

Facilities to improve journey quality and network efficiency on the SRN are of key concern to our interested parties, road users and communities. High quality travel information before and during travel helps to:

- reduce day-to-day delays and improve reliability of the SRN
- minimise the adverse impacts of incidents
- improve quality of journey experience
- allow people to make more informed travel choices, including about when and how to travel

A technology-enabled network is one that is able to support electric vehicles through the regular provision of quality charging points, as well as one that uses technology to improve communication and safety for road users.

Our interested parties identified that satellite-navigation systems are often responsible for routing vehicles along inappropriate roads during congested periods on the A64, creating disruption in rural towns and villages in Ryedale.

Electric vehicle charging points are focussed on the main urban centres, such as York, Hull, Scunthorpe, and Grimsby. Coverage elsewhere along the route is less frequent. A lack of regular and reliable charging infrastructure across the route may be discouraging the uptake of electric vehicles.

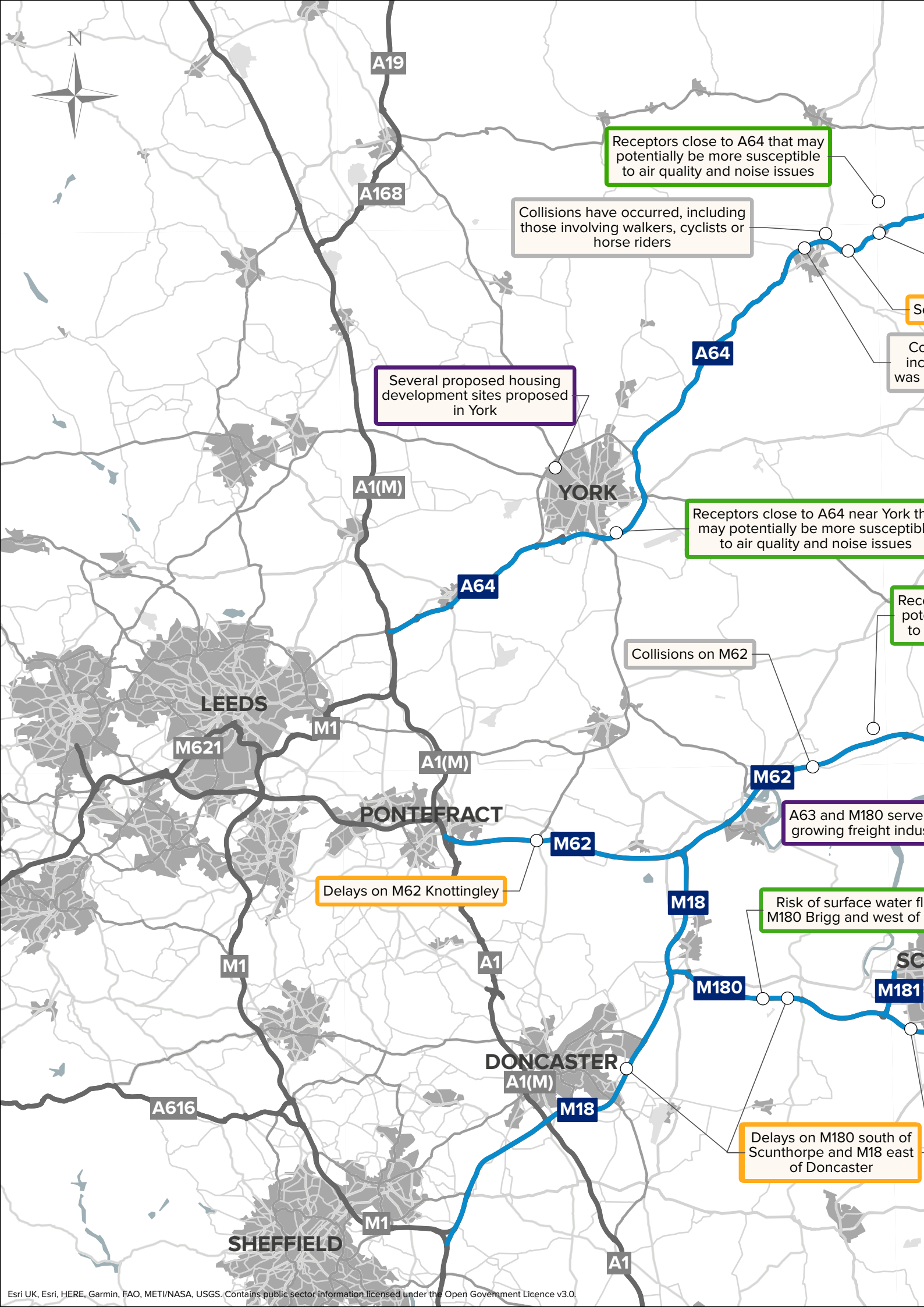
The Government's March 2022 *Electric vehicle infrastructure strategy*[51] sets out a vision for 2030 where charging infrastructure will be removed as both a perceived and real barrier to the adoption of electric vehicles. The Strategy outlines the intention to accelerate the rollout of high-powered chargers on the SRN through the £950 million *Rapid Charging Fund*[52].

We will support improved communications and facilities for all

Key challenges

- Satellite-navigation systems providing unsuitable diversion routes during congested periods
- Limited provision of electric vehicle charging points outside of main urban centres, such as York, Hull, Scunthorpe, and Grimsby

51 UK Government (March 2022) *UK electric vehicle infrastructure strategy.* https://www.gov.uk/government/publications/uk-electric-vehicle-infrastructure-strategy
52 UK Government (March 2022) *Rapid Charging Fund.* https://www.gov.uk/guidance/rapid-charging-fund



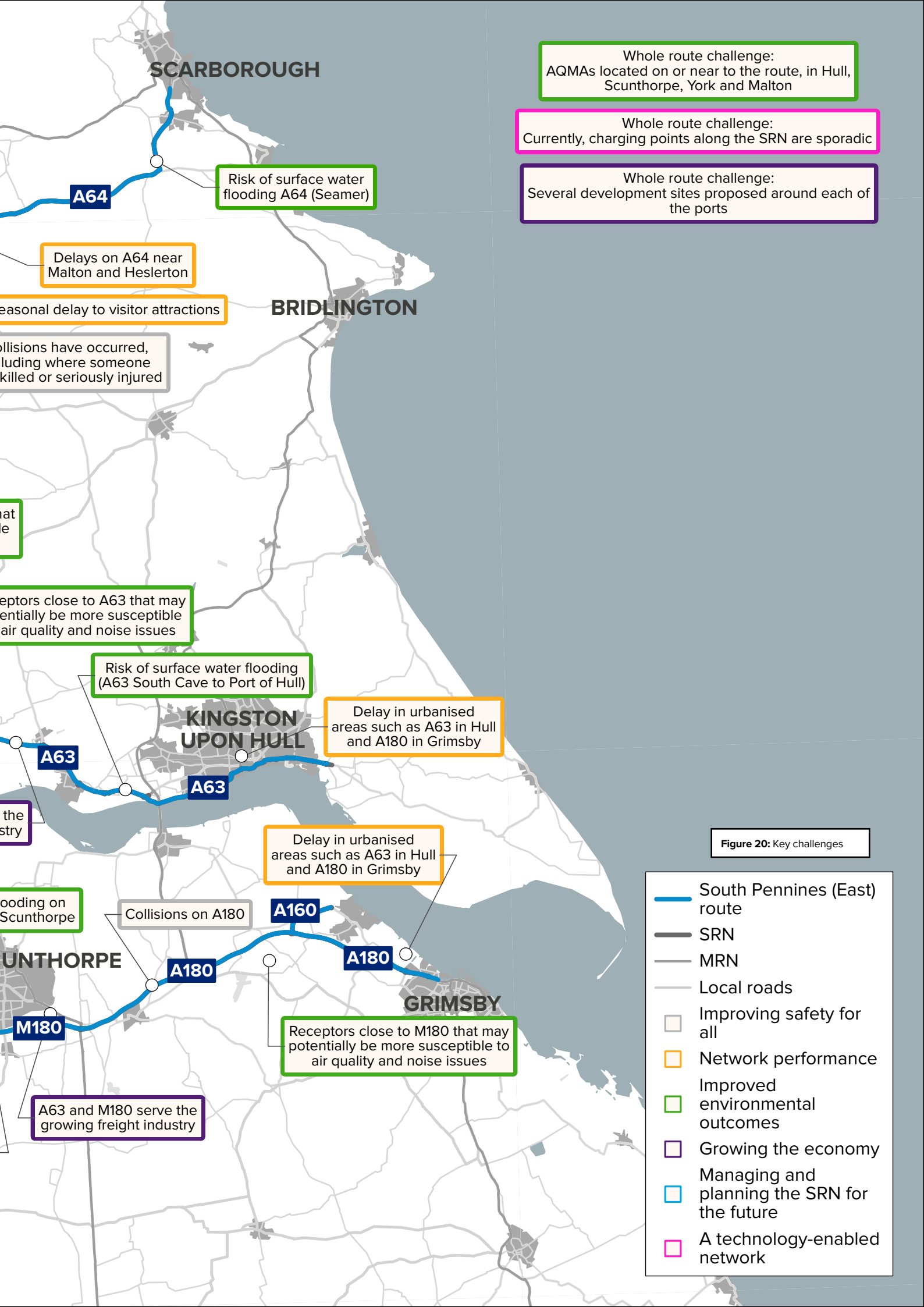


Figure 20: Key challenges

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 South Pennines (East) route, and help the region achieve its economic and housing growth ambitions. Based on our engagement and data analysis, we have defined seven 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

