

Route Strategy Initial Overview Report

Kent Corridors to M25

May 2023





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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.



PENZANCE

PLYMOUTH



Executive summary

Introduction

Our strategic road network (SRN) is the backbone of the country. Over 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 Kent Corridors to M25 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 Department for Transport's (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. The route objectives and locations for further consideration will be presented to the Department for Transport 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 Kent Corridors to M25 route provides access to the key international gateways of Dover, Folkestone, Sheerness, the Channel Tunnel, and the Thames ports (London Gateway and Tilbury), which form part of the Thames Freeport. It covers over approximately 145 miles of the SRN within Kent and Essex.

The route consists of the M20/A20 and M2/A2 corridors connecting the Channel Tunnel, Folkestone and Dover to the M25. The A249 spur from the M2 provides a link to Sheerness, and the A13 / A1089 connects Tilbury Port to the M25, providing a link to DP World London Gateway, all of which form part of Thames Freeport.

This route strategy report can be read alongside other interacting route strategy reports, including:

- London Orbital and M23
- South Coast Central

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 the DfT, and are set out in the RIS3 *Planning ahead*² document in December 2021.

Challenges and issues on the route have been identified which correspond to the the DfT's six strategic objectives:

Improving safety for all:

- The safety levels built in to the route (based on the International Road Assessment Programme) are rated as either 1-star or 2-star, on the A1 between Aylesham and Dover, the A249 north of the M2 and the A1089
- Higher collision rates and a higher proportion of collisions where someone has been killed or seriously injured occurred at key locations on the coastbound M20 and M2
- A higher percentage of collisions where someone has been killed or seriously injured involving walkers, cyclists or horse riders can be found on the A2 and A249, and involving motorcyclists on the A20, A2, A249 and M26
- The orientation of the route can result in safety issues due to sun glare

¹ Highways England *Delivery Plan 2020-2025*, <https://nationalhighways.co.uk/media/vh0byhfl/5-year-delivery-plan-2020-2025-final.pdf>

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

Network performance

- Congestion related delay occurs on sections of the A2, A249, M20 at Maidstone, the A2 and A20 at Dover, and the A13 and A1089
- Local roads, including the MRN, that interface with the SRN can suffer from consequential impact of the lack of SRN alternative routes, and capacity and reliability issues
- When there is disruption at the international gateways, freight traffic queues can extend onto the network, including through towns and residential communities
- Diversion routes are often less suitable for high volumes of freight or general traffic, which can result in secondary impacts such as increased congestion, reduced air quality, and increased noise
- Limited technology provision makes it more difficult to manage disruptive incidents and communicate information to users
- Delay can occur at junctions when traffic diverts (or in some cases during typical operation), particularly where the MRN and LRN interact with the SRN. This includes the M2 Junction 7 (Brenley Corner), the A2 Whitfield and Duke of York Roundabouts, the A13 / A1089 Junction, the M2 Junction 3 (Bluebell Hill), and M20 Junction 6 LRN operation can also result in local traffic 'junction hopping'
- Delays are exacerbated by seasonality due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover
- Delays are expected to worsen by 2031 at several locations, particularly along sections of the A2 and A20 at Dover and the M2 at Stockbury and Faversham

Improved environmental outcomes

- Reliance of freight movement on the road network to connect to the wider UK
- Significant ecological, cultural and environmental sensitivities, particularly the Kent Downs Areas of Outstanding National Beauty and Special Areas of Conservation directly adjacent to the M20 and A2 Traffic related severance, noise and air quality can impact on local communities with existing Air Quality Management Areas (AQMA) and Noise Important Areas (NIA) in place
- There are a number of receptors along sections of the route which may be more sensitive to air quality issues, including sections of the M20, the A2 and the A20
- There are a number of receptors along sections of the route which may be more sensitive to noise issues, predominantly on the M20 around Maidstone, Ashford and Aylesford
- Aspiration to minimise greenhouse gas emissions and building resilience to future climate change
- There may be a risk of flooding on the A249 and on the M2 east of Gillingham, and susceptibility to adverse weather conditions
- Access to ports can be affected by adverse weather conditions, resulting in challenges in crossing the Channel and associated SRN disruption due to delayed vehicles waiting to use the Ports or Channel Tunnel

Growing the economy

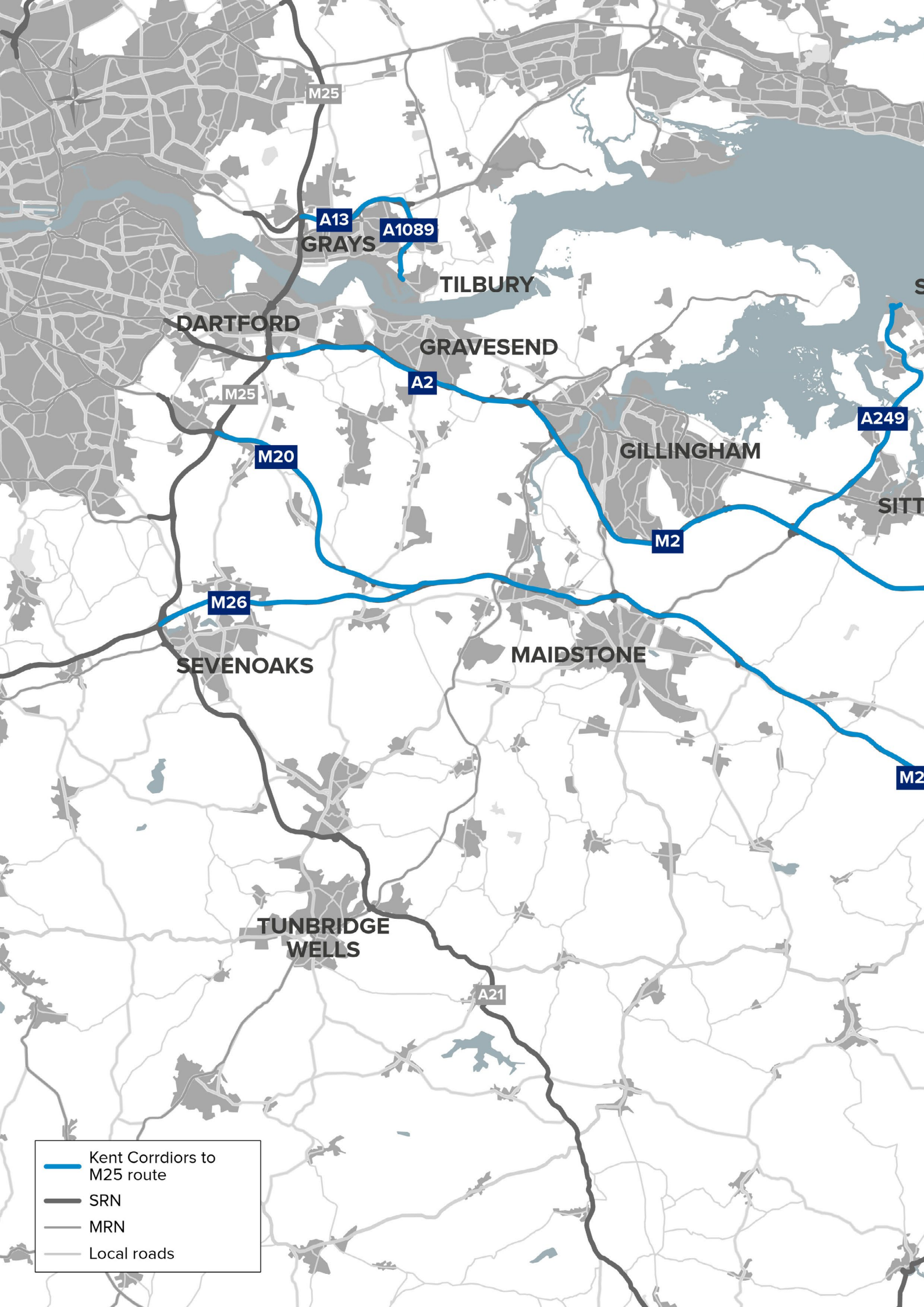
- The route plays a pivotal role in international connectivity, linking the UK and mainland Europe via Dover, Folkestone, Sheerness, the Channel Tunnel and the Thames Ports (London Gateway and Tilbury), which form part of the Thames Freeport
- The route provides the primary access to significant urban areas of high-value economic activity
- There are dedicated economic opportunity areas at Dover and Sheerness, and planned growth at the Thames Freeport sites, Port of Dover and Medway Ports. High levels of planned housing and employment development within the region are expected to exacerbate pressure on the route
- Congestion issues at various junctions could inhibit economic growth, with several Kent local authorities identified as government priorities for levelling up, including Gravesham, Swale, Canterbury, Dover, and Folkestone and Hythe
- There is poor east-west connectivity via rail and slow links between Kent and the south coast, and a concentration of High Speed 1 services on a single corridor