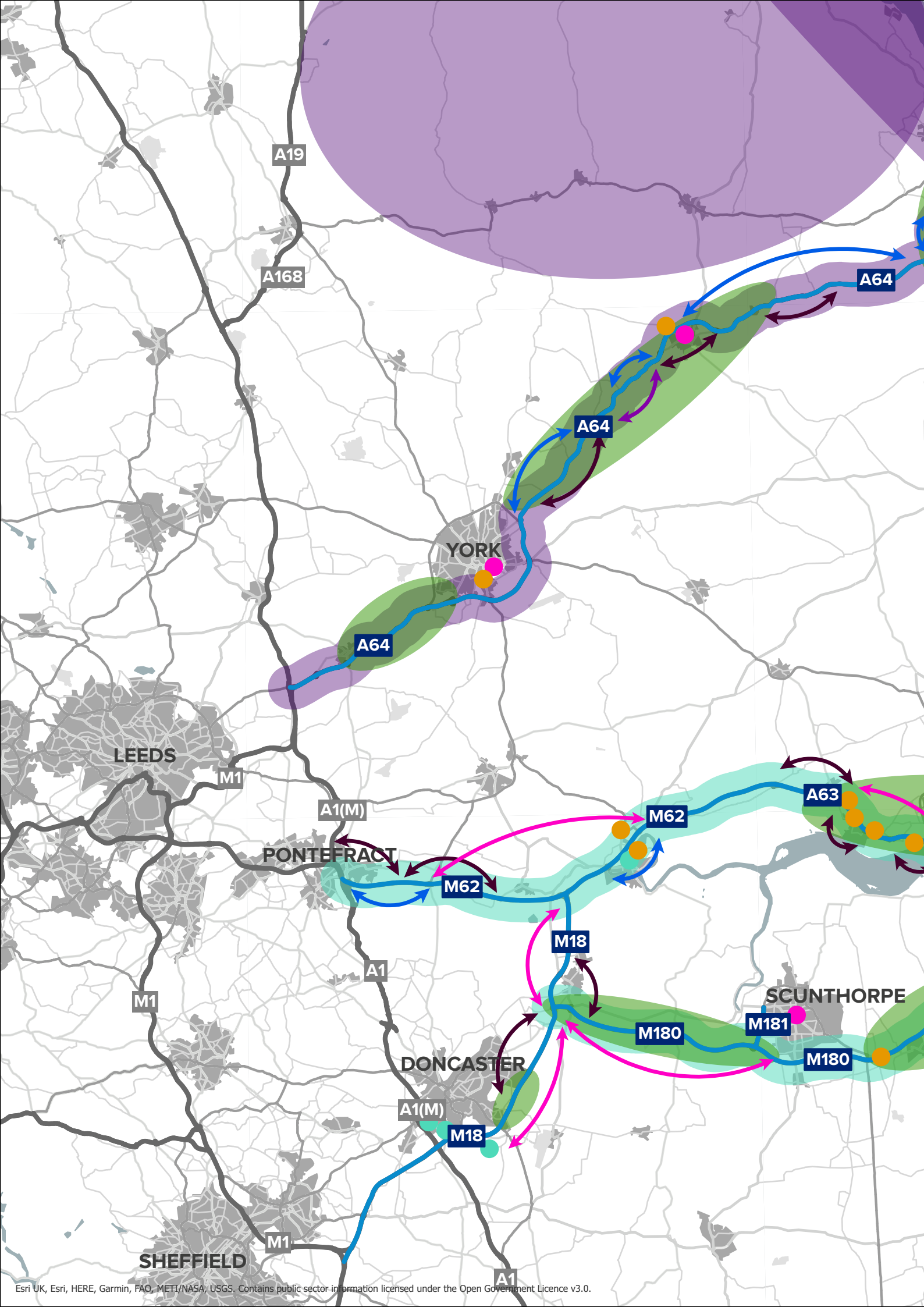
In Figure 21 we illustrate the seven route objectives on our route map and, in Table 1, we show how they contribute to the Government's strategic objectives for our network as a whole.

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

	Ref.	Route objective
	**A**	**Improve safety for all** Improve the safety of the route, particularly the A64 between Hopgrove and Flaxton, Welburn to Musley Bank, and Rillington to Sherburn, and on the A180 and A160 near Immingham
	**B**	**Support the visitor economy** Support better access to visitor attractions in York and the east coast via the A64 to grow the visitor economy and tackle seasonal delays
	**C**	**Enable sustainable economic growth and levelling up** Enable sustainable economic growth and levelling up near the route, enabling improved freight access to Freeport sites in Hull, Immingham, and Goole; and logistics hubs in locations such as Doncaster
	**D**	**Respond to climate change by sustaining a resilient network** Contribute to safeguarding the environment with consideration to areas at risk of flooding such as M18 and M180 west of Scunthorpe, A63 South Cave to Port of Hull, and A64 near Seamer
	**E**	**Minimise traffic from the SRN diverting through local communities** Minimise traffic from the SRN diverting through local communities, particularly in Malton from the A64, Brough and North Ferriby from the A63, and Hatfield and Thorne from the M18
	**F**	**Be a better neighbour by safeguarding the environment** Be a better neighbour by reducing air quality and noise impacts on local communities in Scunthorpe, Hull and Malton, on the A64 and M18 in Doncaster and the clean air zone in York
	**G**	**Reduce severance for sustainable transport modes** Reduce severance for sustainable transport modes in towns and cities such as Malton, Goole, Howden, Brigg, and Hull, to benefit local communities, connectivity and the environment

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
✓					
	✓		✓		
			✓		
	✓	✓			
✓	✓	✓			
		✓			✓
✓		✓			



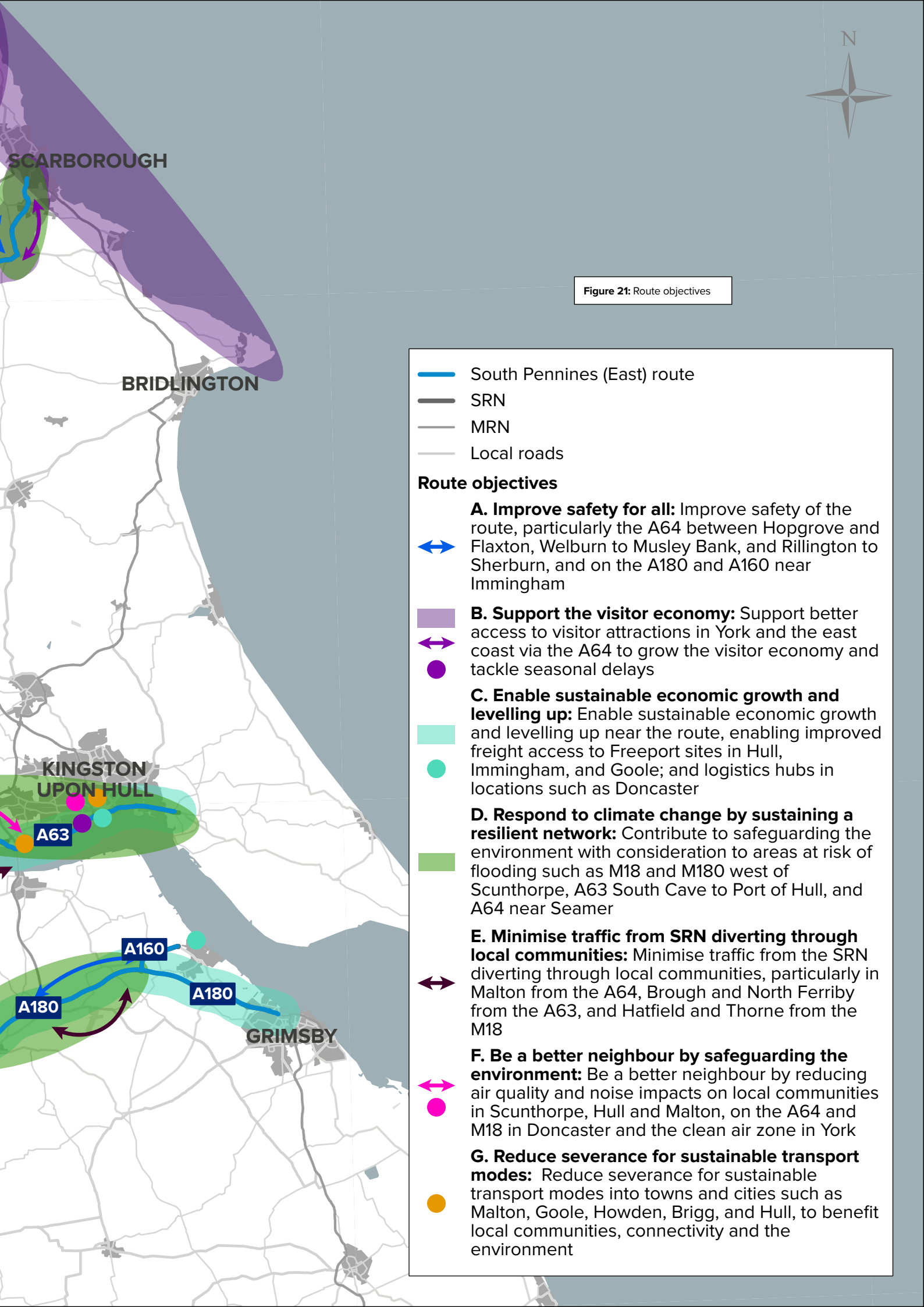


Figure 21: Route objectives

A. Improve safety for all

Objective

Improve the safety of the route, particularly the A64 between Hopgrove and Flaxton, Welburn to Musley Bank, and Rillington to Sherburn, and on the A180 and A160 near Immingham.

Context

The DfT has identified 'improving safety for all' as a key priority in its *Planning ahead for the strategic road network report*, published in December 2021[53]. On the South Pennines (East) route, there have been collisions on the A64, and the A180 and A160 near Immingham. Our interested parties raised several concerns about safety on the route, particularly along the A64 and nearby local communities.

Our network considerations

As evidenced in 'Improving safety for all' in chapter 5, there are several areas of the route where road safety is an issue. The A64 consistently shows a high incidence of collisions, particularly between Hopgrove and Flaxton, Welburn to Musley Bank, and from Rillington to Sherburn. Several collisions involving walkers, cyclists or horse riders have been reported on the A64 from Welburn to Musley Bank, and on the A63 through Hull.

This is supported by feedback from our interested parties, who linked the disruption caused by collisions to non-approved vehicle diversions through rural areas adjacent to routes such as the A64. Our interested parties have also highlighted several factors that contribute to the high collision rates observed on parts of the A64, such as unsignalised junctions and crossings, and they raised concerns about high traffic volumes and vehicle speeds.

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

Now — **Current areas of safety issues identified**

Future Road Periods — **Increase in traffic has the potential to exacerbate the existing issues**

53 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. Support the visitor economy

Objective

Support better access to visitor attractions in York and the east coast via the A64 to grow the visitor economy and tackle seasonal delays

Context

Transport for the North's (TfN) *Major roads report*[54] identifies that 'Transforming Economic Performance' is a key objective, seeking to improve connectivity between economic markets to enhance trade, tourism, and international gateways, for example visitor attractions, airports and ports. TfN's *Strategic transport plan*[55] identifies several major centres of tourism as important centres for economic activity. TfN's *Visitor economy report*[56] also highlights several visitor attractions that contribute to the local economy, particularly in York and on the east coast, which are accessed via the A64.

In South Pennines (East), there are several visitor attractions that rely on the SRN, including York and the east coast, the North York Moors National Park and Castle Howard on the A64, as well as The Deep in Hull via the A63.

Our network considerations

There are several network sensitivities that impact on the visitor economy. These include year-round delays on the A64 which provides access to York and the east coast, which are compounded further in the summer months. Future traffic growth in these areas would increase these delay issues, impacting the ability of road users to access visitor attractions and thus affecting the growth of the visitor economy.

Outcomes

- Visitor economy supported as journeys increase to key attractions
- Improved reliability and journey times on the SRN during peak holiday periods
- Better access to ports and airports, enabling them to contribute to the local economy

DfT's Strategic objectives

- Network performance
- Growing the economy

Timeframe based on the issues and constraints identified

Now

Delays impact the visitor economy, which are compounded in summer months

Future Road Periods

Future traffic growth may exacerbate delays and impact on the ability of road users to access visitor attractions and support the growth of the visitor economy

54 Transport for the North (2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021/

55 Transport for the North (2019) *Strategic Transport Plan.* https://transportforthenorth.com/reports/strategic-transport-plan-2019/

56 Transport for the North (2021) *Visitor Economy and Transport in the North of England.* https://transportforthenorth.com/reports/visitor-economy-and-transport-in-the-north-of-england-final-report/

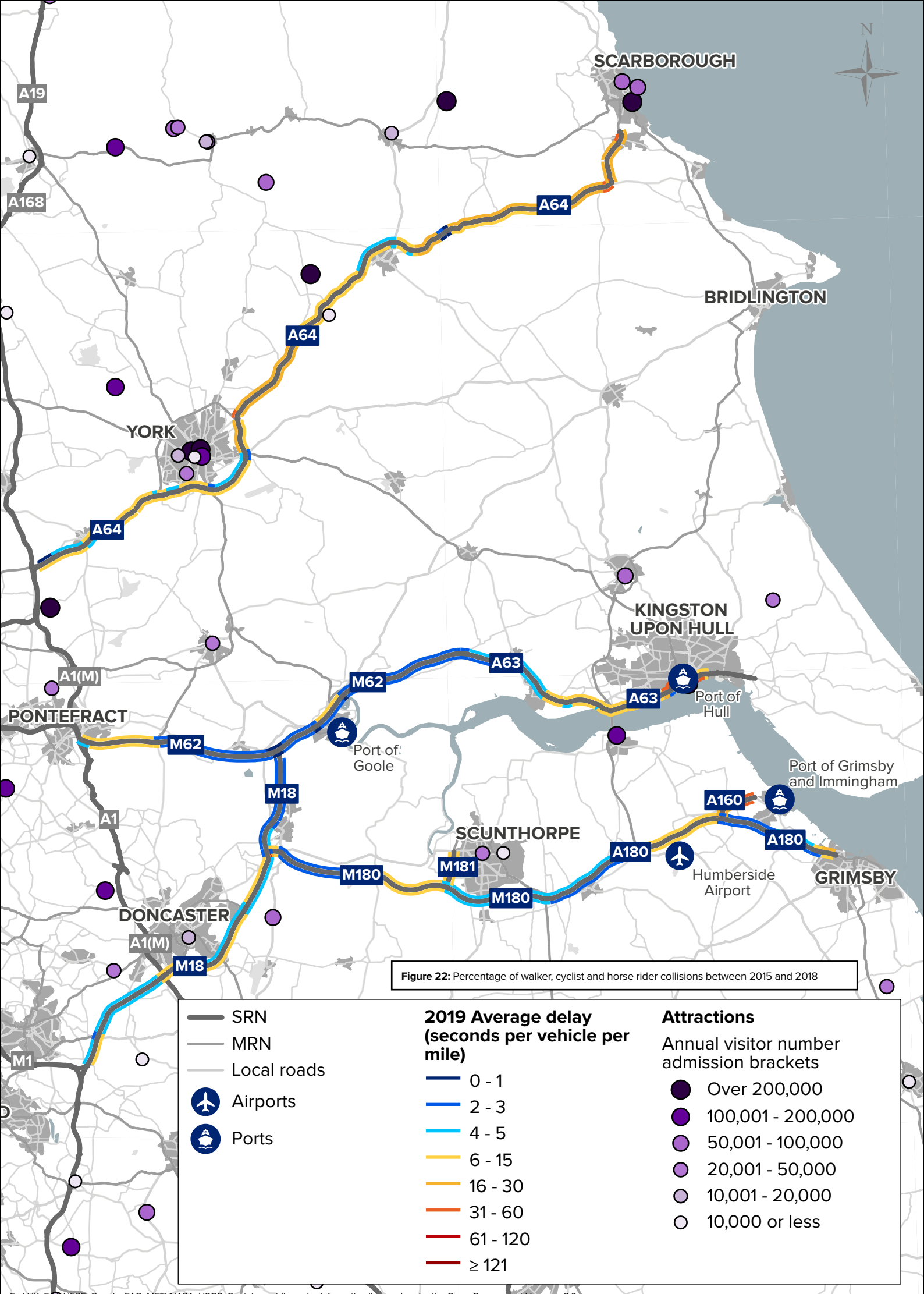


Figure 22: Percentage of walker, cyclist and horse rider collisions between 2015 and 2018

C. Enable sustainable economic growth and levelling up

Objective

Enable sustainable economic growth and levelling up near the route, enabling improved freight access to Freeport sites in Hull, Immingham, and Goole; and logistics hubs in locations such as Doncaster

Context

Freight plays an integral role in the UK economy. *TfN's Freight and logistics strategy*[57] presents analysis of freight requirements and identifies the constraints on the existing network, highlighting the Humber Ports. The Department for *Transport's (DfT) Union connectivity review*[58] highlights the importance of domestic freight, which accounts for 19% of all traffic handled by UK ports, while the DfT's Planning ahead for the strategic road network[59] report draws attention to the UK's emerging Freeport sites and their need to be well connected by road, rail, and air to support economic growth. The area also features prominently in the Department for Levelling Up, *Housing and Communities' Levelling up white paper*[60], with several strategic growth sites centring on the Freeports, as well as Humberside Airport, Grimsby and York.

The Humber Freeport has the potential to contribute to the regional and national economy. Covering the ports of Immingham, Hull, Grimsby, Scunthorpe and Goole, the Freeport will be part of a network of sites across the UK enabling goods to be manufactured and exported within specific locations without the need for tariffs.

The South Pennines (East) route connects these sites to large hubs in Doncaster and the rest of the UK road network. The new Freeport sites are expected to continue to drive the growth of the freight and logistics industry in the UK.

Our network considerations

We appreciate the importance of freight in the area, with higher heavy goods vehicle (HGV) flows observed on the M18 and A160. Traffic forecasts up to 2031 have shown that delay increases are expected on the M18 Rotherham to Doncaster and adjacent to several freight hubs. Research from the DfT National survey of lorry parking[61] also forecasts increases in the use of lorry parking towards 2024. Feedback from our interested parties has also indicated that delays can cause some freight vehicles in Ryedale to take inappropriate diversions based on satellite-navigation systems that take them through rural villages near Malton.

There is also significant development proposed around the Freeport areas on the M180, A180 and A160 corridor, and the M62 and A63 corridor, as well as air cargo growth at Humberside Airport. Further investment is also planned through the Government's levelling up programme, which prioritises much of the M180 corridor. This predicted growth is expected to increase sensitivities on the network linked to journey reliability, non-approved diversions, freight and coach parking.