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 strategic road network's geotechnical assets
- Ensuring that drainage assets are maintained so that their good structural and service conditions can be upheld

A technology-enabled network

- Lack of technology across the route to inform drivers of the best routes to use, as some diversion routes are less suitable for high volumes of freight and/or general traffic
- Lack of coordinated infrastructure to communicate conditions or issues to road users
- Lack of technology to support operation



M25

A13

A1089

GRAYS

TILBURY

DARTFORD

GRAVESEND

A2

M25

M20

GILLINGHAM

A249

SITTINGBOURNE

M2

M26

SEVENOAKS

MAIDSTONE

M2

TUNBRIDGE
WELLS

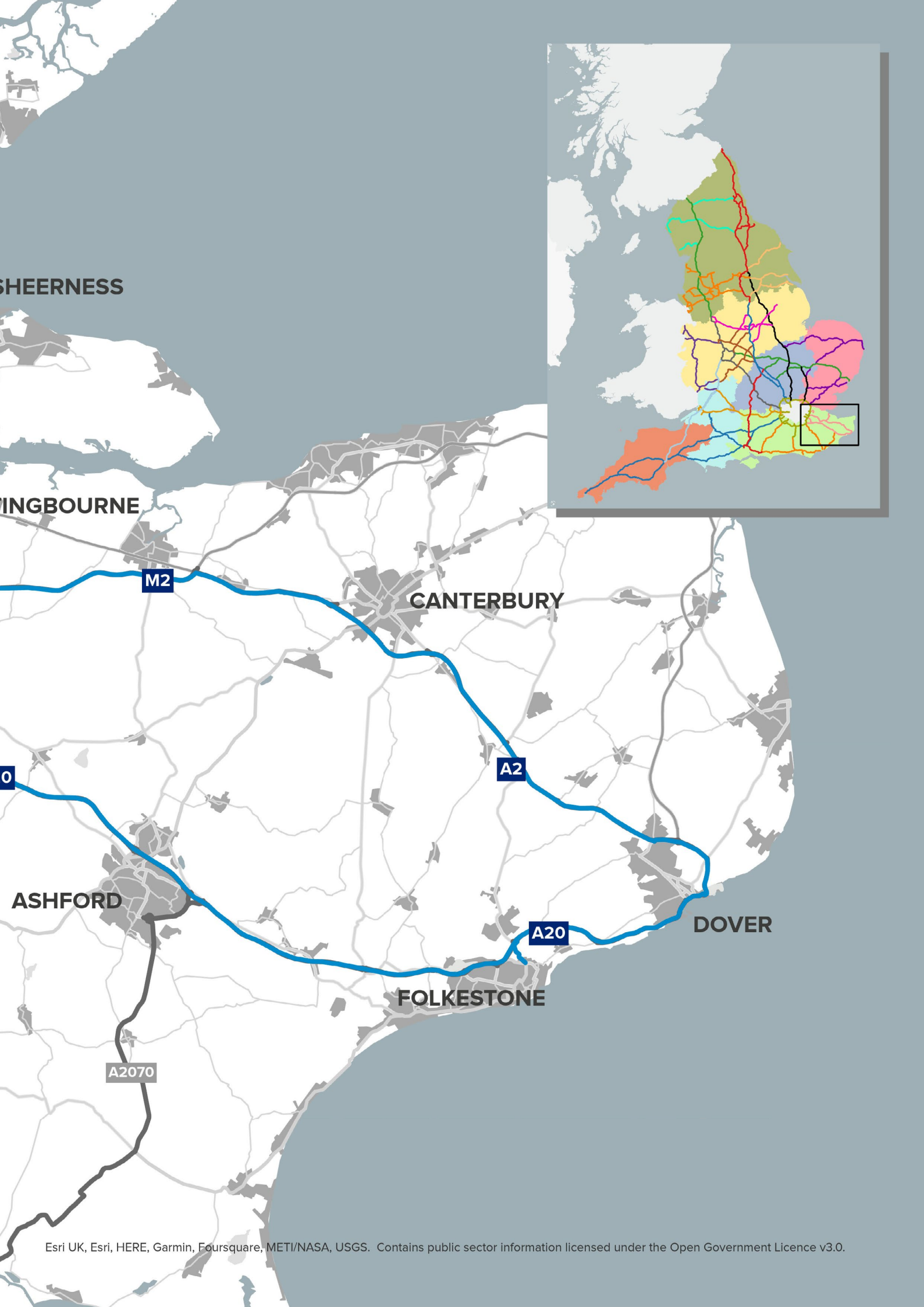
A21

— Kent Corridors to M25 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.

Ref.	Route objective	DfT's strategic objectives for our 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
A	Support safe and efficient freight movement to and from air, rail, sea and freeports in the Kent Corridors. Support driver welfare, including supporting provision of appropriate driver facilities and reducing delay, particularly on the M2/A2, A249 and A13 / A1089	✓	✓		✓		
B	Support sustainable development within Kent and Thurrock. Support effective local and regional connectivity through improved integration with sustainable transport modes to minimise the impact of short distanced trips from key growth areas and strategic development sites to benefit the economy		✓		✓		
C	Promote the Kent Corridors as a region that sets the standard in supporting the use of technology. Improve communication technology to better inform users during periods of disruption, providing an enhanced end to end journey experience on the Kent Corridors. Maximise the use of emerging technologies to support the net zero economy, and use schemes such as the Lower Thames Crossing to test low carbon innovation and approaches		✓			✓	✓
D	Improve resilience of routes from Dover, Sheerness, Tilbury and Thames Gateway Ports to the M25. Provision of safe, suitable, and efficient routes to further improve resilience between the M20/A20 - M2/A2 corridors and A13/ A1089, improving journey time reliability and reducing impact on the Local Road Network	✓	✓				
E	Promote sustainable connectivity in region. Improve connectivity to ports and airports and the rail network (including access to high-speed services and east-west connectivity), to broaden mode and route choice and reduce vehicle use where possible		✓	✓	✓	✓	
F	Be a better neighbour by safeguarding the environment and reducing the impact of air quality and noise on local communities including Dover, Maidstone, Aylesford, Ashford and Canterbury. Support schemes that reduce the impact of travel on neighbours, and protect areas with environmental designation around the route notably the Kent Downs Area of Outstanding Natural Beauty (AONB) and Special Areas of Conservation (SAC) as far as practicable which lie directly adjacent to the M20 and A2			✓			

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 (2025-2030). 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. The DfT will consult on this *SRN Initial report*, which will serve to inform the RIS and *Strategic business plan*⁴.

We will finalise the Route strategy overview 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 overview 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>

⁴ National Highways 2023 *Connecting the country; Our long-term strategic plan*, <https://nationalhighways.co.uk/futureroads>



**Helping
the nation
to thrive**

01 Introduction

Our strategic road network (SRN) is the backbone of the country. Over 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*⁵ 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*⁶.

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

⁵ National Highways (2023) *Connecting the country: Our long-term strategic plan to 2050* <https://nationalhighways.co.uk/connectingthecountry>

⁶ 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*⁷ that sets out our vision and proposed priorities for the third road period (2025-2030) and beyond.

The final Route strategy 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 the route strategy for East of England. 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.