These concerns will all impact on the ability for freight to be transported reliably and effectively to benefit the wider economy, as well as the appetite for future growth and investment in the freight sector locally.

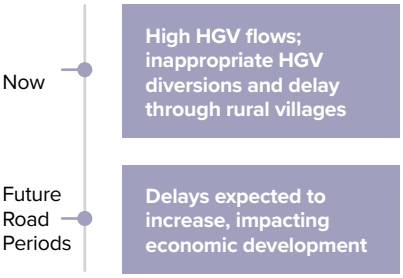
Outcomes

- Growth ambitions for the freight sector accommodated, centring on the Humber Freeport
- Improved reliability of freight journeys, enabling goods to be transported more efficiently
- Levelling up ambitions supported through jobs in freight and logistics sectors

DfT's Strategic objectives

Growing the economy

Timeframe based on the issues and constraints identified



57 Transport for the North (2021) *Draft Freight and Logistics Strategy.* https://transportforthenorth.com/wp-content/uploads/Freight-Strategy-Master-Consultation-version-v0.1.pdf

58 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

59 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

60 HM Government (2022) *Levelling Up in the United Kingdom - White Paper.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052708/Levelling_up_the_UK_white_paper.pdf

61 Department for Transport, Aecom (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

D. Respond to climate change by sustaining a resilient network

Objective

Contribute to safeguarding the environment with consideration to areas at risk of flooding such as M18 and M180 west of Scunthorpe, A63 South Cave to Port of Hull, and A64 near Seamer

Context

The topography of the South Pennines (East) area is predominantly low-lying and intersects with several rivers and coastal areas. As climate change drives more frequent and extreme weather events, the transport network will be subject to an increased risk of flooding. The TfN Major roads report supports increased resilience on the network to adapt to a changing climate. This will require consideration of the impacts of extreme weather not just on the SRN, but also on Diversion routes for unplanned events (DRUEs) and other transport infrastructure, such as rail, to ensure the network can adapt to environmental incidents and maintain a good level of service.

Our network considerations

Several parts of the route pass through areas at higher risk of flooding from surface water, including the M18 and M180 west of Scunthorpe, the A64 near Seamer, and low-lying parts of the A63 through Hull. DRUEs may also be located in these same areas, such as the A18, A161, A614 and A1079, meaning that as the risk of flooding from surface water increases, the number of viable alternative routes by road and rail decreases, limiting access to key destinations on the network and causing widespread disruption.

Large parts of the A64 between York and Malton do not have a DRUE requiring less than a 10-mile detour. This means traffic has no optimal nearby route in the event of a disruption, resulting in more ad hoc diversions. This was a concern raised by our interested parties.

The route provides connections to critical parts of the UK's freight network, including the Port of Hull off the A63 and M62 and the Port of Immingham from the M18 and M180. This means that disruption caused by flooding would interrupt the flow of goods on a national level, particularly if the same flood events also impact the rail network.

Similarly, tourism is important to the region's economy, and any disruption to seasonal traffic would reduce the likelihood of repeat visits or future investment in the sector. The A63 connects to ferry services operating out of the Port of Hull, meaning flood events would prevent visitors from entering and leaving the UK.

Traffic growth by 2031 is expected to be more pronounced in some of the areas around the M18, M180 and A63 which are at higher risk of flooding from surface water, increasing the risk of more road users being affected by more frequent disruption in future years.

Outcomes

- Better network resilience, with less risk of disruption from extreme weather events
- Reduced localised impact of traffic along existing diversion routes

DfT's Strategic objectives

- Network performance
- Improved environmental outcomes

Timeframe based on the issues and constraints identified

Now

Disruption on the route in areas at higher risk of flooding from surface water

Future Road Periods

Potential for increased disruption through increased traffic on the SRN from planned growth, and the potential increased frequency of extreme weather events

E. Minimise traffic from the SRN diverting through local communities

Objective

Minimise traffic from the SRN diverting through local communities, particularly in Malton from the A64, Brough and North Ferriby from the A63, and Hatfield and Thorne from the M18

Context

The South Pennines (East) route passes through rural areas along the A64 and M180, A180 and A160 corridor and through densely populated urban areas such as Hull near the A63, Doncaster and Rotherham near the M18. Several smaller communities are also directly accessed from the SRN, which fall into three categories:

- Places where the SRN passes through directly, such as the A64 through Rillington, Heslerton, Sherburn and Staxton
- Where the SRN provides the main access in and out of towns and villages such as Crambeck, Welburn and Flaxton on the A64; Habrough on the A160, Thorne and Hatfield from the M180 and M18, and Knottingley on the M62
- Places where the SRN bypasses local service centres such as Malton on the A64, North Cave, South Cave, North Ferriby and Brough on the A63, as well as several suburbs in Hull

The DfT's 2021 report *Planning ahead for the strategic road network*[62] states that 'Improving Safety for All' is a key objective. Our interested parties have raised several safety concerns where local roads passing through communities close to the SRN are often used as non-approved diversion routes by drivers when an incident or congestion occurs, increasing the risk of collisions in more rural areas.

Our network considerations

Our interested parties have suggested that delays occur on parts of the network where traffic can easily divert into nearby local communities along non-approved routes, including the A64 from Staxton to Seamer through the town of Malton, and from Hopgrove to Musley Bank. Congestion on the motorway network near Knottingley on the M62, or Thorne and Hatfield near the M18 and M180, also encourages road users to seek non-approved alternative routes, which include roads passing through these local communities. Our interested parties highlighted that delay becomes a greater factor during the summer with seasonal journeys to the east coast, affecting areas that are less suited to high levels of traffic. This was said to particularly impact the A64 from Flaxton to Welburn and Staxton to Seamer, the A63 past North Ferriby, and the M18 near Thorne. Traffic levels are forecast to rise around the A63 near Brough and North Ferriby, and around the M18 near Thorne and Hatfield. Delays are also forecast to increase on the A64 Flaxton to Welburn and Staxton to Seamer, as well as the M18 east of Rotherham.

Other factors that contribute to non-approved diversions include collisions and flood disruption, particularly if DRUEs are unavailable. This additional traffic could be an issue for several communities along the A64, including Flaxton, Rillington and Sherburn, as well as communities around the A160 and A180 near Immingham, such as Habrough. There is an increased risk of flooding from surface water on the route near the M18 and M180 west of Scunthorpe, the A63 at South Cave to Port of Hull, and the A64 near Seamer.

There are several overlaps of these risk factors impacting on the same communities, which aligns with the feedback received from our interested parties, particularly around locations in Ryedale off the A64.

Compounding these issues are several additional environmental sensitivities in the local communities themselves. Malton and Hull are both susceptible to non-approved diversions and both areas are within an Air Quality Management Area (AQMA), requiring them to manage vehicle-based emissions.

Outcomes

- Reduced disruption caused by vehicles diverting through rural communities adjacent to the route
- Reduced traffic-related impacts, such as air pollution and collisions in rural areas

DfT's Strategic objectives

- Improving safety for all
- Network performance
- Improved environmental outcomes

Timeframe based on the issues and constraints identified

Now

Delays occur on parts on the route where traffic can divert into nearby local communities along non-approved routes