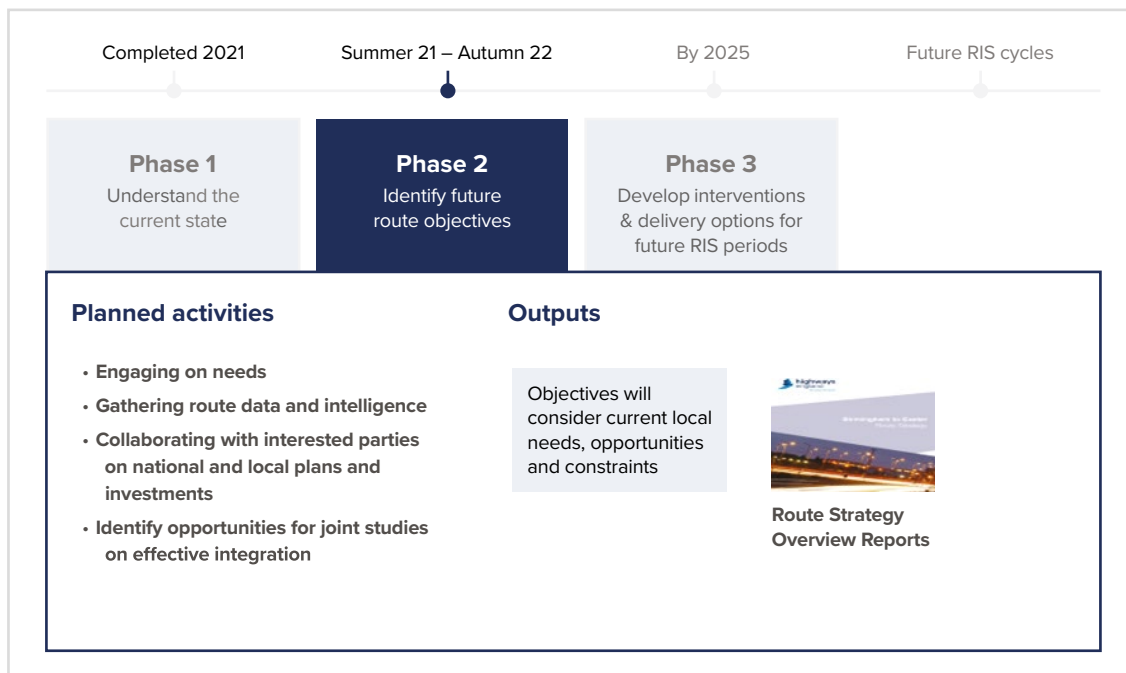


Figure 1: The route strategies delivery phases

7 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.

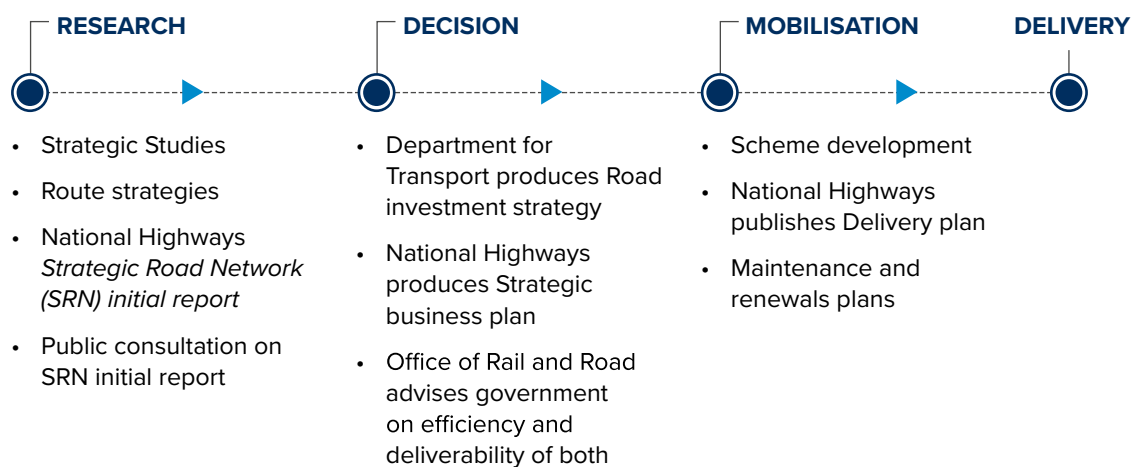


Figure 2: The RIS development cycle

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*⁸.

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*⁹ 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.

⁸ 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>

⁹ 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/>

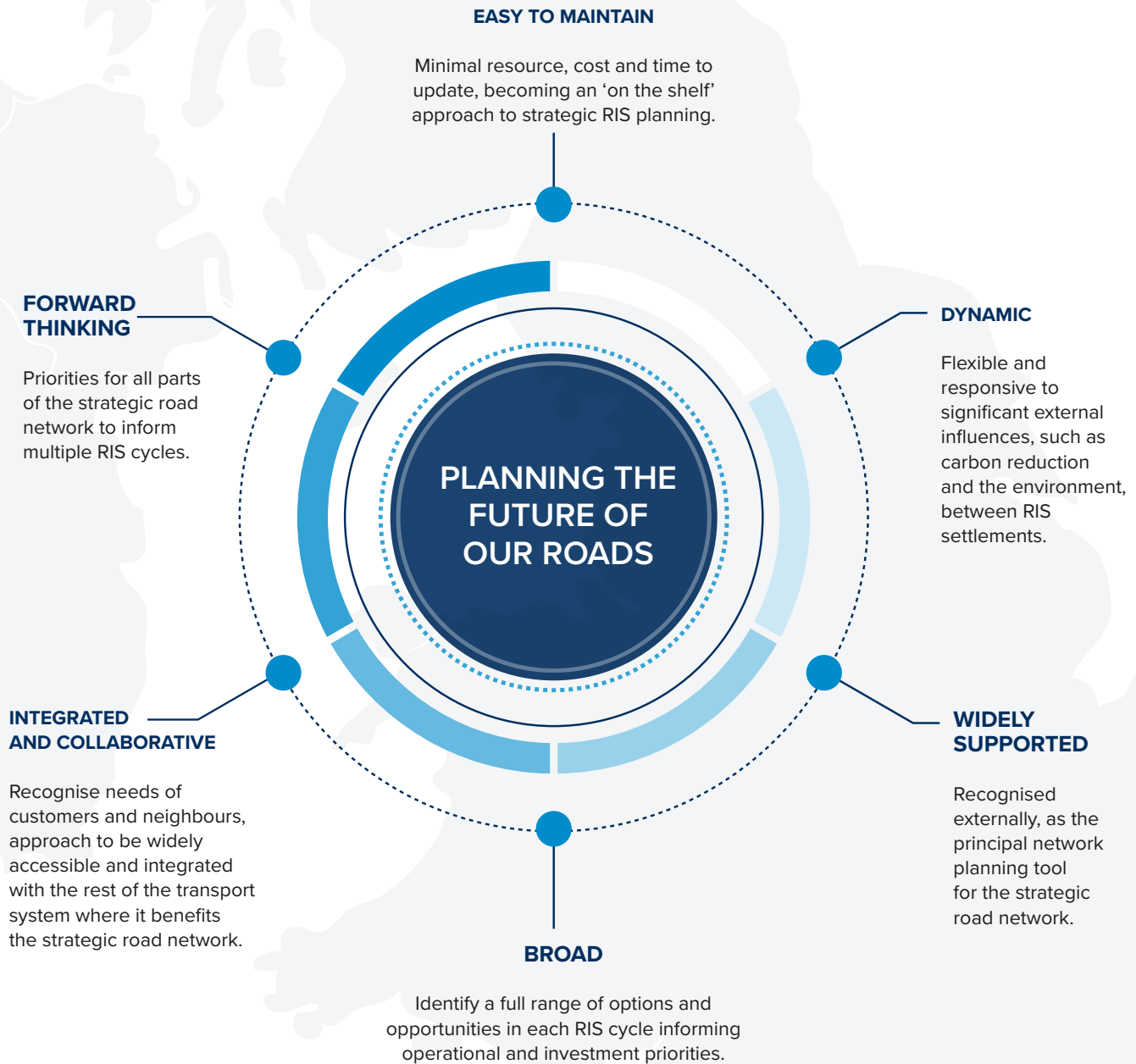


Figure 3: Our ambition for route strategies

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 (2025-2030).

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.

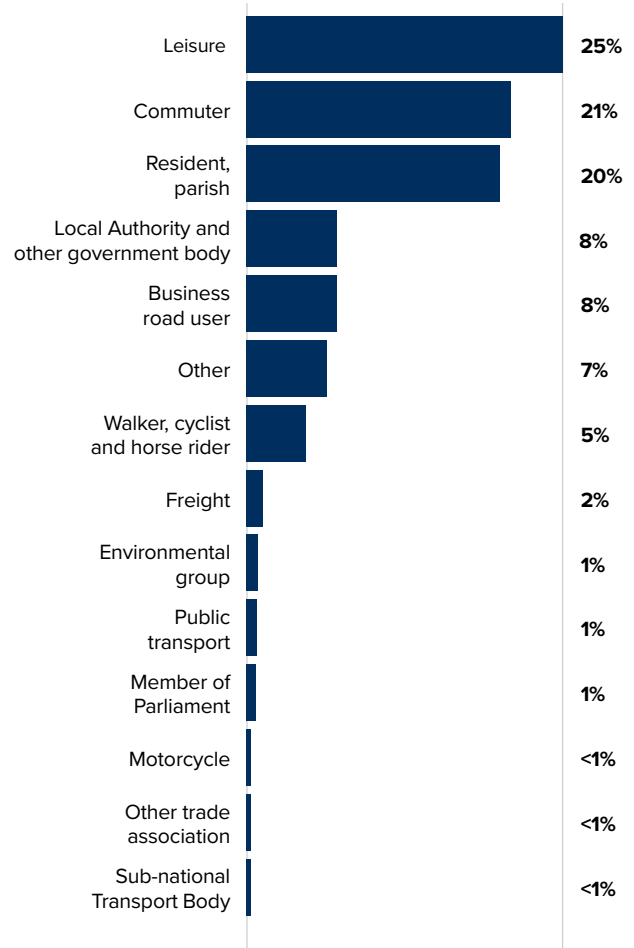


Figure 4: All responses to online tool by participant type

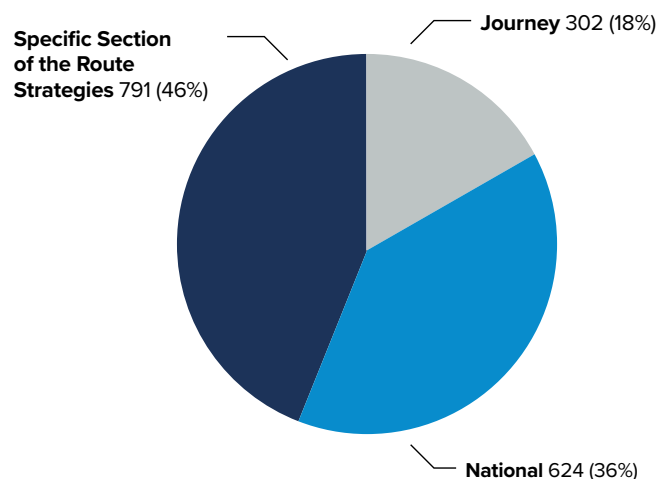


Figure 5: All response to online tool by type

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

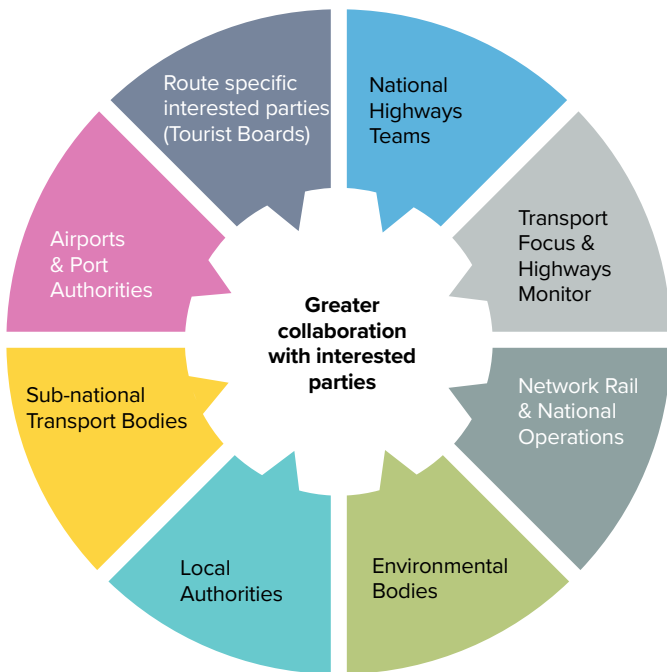


Figure 6: Interested parties involved in the route strategy engagement



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 (2025-2030) that have been agreed between National Highways and DfT and were set out in the *RIS3 Planning ahead*¹⁰ document in December 2021. They cover safety, network performance, environment, economy, management and planning for the future and technology.

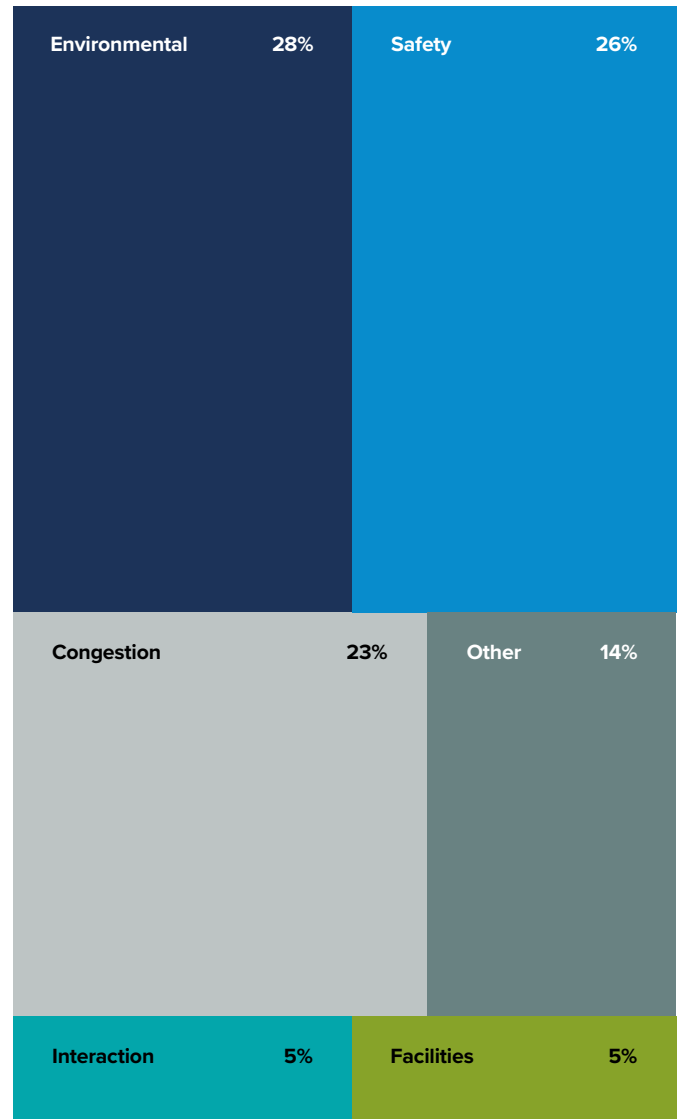


Figure 8: National themes from feedback through the online tool

¹⁰ 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*¹¹
- 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

¹¹ 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. Such needs may evolve, all of which will have an influence on the scale and type of future investments.

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*¹². 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

¹² 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 (2020-2025), 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 (2025-2030). 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 PLAN¹³. 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.

¹³ 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 (2025-2030), 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 take a more balanced view on expanding the future capacity of the SRN. We now seek to develop strategies that produce balanced investment plans with schemes of different magnitudes, delivering across multiple objectives: safety, journey time improvements, network resilience, maintenance and renewals, technology, environmental enhancement, and integration with more sustainable transport modes. The outcome will be an SRN that supports the economy but also delivers on the wider environmental challenges.

GROWING THE ECONOMY



GROWING THE ECONOMY AND LEVELLING UP: The SRN

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

The Government is committed to strengthening transport connections across the UK. Sir Peter Hendy's *Union connectivity review*¹⁴ 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.

¹⁴ 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 fully and positively as a statutory consultee in the planning system.