Future Road Periods

Increased delays resulting from traffic growth would exacerbate existing issues

62 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

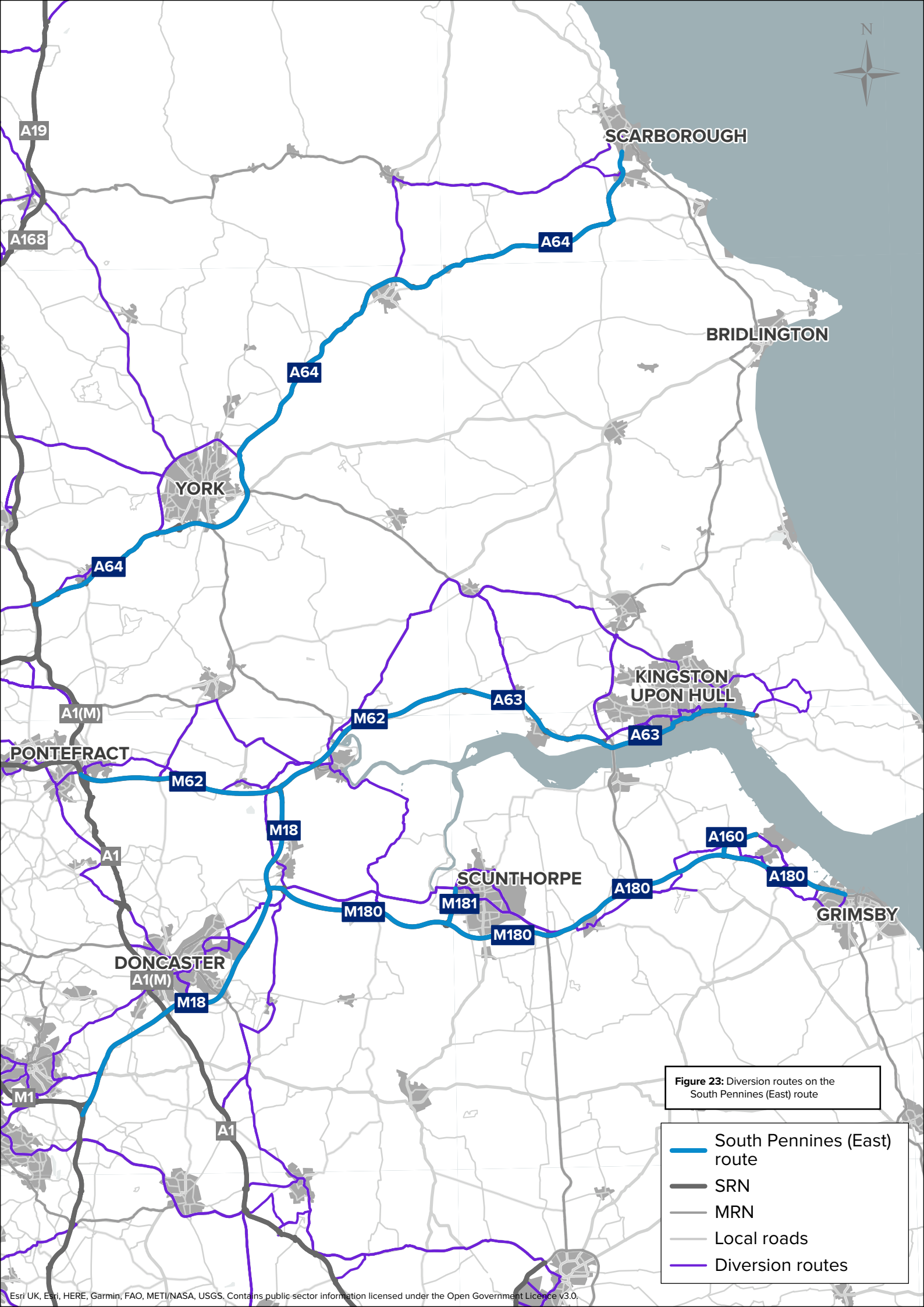


Figure 23: Diversion routes on the South Pennines (East) route

F. Be a better neighbour by safeguarding the environment

Objective

Be a better neighbour by reducing air quality and noise impacts on local communities of Scunthorpe, Hull and Malton on the A64, the M18 in Doncaster and the clean air zone in York.

Context

There is a national commitment to reducing emissions from transport, which is supported in *TfN's Major roads report*[63], DfT's Planning ahead for the *strategic road network report*[64], and the *Electric vehicle infrastructure strategy*[65]. *TfN's Transport decarbonisation strategy*[66] also commits to a regional near-zero carbon surface transport network by 2045. At National Highways, we have published *our net zero plan for 2030, 2040 and 2050*[67], aimed at tackling carbon emissions associated with the SRN. We also have a long-standing commitment for improving air quality linked to the our *Air quality strategy*[68], which has steered the development of previous Road Investment Strategies.

Transport contributes a disproportionately high amount to the UK's overall carbon emissions. Locally, emissions and noise arising from the network can impact on communities close to the route, such as Doncaster, South Cave, Rillington and Malton, and sensitive areas classed as AQMAs, such as Malton, Hull and Scarborough.

Our network considerations

Noise and air quality are key considerations where the SRN passes within 100 metres of receptors, such as along the A64, A63 South Cave to Hessle and M18 east of Doncaster. The SRN also passes through or near to several sensitive environmental areas. As shown in Figure 24, these are concentrated on the A64 north of York where the route passes near several Ancient Woodlands, a Special Area of Conservation, an Area of Outstanding Natural Beauty (AONB), and multiple listed buildings. AQMAs have also been declared in Scunthorpe, Hull and Malton, adjacent to the M180, A63, and A64 respectively. York has also defined a clean air zone. Several local authorities that the route passes through have declared climate emergencies, and continue to be impacted by high emissions, particularly on the M62, M18 and M180.

Increased delay is forecast on the SRN in the future as a result of economic growth. Some of these locations are in proximity to environmentally sensitive areas such as the M18 east of Doncaster and A64 Rillington to Sherburn. Development sites are expected to come forward in environmentally sensitive areas such as the Freeport sites near Doncaster and Hull and growth areas near York.

Infrastructure to support electric vehicle charging remains limited on the SRN, which may be slowing efforts to decarbonise the network.

Outcomes

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

DfT's Strategic objectives

- Improved environmental outcomes
- A technology-enabled network

Timeframe based on the issues and constraints identified

Now	**Receptors in proximity to the route may be impacted by air quality and noise issues**
Future Road Periods	**Continuation of the above issue, and potential exacerbation with increased traffic from planned growth**

63 Transport for the North (2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021/
64 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
65 HM Government (2022) *Taking Charge: the electric vehicle infrastructure strategy.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065576/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf
66 Transport for the North (2021) *Transport Decarbonisation Strategy.* https://transportforthenorth.com/wp-content/uploads/TfN-Transport-Decarbonisation-Strategy-FINAL-TfNDEC2021_V2.pdf
67 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
68 National Highways (2021) *Air Quality Strategy.* https://nationalhighways.co.uk/media/i41jzbar/air_quality_strategy.pdf

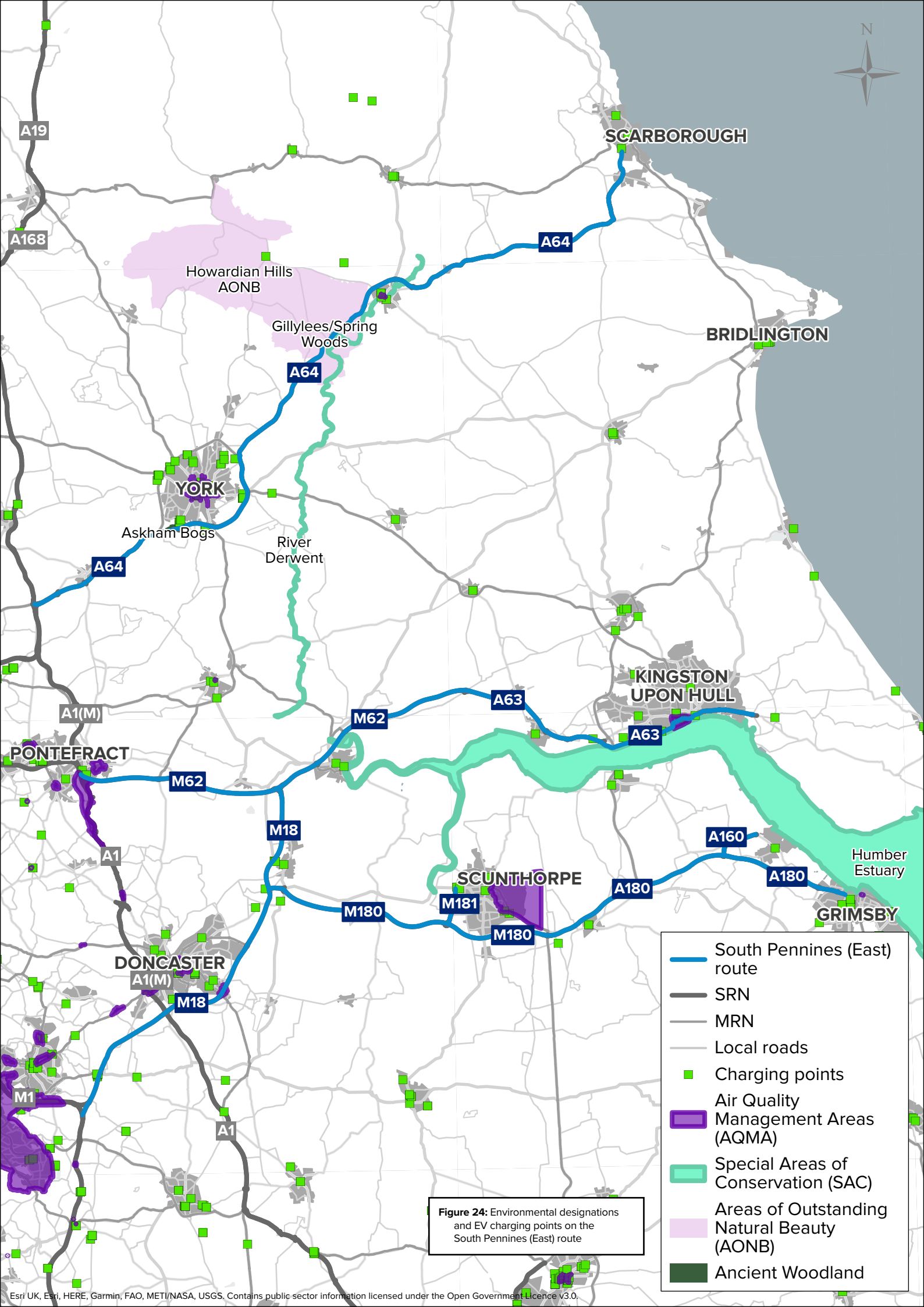


Figure 24: Environmental designations and EV charging points on the South Pennines (East) route

G. Reduce severance for sustainable transport modes

Objective

Reduce severance for sustainable transport modes into towns and cities such as Malton, Goole, Howden, Brigg, and Hull, to benefit local communities, connectivity and the environment

Context

TfN's *Major roads report*[69] and its *Strategic transport plan*[70] both set out objectives linked to better integration of the SRN with local networks, with the aim of reducing severance and improving safety and environmental outcomes. This is supported by the DfT's Planning ahead for the *strategic road network report*[71], which highlights the importance of decarbonising the network and encouraging a higher share of journeys by active travel or public transport. There are also regional and national commitments for encouraging modal shift towards more active modes, such as the DfT's *Gear change*[72] and Bus back better[73] strategies for walking and cycling.

Both public transport and active travel can play a role in reducing car reliance for journeys that are shorter than 5 kilometres, which includes journeys from the route into a number of towns it passes through. Near the M62 and A63, communities such as North Ferriby and Hessle, Howden and Goole are bisected by the SRN. In Hull itself, several attractions on the southern side of the A63 are difficult to access for pedestrians and cyclists, although this is expected to be alleviated by the Castle Street improvements.