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

MANAGING AND PLANNING THE SRN FOR THE FUTURE



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

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

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

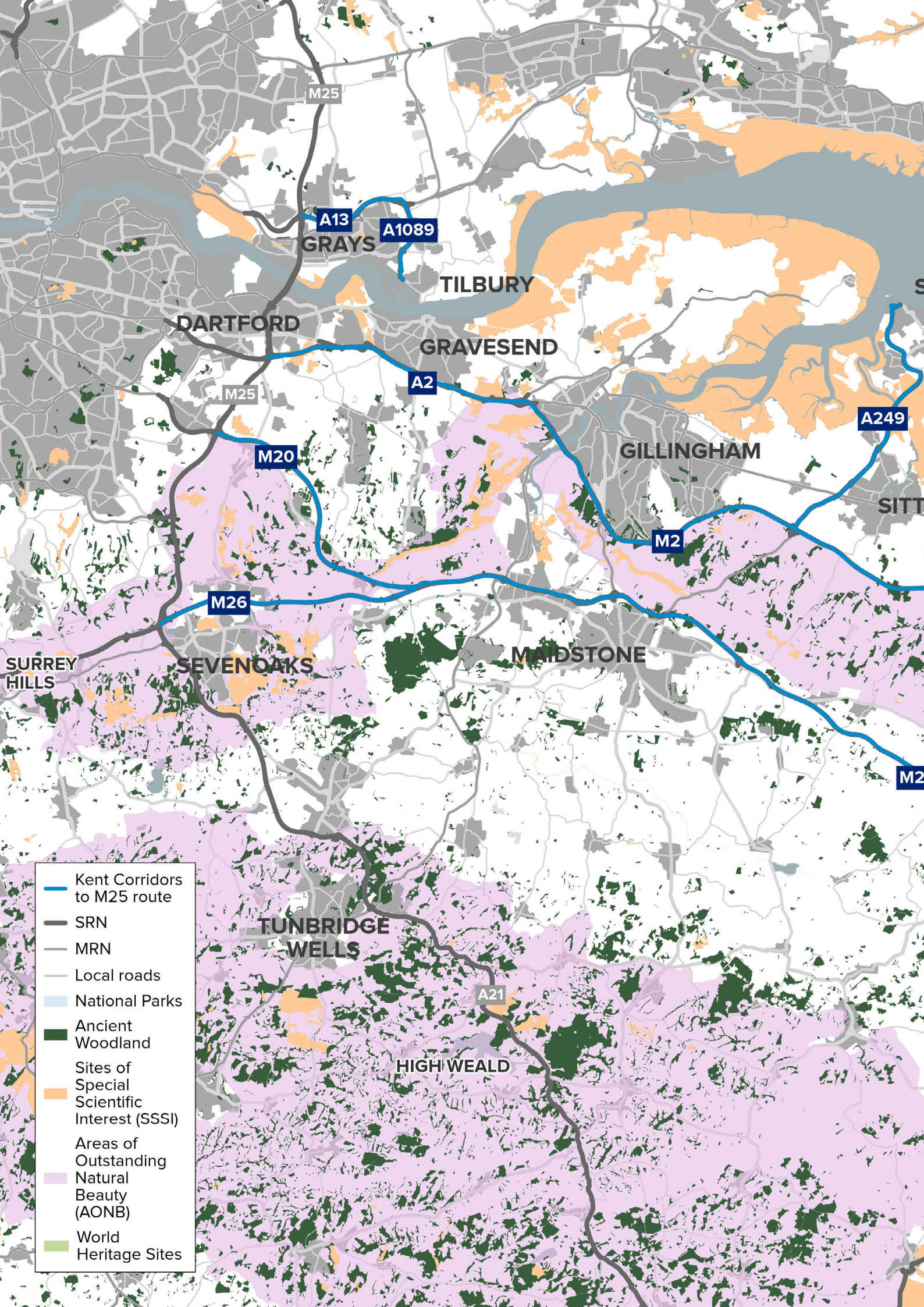
Our vision is to create an approach and establish ways of working that make sure all our asset management activity is aligned by following the key principles set out in our asset management policy. We work across the whole asset lifecycle, understanding that asset decisions we make may affect future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

A TECHNOLOGY-ENABLED NETWORK



DIGITAL ROADS: 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)¹⁵ 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 and construction, digital operations and digital for customer. These themes will continue to frame our vision towards 2030 and beyond, increasing connectivity, automation and data.

¹⁵ National Highways (2021) *Digital roads*. <https://nationalhighways.co.uk/our-work/digital-data-and-technology/digital-roads/>



- Kent Corridors to M25 route
- SRN
- MRN
- Local roads
- National Parks
- Ancient Woodland
- Sites of Special Scientific Interest (SSSI)
- Areas of Outstanding Natural Beauty (AONB)
- World Heritage Sites

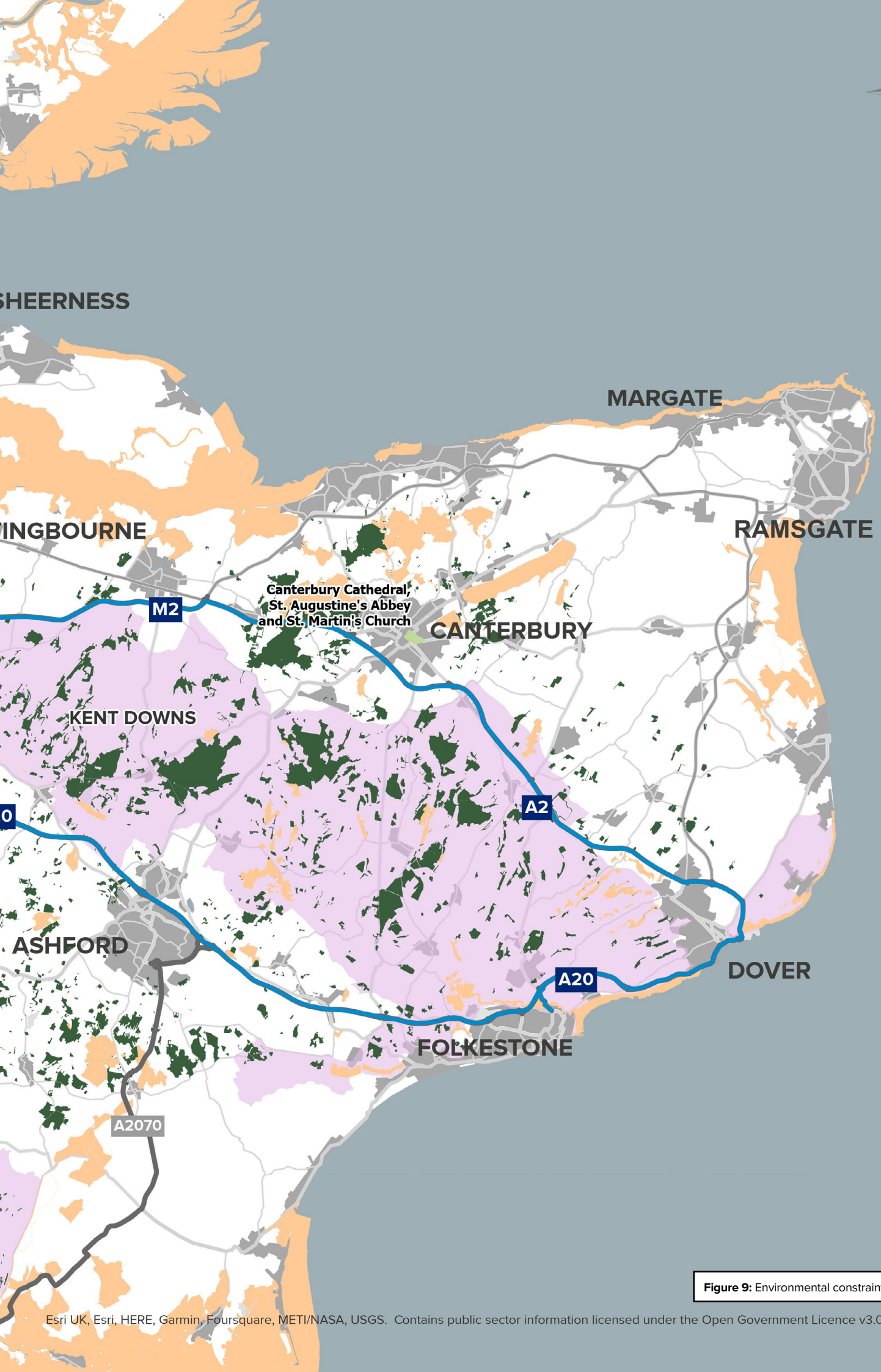


Figure 9: Environmental constraints



**Our
network
connects
the country**

02 The route

The Kent Corridors to M25 route provides access to the key international gateways of Dover, Folkestone, Sheerness, the Channel Tunnel, and the Thames ports (London Gateway and Tilbury), which form part of the Thames Freeport. It covers approximately 145 miles of the SRN within Kent and Essex.

As shown in Figure 10, the M20/ A20 and M2/A2 form corridors connecting the Channel Tunnel, Folkestone and Dover to the M25. The A249 spur from the M2 provides a link to Sheerness. The A13 / A1089 connects Tilbury Port to the M25, and provides a link to DP World London Gateway, all of which form part of Thames Freeport. The M20 and M2/A2 both provide onward connection to the Dartford Crossing (via the M25 / A282), providing access to the Midlands and wider road network nationally, and in this respect are an integral part of the UK logistics network.

The route is situated within the County of Kent and the unitary area of Thurrock. It interfaces with the M25 London Orbital Routes, linking key international gateways to the M25 and the rest of the UK. One-seventh of all UK trade passes through the Port of Dover, thus the port is of strategic importance nationally. The Thames Ports at both Tilbury and London Gateway are also of national importance for international trade, particularly given their Freeport designation.

The route connects traffic to and from these crucial international gateways, as well as linking major conurbations in the county, such as Medway, Maidstone and Canterbury, to each other and the rest of the country. It also plays a significant role in local connectivity. For example, the A2/A20 in Dover provides a route for traffic to avoid the town centre.

The route runs alongside or through much of the Kent Downs Area of Outstanding Natural Beauty (AONB), a nationally protected landscape stretching from the White Cliffs of Dover to the Surrey and London boundaries.

'Operation Brock' is at times implemented on the M20 between Junctions 8 and 9 when there is cross-Channel disruption to help keep Kent moving and safely manage heavy goods vehicles (HGVs) travelling from the UK to the continent. HGVs travelling to the Port of Dover or Channel Tunnel use the coastbound carriageway with a 30 miles per hour speed limit in place, and all other traffic uses a contraflow system on the London-bound carriageway. The Dover Traffic Access Protocol (TAP) is also sometimes activated on the A20 to minimise disruption from traffic using the Port of Dover; this protocol queues port-bound lorries in one lane of the A20 to prevent Dover becoming congested with traffic.

The A2 is an unsuitable alternative primary route for cross-Channel traffic. This is due to variable route consistency and at-grade junctions at regular intervals to integrate with the local highway network, which can worsen disruption. There is also limited provision of technology across the route.

The M20/A20 and M2/A2 are used by HGVs travelling to and from the international gateways, and tourists for international travel. The A13 and A1089 are dominated by freight traffic.

The route provides the primary access to significant urban areas of high-value economic activity, with wider geographic areas that have significant capacity for development. It also provides connectivity between these areas and other international gateways served by the M25 London Orbital, such as Heathrow Airport. The Major Road Network (MRN) and Local Road Network (LRN) work in combination with the SRN to support the movement of goods and people, particularly in providing alternative routes to and from the international gateways when there are incidents.

There are high levels of planned housing and employment development within the region, including those identified in Local Plans prepared by local planning authorities, setting out the vision for future development in the borough. Notable growth areas are around Dartford, Ebbsfleet, Gravesend, Tilbury, Maidstone, Sittingbourne, Canterbury, Ashford and Dover. This means that the route will need to support both the projected growth of freight and tourism entering the UK, as well as housing and employment growth.

This route strategy is based on the road network as of the start of the second road period (2020 - 2025). During RIS1 and RIS2 the following schemes were opened to traffic:

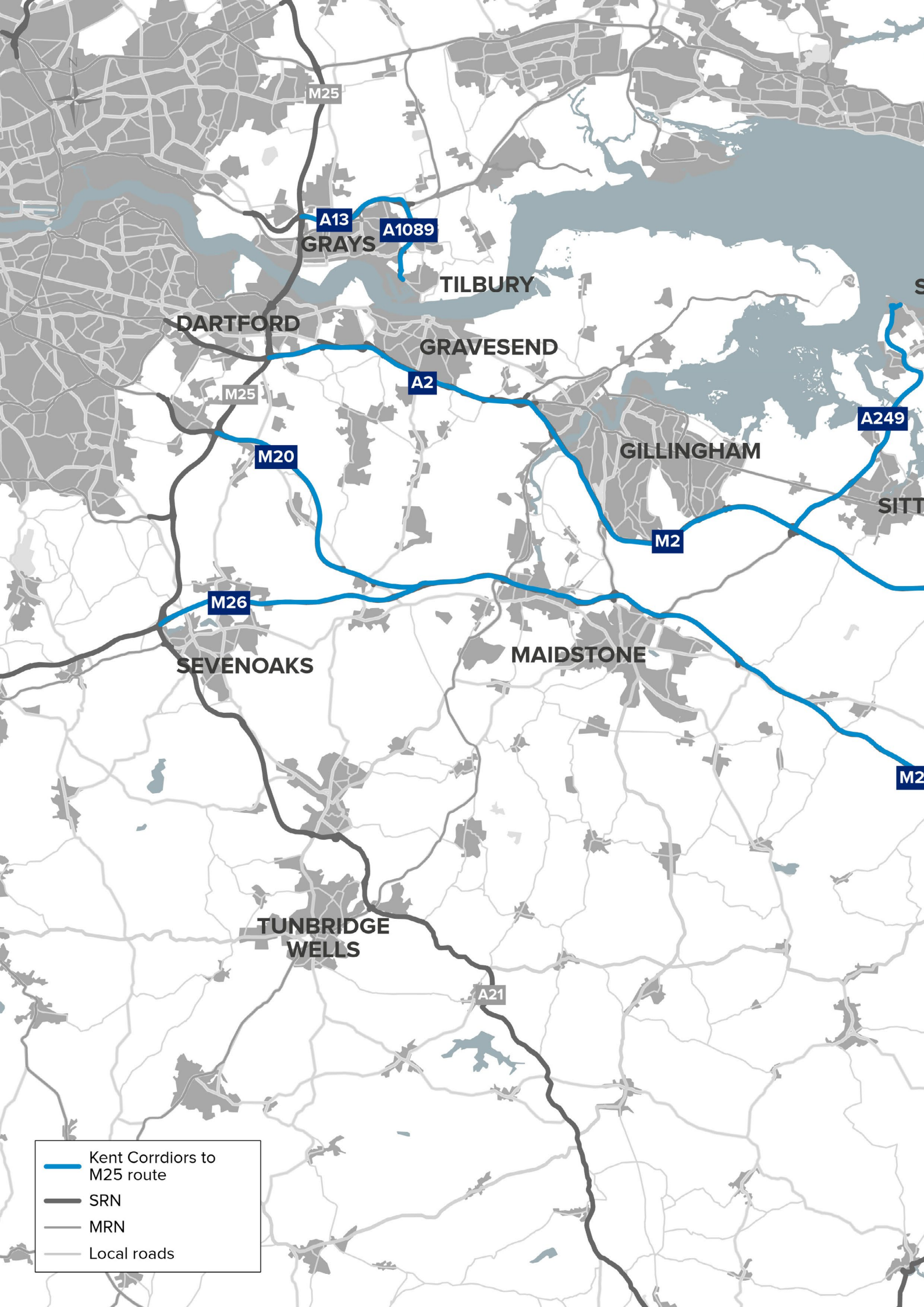
- M20 Junctions 3 to 5
- M20 Junction 10A
- A2 Bean and Ebbsfleet improvements

The M2 Junction 5 improvements is currently under construction. The following additional schemes are committed for the second road period:

- A249 Swale Infrastructure (HIF)
- Lower Thames Crossing

It is recognised that some of the journeys on this route are part of longer trips and therefore need to be considered in conjunction with strategies on other routes.