Urban centres, such as Malton on the A64 and Brigg on the M180, could also be better connected to nearby communities by active travel, but there are limited safe opportunities to cross the SRN.

Our interested parties have highlighted several locations near these settlements where the SRN presents a barrier to making journeys using active modes.

Our network considerations

Collisions have occurred where the SRN intersects with local sustainable travel routes. There have been several collisions involving walkers, cyclists and horse riders on the A64 from Welburn to Musley Bank near Malton. Additional collisions involving walkers, cyclists and horse riders (WCH) have been recorded along the A63 as it passes through Hull. Figure 25 shows the proportion of WCH collisions on each section of the route.

Our interested parties highlighted similar locations as places where severance occurs for active modes, supported by evidence of low cycle uptake from the DfT's Propensity to Cycle Tool outlined in Chapter 5. The prospect of additional growth sites also supports the case for reduced severance along the SRN to encourage more sustainable development, especially in strategic growth sites south of York near the A64, and Humberside Airport south of the A180.

The need to reduce severance and encourage journeys by other modes is underlined by several factors highlighted in Chapter 5.

There are forecast increases in the numbers of journeys and delays on the route close to several communities such as Malton near the A64, and Hatfield and Thorne close to M18 and M180 which may impact on local accessibility. City Region Sustainable Transport Settlements schemes planned in South Yorkshire aim to provide transport improvements which may have an impact in this area close to the route.

Outcomes

- Reduced severance caused by the SRN to nearby communities
- 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**

69 Transport for the North (2021) *Major Roads Report.* https://transportforthenorth.com/reports/major-roads-report-dec-2021/
70 Transport for the North (2019) *Strategic Transport Plan.* https://transportforthenorth.com/reports/strategic-transport-plan-2019/
71 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
72 Department for Transport (2020) *Gear Change: A bold vision for cycling and walking.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf
73 Department for Transport (2021) *Bus back better: National Bus Strategy for England.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/980227/DfT-Bus-Back-Better-national-bus-strategy-for-England.pdf

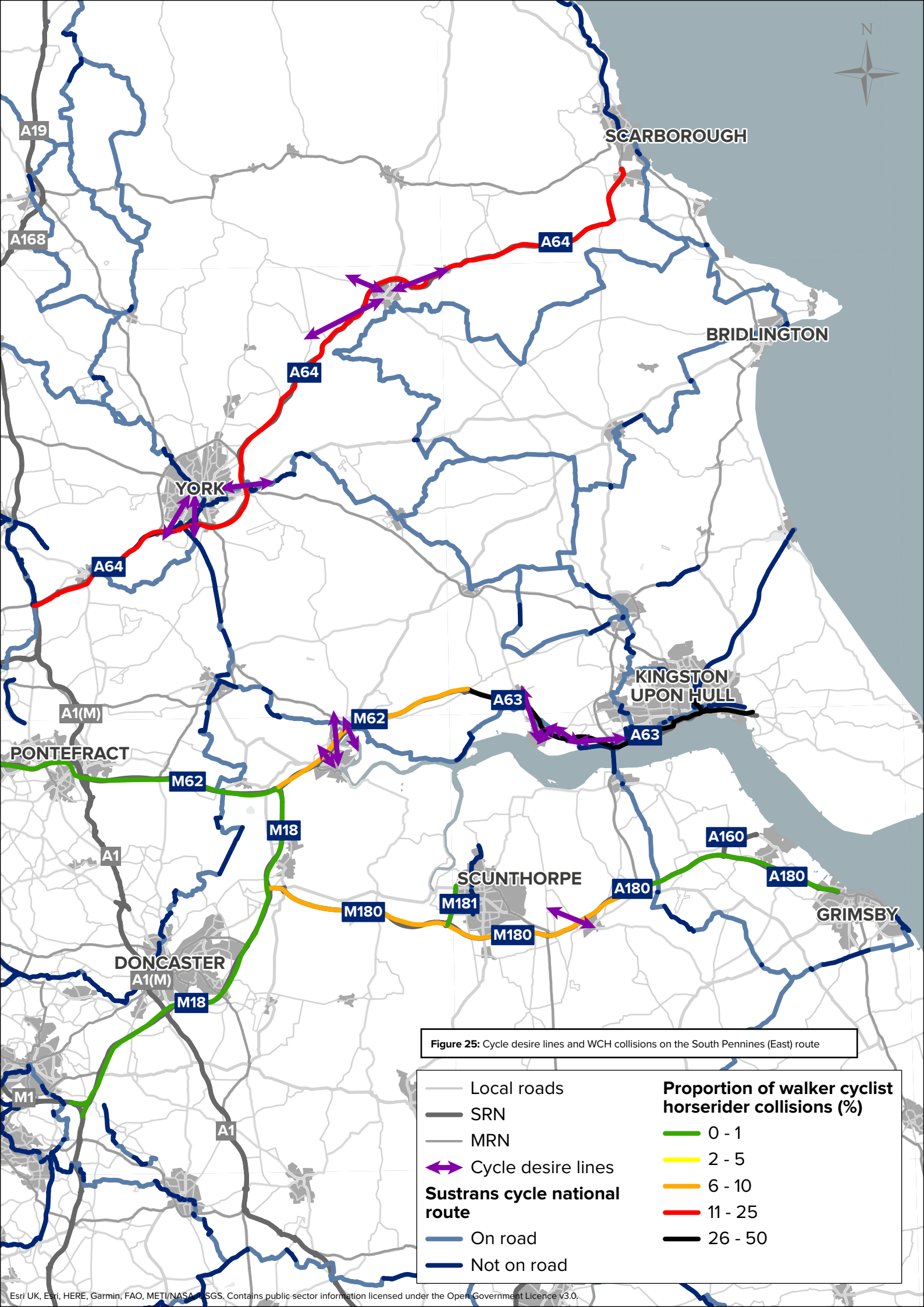


Figure 25: Cycle desire lines and WCH collisions on the South Pennines (East) route

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** Improve the safety of the route, particularly the A64 between Hopgrove and Flaxton, Welburn to Musley Bank, and Rillington to Sherburn, and the A180 and A160 near Immingham	Safety issues have been identified on the A64 and M62.	**Improving safety for all** Our interested parties highlighted several concerns along the route, particularly on the A64 and nearby local communities. There are uncontrolled junctions and crossings on the A64 and concerns about high volumes and speeds of traffic.	**DfT** has identified "Improving safety for all" as a key priority in its Planning ahead for the strategic road network.	**Improving safety for all** A64 - high incidence of collisions, particularly between Hopgrove and Flaxton, Welburn to Musley Bank and from Rillington to Sherburn. Walker, cyclist, or horse rider (WCH) collisions have been reported on the A64 from Welburn to Musley Bank.
B	**Support the visitor economy** Support better access to visitor attractions in York and the east coast via the A64 to grow the visitor economy and tackle seasonal delays	There are several visitor attractions that rely on the SRN; including York and the east coast, the North York Moors National Park and Castle Howard on the A64.	**Network performance and Growing the economy** Congestion on the route, particularly along the A64 was raised as impacting reliability of the network. There was concern that congestion is likely to affect strategic journey times and dissuade investment and visitors to the area. Seasonal traffic along the A64 was highlighted as a cause of delay and was said to be discouraging tourism.	**Transport for the North (TfN)** In the Major roads report, 'Transforming Economic Performance' is a key objective, seeking to improve connectivity between economic markets to enhance trade, tourism, and international gateways e.g. visitor attractions, airports, and ports. The Strategic transport plan identifies "Ports and airports, supporting imports, exports and the visitor economy" and "Major centres of tourism" as important centres for economic activity. The Visitor economy report has also highlighted several visitor attractions that contribute to the local economy, particularly in York and the east coast which are accessed via the A64.	**Network performance** There are seasonal delay issues on the following parts of the network: • A64 Hopgrove to Flaxton • A64 Malton to Rillington (north-eastbound only) Forecast traffic growth would further increase these delay issues.

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	**Enable sustainable economic growth and levelling up** Enable sustainable economic growth and levelling up near the route, enabling improved freight access to Freeport sites in Hull, Immingham, and Goole; and logistics hubs in locations such as Doncaster	The Humber Freeport has the potential to contribute to the regional and national economy, and the A63 is vital for this function. The region's strategic location in the centre of the UK road network also supports a growing freight and logistics industry, with large hubs in Doncaster and around the Freeport sites themselves all connected into the SRN.	**Network performance** and **Growing the economy** The importance of freight vehicles using the route was raised - particularly on the M180 and M18 to access ports and distribution centres. Capacity constraints and limited driver facilities were raised as a current issue and with unreliable journey times impacting on delivery efficiency. The Humber Freeport is anticipated to bring further growth and has the potential to generate more freight activity.	The **TfN** Freight and logistics strategy undertakes analysis of freight requirements and identifies the constraints on the existing network, highlighting the Humber Ports. The **DfT**'s Union connectivity review highlights the importance of domestic freight, which accounts for 19% of all traffic handled by UK ports whilst Planning ahead for the strategic road network draws attention to the UK's emerging Freeport sites and their need to be well connected by road, rail, and air to support growth in the economy. The area also features prominently in the Department for Levelling Up, Housing and Communities Levelling Up White Paper. Research from the **DfT**'s National survey of lorry parking also forecasts increases in the use of lorry parking towards 2024.	**Network performance** and **Growing the economy** High HGV flows on the M18 and A160. 2031 traffic forecasts - delay increases are expected on the M18 Rotherham to Doncaster and adjacent to several freight hubs. Significant development proposed around the Freeport areas on the M180, A180, A160 corridor, and the M62 and A63 corridor. Investment planned through the levelling up programmes which prioritise much of the M180 corridor. Recent labour market statistics from the ONS observed growth in the logistics sector over the past ten years across the route. This is most pronounced in Doncaster where logistics accounts for 13% of all businesses in 2021 (compared to 5% in 2010).

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	**Respond to climate change by sustaining a resilient network** Contribute to safeguarding the environment with consideration to areas at risk of flooding such as M18 and M180 west of Scunthorpe, A63 South Cave to Port of Hull, and A64 near Seamer	The topography of the South Pennines (East) area is predominantly low-lying and intersects with several rivers and coastal areas. As climate change drives more frequent and extreme weather events, the transport network will be subject to an increased risk of flooding from surface water on the A63 between South Cave and Hull, A64 between Seamer and Brambling Fields, and M18 and M180 west of Scunthorpe.	**Improved environmental outcomes** DRUEs may be at risk of flooding from surface water, meaning that the number of viable alternatives routes decreases, which increases the likelihood of disruption. Large parts of the A64 between York and Malton do not have a DRUE requiring less than a 10-mile detour, resulting in dispersed traffic on unapproved routes in the event of disruption such as flooding.	The **TfN** Major roads report supports increased resilience on the network to adapt to a changing environment.	**Improved environmental outcomes** Several parts of the route that pass through areas at higher risk of flooding from surface water; including: • A180 east of Immingham • M18 and M180 west of Scunthorpe • A63 South Cave to A1033 Port of Hull • A64 Tadcaster to Askham Bryan • A64 Brambling Fields to Staxton • A64 Seamer The same flood risk areas often affect the DRUEs from the SRN; such as the: • A18 • A161 • A614 and • A1079 **Network performance** Traffic growth by 2031 is expected in some of the areas of the M18, M180 and A63 which are most susceptible to flooding from surface water.

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
E	**Minimise traffic from the SRN diverting through local communities** Minimise traffic from the SRN diverting through local communities, particularly in Malton from the A64, Brough and North Ferriby from the A63, and Hatfield and Thorne from the M18	The route passes through rural areas along the A64, including several villages on or near the carriageway. The A63 also passes several small towns to the west of Hull, while the M18 bypasses several communities around Doncaster. These settlements are impacted by diverting traffic when there is disruption on the network.	**Improving safety for all and Network performance** Delays can cause some freight vehicles in Ryedale to take inappropriate diversions based on satellite-navigation systems that take them through rural villages near Malton. Our interested parties have highlighted several safety concerns where local communities close to the SRN are often used as non-approved diversion routes by drivers when an incident or congestion occurs, increasing the risk of collisions in more rural areas. There are several overlaps of these risk factors impacting on the same communities, which matches the feedback received from our interested parties, particularly around locations in Ryedale off the A64.	The **DfT**'s *Planning ahead* for the *strategic road network* suggests that 'Improving Safety for All' is a key objective; and vehicles taking inappropriate diversions through local communities can contribute towards making them less safe for pedestrians and local residents.	**Network performance** Delays occur on parts on the network where traffic can easily divert into nearby local communities along non-approved diversion routes: • A64 from Staxton to Seamer • from Hopgrove to Musley Bank • Knottingley on the M62 • Thorne and Hatfield near the M18 and M180 Seasonal delay occurs on the A64 from Flaxton to Welburn and Staxton to Seamer, the A63 past North Ferriby and the M18 near Thorne. Traffic levels are expected to rise by 2031 in the following locations: • A63 near Brough and North Ferriby • M18 near Thorne and Hatfield • A64 Flaxton to Welburn and Staxton to Seamer • M18 east of Rotherham **Improving safety for all** and **Improved environmental outcomes** Factors contributing to the use of non-approved diversion routes include collisions and flooding. A number of collisions occurred on the: • A64, including Flaxton, Rillington and Sherburn • A160/A180 near Immingham, such as Habrough Areas at risk of flooding from surface water include: • the M18 and M180 west of Scunthorpe • the A63 at South Cave to Port of Hull • the A64 near Staxton

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	**Be a better neighbour by safeguarding the environment** Be a better neighbour by reducing air quality and noise impacts on local communities in Scunthorpe, Hull and Malton, on the A64 and M18 in Doncaster and the clean air zone in York	Parts of the network are adjacent to receptors including the A64, A63 and M18. Noise and emissions from the network can impact on local communities close to the SRN, such as Doncaster close to the M18, South Cave and Brough, close to the A63 and Rillington close to the A64.	**Improved Environmental Outcomes** Our interested parties highlighted the importance of addressing air quality issues with several Air Quality Management Areas (AQMAs) in the area, including in Malton, Scunthorpe and Hull. There have been noise complaints on roads such as the A63, M62 Junction 24 and A180.	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 report and *Electric vehicle infrastructure strategy*. **TfN**'s Transport decarbonisation strategy also commits to a regional near-zero carbon surface transport network by 2045.	**Improved Environmental Outcomes** A64 north of York - the route passes near: • Ancient Woodlands • Special Area of Conservation • Area of Outstanding Natural Beauty • multiple listed buildings Noise and air quality are also key considerations where the route passes close to dense built-up areas such as: • A64 Malton • A63 Hull and west of Hull • M18 east of Doncaster There are AQMAs in Scunthorpe, Hull and Malton, adjacent to the M180, A63, and A64. York has defined a clean air zone
G	**Reduce severance for sustainable transport modes** Reduce severance for sustainable transport modes in towns and cities such as Malton, Goole, Howden, Brigg, and Hull, to benefit local communities, connectivity and the environment	Near the M62 and A63, communities such as North Ferriby and Hessle; Howden and Goole are bisected by the route, whilst within Hull itself, several attractions on the south side of the A63 are difficult to access for pedestrians and cyclists. Urban centres such as Malton on the A64 and Brigg on the M180 can also be better connected to nearby communities by active travel, but there are limited safe opportunities to cross the SRN.	**Improving safety for all** and **Improved environmental outcomes** Our interested parties raised perceived impacts of severance caused by the SRN in accessing key service centres such as York, Malton and Hull.	**TfN's** *Major roads report* and its *Strategic transport* plan both set out objectives linked to better integration with local networks, reduced severance and improved safety and environmental outcomes. This is supported by the **DfT's** Planning ahead for the strategic road network, which highlights the importance of decarbonising the network and encouraging a higher share of journeys by active travel or public transport. There are also regional and national commitments for encouraging modal shift towards more active modes such as the DfT's *Gear change* and *Bus back better* strategies.	**Improving safety for all** Several walker, cyclist or horse rider collisions on the A64 from Welburn to Musley Bank near Malton as well as on the A63 as it passes through Hull. Improved environmental outcomes The DfT's Propensity to Cycle tool highlights the potential demand for active modes to access local centres such as: • York to Dunningthorpe and Copmanthorpe • Malton to Swinton • Hull to Hessle • North Cave, Brough, Welton, North Ferriby west of Hull • Howden, Hook and Airmyn to Goole • Brigg to Broughton Network performance Expected future increases in the numbers of journeys and delays on the route close to communities such as Malton near the A64, and Hatfield and Thorne close to M18/M180 which may impact on local accessibility.

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 South Pennines (East) 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 26 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.

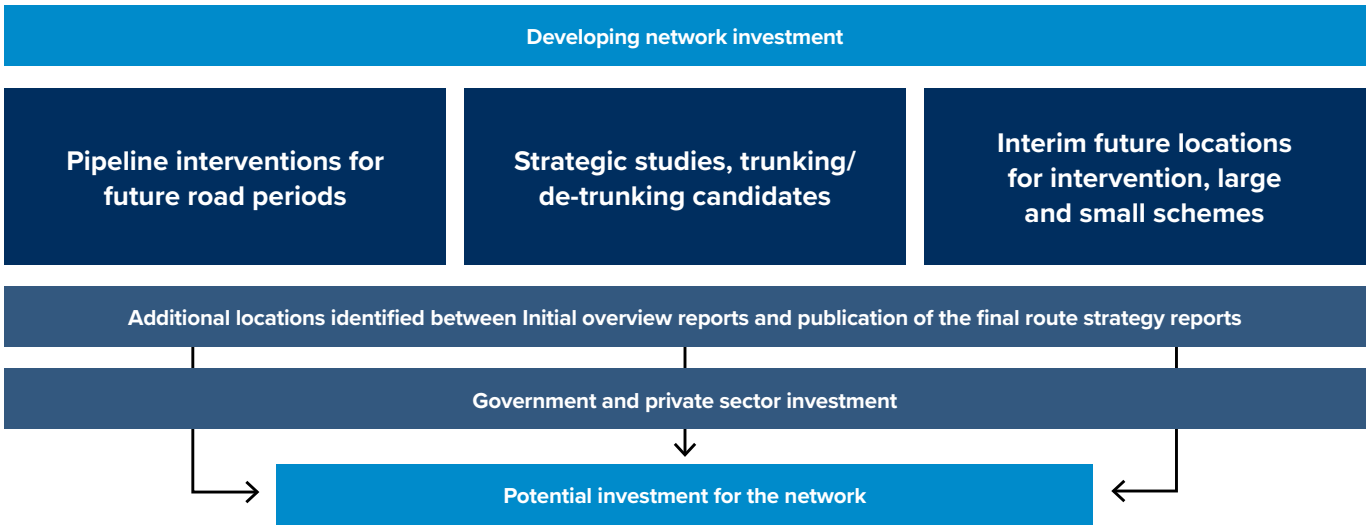


Figure 26: Process to identify potential investment on the network

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 South Pennines (East) 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 schemes are committed for the second road period (2020–2025) on the South Pennines (East) route:

Scheme number	Scheme	Description	Start of works	Open for traffic
Committed for the second road period (2020-2025)				
1	A63 Castle Street[74]	Creation of a new junction by lowering the level of the A63 at the Mytongate junction. Ferensway and Commercial Road will cross the A63 creating a split-level junction. Between Princes Dock Street and Market Place the eastbound carriageway will be widened to three lanes. A new bridge for pedestrians and cyclists is now in place over the A63.	March 2020	2024 - 25

RIS4 pipeline

The following uncommitted schemes are in the pipeline for consideration for inclusion in the fourth road period (2030-2035) on the South Pennines (East) route.