M25

A13

A1089

GRAYS

TILBURY

DARTFORD

GRAVESEND

A2

M25

M20

GILLINGHAM

A249

SITTINGBOURNE

M2

M26

SEVENOAKS

MAIDSTONE

M2

TUNBRIDGE
WELLS

A21

— Kent Corridors to M25 route

— SRN

— MRN

— Local roads



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 Kent Corridors to M25 area

Early engagement with the Department for Transport (DfT), Office of Rail and Road, Transport Focus, Transport for the South East and Transport East (Sub-national Transport Bodies) and Network Rail shaped our engagement with customers and neighbours in the Kent Corridors to M25 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 Kent Corridors to M25 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 strategic road network (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 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 Kent Corridors to M25 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*¹⁶ 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 Kent Corridors to M25 route to inform our route objectives. The themes have been aligned with the DfT's six strategic objectives:

i) Views on: Improving safety for all

- The large number of at grade junctions, where conflicting traffic flows meet in the same place, on dual carriageway sections of the route lead to delays and safety issues
- Low safety ratings on single carriageway sections

ii) Views on: Network performance

- Concern over congestion and journey time reliability across whole network
- Need to consider the congestion due to Inland Border Facilities and how it impacts on users

- Need to consider the impact of challenges with crossing to Europe across the whole length of M20, not just at portals (Eurotunnel and ports)
- Concerns of network performance when Dover Traffic Access Protocol is in place
- Challenge of accommodating traffic moving between M2 and M20. Potential trunking of A229, A249 and A299 should be considered to address lack of suitable link between the M20/A20 and M2/A2
- Lack of resilience on the M20 and M2/A2, and a need to dual the A2 to combat this
- Essential need for suitable rest areas to stop heavy goods vehicles (HGVs) using existing laybys as overnight sleep stops. Off-road parking for HGVs does not meet demand and HGV drivers often arrive at parking to find it full and lacking facilities. This is exacerbated when there are challenges with crossing to Europe
- Constraints at Whitfield and Duke of York Roundabouts regarding access to Dover
- A229 Bluebell Hill results in congestion on LRN links, M2 Junction 3 and M20 Junction 6
- Brenley Corner (M2 Junction 7) is a key interface with local roads, but currently experiences significant issues
- Lack of high speed services from Dover and Folkestone. Rail users drive to stations to catch High Speed services (e.g. Ebbsfleet) or station in other towns for convenience ("railheading")
- Lack of access across the Thames
- Potential impact of Lower Thames Crossing on LRN and other SRN routes. Lower Thames Crossing may change traffic flows on links between M2/A2 and M20 - A229, A228, A228
- Wider impacts of Lower Thames Crossing and sequencing with other transport schemes. Potential change of network use may result in changes to traffic flows on MRN

¹⁶ Transport Focus, 2022, *Transport Focus Website*, <https://www.transportfocus.org.uk/insight/strategic-roads-user-survey/>

iii) Views on: Improved environmental outcomes

- Poor access to Dover Port via sustainable or active modes
- Poor east-west connectivity via rail and slow links between Kent and the south coast (e.g. Maidstone to Brighton)
- Need to understand the role of the SRN in decarbonisation, and how use of and improvements to the SRN (creating more use) becomes compatible with this
- Potential adverse air quality impacts on residential receptors due to planned works
- Need further input in early stages of plan-making and future planning to avoid car dependent housing development
- Aspirations to shift more freight to rail subject to address significant constraints in regions
- No priority for public transport on the SRN

iv) Views on: Growing the economy

- Capacity issues at various junctions across the network inhibits housing and employment growth
- A number of new housing developments are designed for easy access to the SRN, but there are challenges in providing direct connections
- Role of SRN in supporting (not just mitigating) the significant regeneration and growth planned for this region
- Importance of improved network resilience to support the efficient running of Dover Port and, therefore, economic growth
- Opportunity to leverage growth to develop better mass transit systems
- The South East is seen as an affluent area, but there are pockets of deprivation that need help via the levelling up agenda
- Additional pressure on the MRN links between the M2 and M20 due to commuting from Medway or Swale to Maidstone

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

- Junction improvements that address current congestion and Local Plan growth should be future proofed

vi) Views on: A Technology-enabled network

- Essential that technology is increased for routing to the ports, border control points and inland border facilities
- Management systems (such as Dover Traffic Access Protocol) are manually monitored and triggered
- Communication infrastructure is needed for when there is disruption on the road network
- Electric vehicle charging infrastructure and alternative fuel infrastructure is required to support low carbon fuels
- Lack of technology (including communications and signage) on M2
- More road signage to communicate travel conditions across channel
- Impact of automated vehicles and infrastructure to enable use
- Limited infrastructure for vehicles to refuel or recharge
- Needs to be enough electric vehicle charging provision at motorway service areas
- Uncertainty of the future roll out of all lane running smart motorways

Engagement quotes from customers and neighbours



Figure 11: Quotes from customers and neighbours

“People drive to Ebbsfleet [International Station] to catch High Speed – from all over”

(Route Strategies Engagement)

“[A key issue is] access (freight) to Port of Tilbury (freeport plans) and London Gateway”

(Route Strategies Engagement)

“It was an easy journey, no hold ups but the M26 is not lit which I don’t like.”

(Transport Focus, SRUS)

“A249 [creates] severance for rural communities”

(Route Strategies Engagement)

“Essential that technology usage [is] increased for routing to the Ports and the Border Control Posts (BCPs) and Inland Border Facility (IBFs)”

(Route Strategies Engagement)

“Impact of LTC across the wider network, and potentially also the relative priority/sequencing of delivering other interventions depending on its timing”

(Route Strategies Engagement)

“[There are] congestion and journey time reliability issues across the whole network”

(Route Strategies Engagement)

“Capacity issues at various junctions across the network inhibits housing and employment growth”

(Route Strategies Engagement)

“With more HGVs using facilities in Kent, essential for suitable rest areas to stop HGVs using existing laybys as overnight sleep stops”

(Route Strategies Engagement)

Route satisfaction

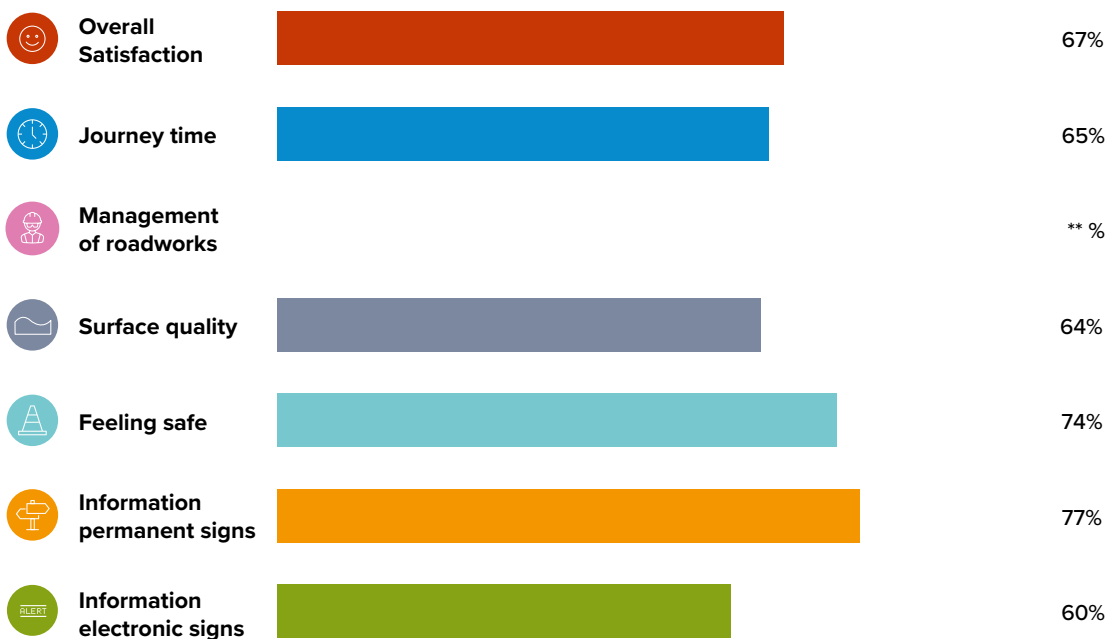
Satisfaction scores have been obtained from Transport Focus through their Strategic Roads User Satisfaction Survey from the last 12 months to May 2022. It covers the roads in this route but it should be noted that the satisfaction scores may not fully align with the extent of the roads in the route. Figure 12 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 hub¹⁷.