Scheme number	Scheme	Description
1	A64 Hopgrove[75]	Plans to improve the A64 around the Hopgrove junction to Barton-le-Willows, to tackle problems with the current route and to make sure it is fit for the future.

74 National Highways, *A63 Castle Street.* https://nationalhighways.co.uk/our-roads/yorkshire-and-north-east/a63-castle-street/
75 National Highways, *A64 Hopgrove.* https://nationalhighways.co.uk/our-roads/pipeline-of-possible-future-schemes/a64-hopgrove/

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*[76]. 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.

The Trans-Pennine Connectivity, Safety and Resilience Study, previously known as the Trans-Pennine Tunnel, is a strategic study relevant to South Pennines (East). It aims to work with partners to achieve a high-quality, cost-effective connection between Manchester and Sheffield which are not currently connected by a high-quality road[77].

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 South Pennines (East) 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.

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.

76 National Highways (2020) *Strategic business plan: 2020 – 2025.* https://nationalhighways.co.uk/strategic-business-plan/
77 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

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[78] 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

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 27 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.

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

Table 3: Areas of interest for further investigation

Area location	Area of interest	Area issues	Now	Future road periods
		A64		
A64 Hopgrove Roundabout to Flaxton	**A**	**Collisions** have been recorded between Flaxton and Hopgrove. York is identified as a key tourist destination and important to the **visitor economy**. However, there are **seasonal delays** between Hopgrove and Flaxton which are expected to grow by 2031.	✓	✓
A64 From Welburn to Rillington (via Malton)	**B**	There is **seasonal delay** between Malton and Rillington, and **collisions** have been recorded between Welburn and Musley Bank. Limited diversion routes and year-round **delays** on the A64 near Malton can cause diversions into rural villages such as Malton. There are receptors in proximity to the SRN that may be more susceptible to **air quality** and **noise issues**. Malton is also a known **AQMA**.	✓	✓
A64 From Main Street Seamer to Crossgates	**C**	There are **seasonal delays** along this route as a result of the east coast being **a key tourist destination**. In terms of safety, there is a low iRAP star rating. Increased **delay** is expected by 2031. Low lying topography around the A64 heightens the **risk of flooding from surface water**.	✓	✓
		M62		
M62 Junction 37	**D**	There is potential demand for active travel modes in Howden however, the SRN creates **severance** between local towns. This route provides **freight connectivity** to the port of Goole. **Collisions** have been recorded between Goole and Howden. The junction is also in close proximity to the Humber Estuary Special Area of Conservation.	✓	✓
M62 Howden to North Cave	**E**	There is potential demand for active travel modes in Howden however, the SRN creates **severance** between local towns. There are concentrations of **collisions** on this section of the M62, including collisions where someone was **killed or seriously injured**.		✓
		A63		
A63 From South Cave to Welton	**F**	There are receptors in proximity to the SRN around South Cave, Elloughton and Welton which may be more susceptible to noise and air quality issues. **Severance** issues are experienced by communities close to the SRN such as Brough and Welton. **Traffic** is **expected to increase** along the A63 near Brough. There are issues with **traffic diverting** off the SRN and though Brough to avoid delay.	✓	✓
A63 Hessle to Hull	**G**	The A63 provides **freight connectivity** to the Humber ports and distribution centres. There is evidence of **congestion and collisions** along the A63 through Hull. **Delays are expected to increase by 2031,** particularly at the junction with the Humber Bridge. There is low-lying topography leading to a **flood risk of flooding from surface water** between Hessle and the port of Hull.	✓	✓
		M18		
M18 Junction 3 to 4	**H**	There are several **freight distribution sites** located in Doncaster close to the M18 and **additional sites** are also planned for the future. The M18 is expected to experience **traffic growth** by 2031. There are receptors in proximity of the SRN that may potentially be more susceptible to **air quality** and **noise issues**. This section of the route is at a higher **risk of flooding from surface water**.	✓	✓

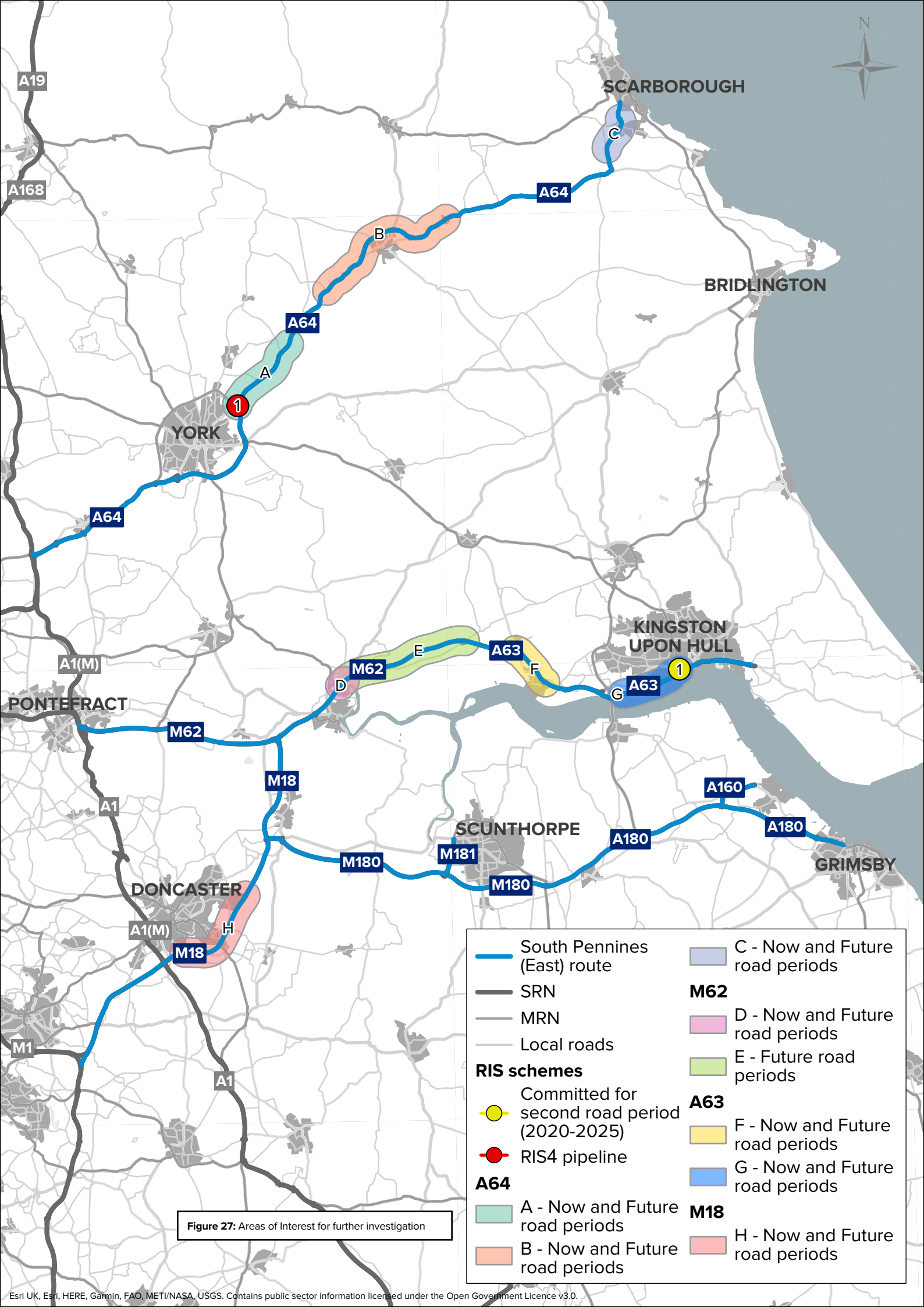


Figure 27: Areas of Interest for further investigation

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*[79] 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

79 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.
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.
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.
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 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).
Growth Boards		Growth Boards have been established by some counties as a joined-up way of managing local future growth and supporting economic recovery.
Heavy Goods Vehicle	HGV	A heavy goods vehicle (HGV) is a large vehicle intended for the transportation of heavy loads.
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.

Glossary of terms

Term	Acronym	Description
National Highways Licence		The Licence sets out the Secretary of State's statutory directions and guidance to National Highways.
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 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.
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		The separation of people from facilities and services they use within their community.
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: • 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
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.
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.

Glossary of terms

Term	Acronym	Description
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.
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
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 seven STBs in England, which 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 vice versa for trunking

Term	Acronym	Description
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 Directions 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		https://www.enforma-nx.com/GHD/ViewFile.ashx?EventID=5675935&FileID=14636888 Walkers, cyclists and horse riders

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