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

Strategic roads user survey satisfaction scores

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



National Highways Region South M25, South East
National Highways Areas Area 4 Kent, Sussex
Individual road M2, M20, M26, A2, A13, A20, A249, A1089
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

¹⁷ Transport Focus data hub: <https://transportfocusdatahub.org.uk/>





**Working
with our
partners**

04 Network collaboration

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

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

An integrated transport network

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

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

Through the collection of evidence with their local authorities and Local Enterprise Partnerships, their work highlights multimodal issues, needs and opportunities. A list of potential interventions for transport are then provided to the Secretary of State for Transport, including where to prioritise investment in the major road network (MRN). We work closely with the Sub-national Transport Bodies on interdependencies and align our approaches where possible. The Sub-national Transport Bodies that cover the route are:

- Transport for the South East
- Transport East

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*¹⁸, and within our *Strategic business plan*¹⁹ and *Delivery plan*²⁰. 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*²¹, 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.

¹⁸ Department for Transport, March 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

¹⁹ Highways England, 2020, *Strategic Business Plan: 2020-2025*, <https://nationalhighways.co.uk/strategic-business-plan>

²⁰ Highways England, 2020, *Delivery Plan: 2020-2025*, <https://nationalhighways.co.uk/delivery-plan/>

²¹ 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 appropriately as a statutory consultee in the planning system and the evidence collected through the route strategies will support this decision making.

Transport for the South East

Transport for the South East (TfSE) published its *Transport strategy*²² for the South East in 2020. The plan has been created with the support of the 16 Local Transport Authorities within the TfSE area, along with the five Local Enterprise Partnerships, 46 district and borough councils, and other key interested parties, such as Network Rail.

The Strategy sets out the TfSE's 30 year vision for the region, with their strategic goals and priorities. Their 15 strategic priorities sit under three strategic goals: **economy** (to improve productivity and attract investment in the global marketplace), **society** (to improve health, safety, wellbeing, quality of life, and access to opportunities for everyone), and **environmental** (to protect and enhance the South East's environment).

The **economic priorities** are as follows:

- better connectivity between our major economic hubs and international gateways (ports, airports and rail terminals), and their markets

- more reliable journeys for people and goods travelling between the South East's major economic hubs, and to and from international gateways
- a transport network that is more resilient to incidents, extreme weather and the impacts of changing climate
- a more integrated approach to land use and transport planning that helps our partners across the South East meet future housing, employment and regeneration needs sustainably
- a 'smart' transport network that uses digital technology to manage transport demand, encourages shared transport and makes more efficient use of our roads and railways

Social priorities are as follows:

- a network that promotes active travel and active lifestyles to improve our health and wellbeing
- improved air quality supported by initiatives to reduce congestion and encourage further shifts to public transport
- an affordable, accessible transport network for all that promotes social inclusion and reduces barriers to employment, learning, social, leisure, physical and cultural activity
- a seamless, integrated transport network with passengers at its heart, making it simpler and easier to plan and pay for journeys and to use and interchange between different forms of transport
- a safely planned, delivered and operated transport network with no fatalities or serious injuries among transport users, workforce or the wider public

²² Transport for the South East (TfSE), 2020, *TfSE Transport strategy*
<https://transportforthesoutheast.org.uk/app/uploads/2020/09/TfSE-transport-strategy.pdf>

The **environmental priorities** are as follows:

- a reduction in carbon emissions to net zero by 2050 at the latest, to minimise the contribution of transport and travel to climate change
- a reduction in the need to travel, particularly by private car, to reduce the impact of transport on people and the environment
- a transport network that protects and enhances our natural, built and historic environments
- use of the principle of 'biodiversity net gain' (i.e. development that leaves biodiversity in a better state than before) in all transport initiatives
- minimisation of transport's consumption of resources and energy

The strategic priorities set out in the TfSE Transport Strategy provide a clear framework to inform future decision-making. The strategy is intended to support the creation of a 'more productive, healthier, happier and more sustainable South East'.

The Strategy highlights that the rail and road routes that connect the South East to the Midlands and North of England are particularly important for freight. A key challenge identified is that the roads serving the Port of Dover and Eurotunnel routinely suffer from poor resilience due to port and border operations on both sides of the English Channel, which can cause freight traffic to build up on the M20. The Strategy suggests that the A2 trunk road east of Canterbury could be further developed to strengthen the resilience of both corridors serving these two important gateways.

Transport East

Transport East published its Draft transport strategy in November 2021²³. It aims to overcome some of the transport challenges experienced by delivering a fit for purpose, high quality, inclusive and sustainable transport network that will be able to accommodate future growth in the area. Transport East's vision is "A thriving economy for the East, with fast, safe, reliable and resilient transport infrastructure driving forward a future of inclusive and sustainable growth for decades to come".

There are four strategic priorities to deliver this vision:

- **Decarbonisation to net zero** - Working to achieve net zero carbon emissions from transport, building on the region's status as the UK's premier renewable energy region
- **Connecting growing towns and cities**
Providing enhanced links between our fastest growing places and business clusters, improving access for people to jobs, suppliers, services, and learning; enabling the area to function as a coherent economy and improving productivity
- **Energising coastal and rural communities**
A reinvented sustainable coast for the 21st century, which powers the UK through energy generation. Supporting the region's productive rural communities and attracting visitors all year round
- **Unlocking international gateways**
Better connected ports and airports to help UK businesses thrive, boosting the nation's economy through better access to international markets and facilitating foreign investment

Six core corridors have been identified that are the road and rail links between the region and the rest of the UK.

²³ Transport East (2021), *Transport East draft transport strategy*, <https://www.transporteast.org.uk/wp-content/uploads/TransportEastStrategy.v6.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 Road Investment Strategy is ensuring the impacts of any interventions are appropriately considered across all networks as well as at their junctions. Both networks play a key role in customers' journeys, and they expect a seamless transition between the two. We are continually seeking to identify collaborative solutions that meet our obligations under the National Highways Licence to improve network performance and provide integration benefits. In developing the route strategies, we aim to ensure the planning for the SRN, MRN and other local roads is complementary.

In the Kent Corridors area, the MRN and Local Road Network (LRN) work in combination with the SRN to support the movement of goods and people, particularly in providing alternative routes to and from the international gateways when there are incidents. Diversion routes are made up of roads that connect the M20 and M2 (including parts of the A228, A229, A251 and non-SRN sections of the A249) and routes parallel to the SRN (including parts of the non-SRN sections of the A2 and A20, A250, A289, A226, and A227).

As part of the Lower Thames Crossing project, National Highways is proposing a Wider Network Impacts Management and Monitoring Plan which would provide data to local highway authorities. That data will enable further collaboration, and allow local highway authorities to prepare applications to fund improvements from existing central government streams

Freight and logistics

The Future of Freight: a long-term plan (DfT June 2022)²⁴ 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 gross domestic product (GDP) in 2019, we are reliant on the freight and logistics sector for our economic wellbeing.

*The National survey of lorry parking*²⁵ undertaken by the Department of Transport showed that Kent was repeatedly discussed during consultation. Parking issues relate to the Port of Dover and the Channel Tunnel (Folkestone). Issues identified relating to lorry parking include a shortage of between 1,000 and 1,200 heavy goods vehicle (HGV) parking spaces in Kent.

²⁴ Department for Transport, 2022, *Future of Freight: a long-term plan*, Department for Transport https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1085917/future-of-freight-plan.pdf

²⁵ Department for Transport, 2018, *National Lorry Park Survey*, Department for Transport https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/723349/national-survey-of-lorry-parking-report.pdf

The report highlights that additional parking capacity is required in the following areas or at existing facilities within Kent: Gravesend or Cobham, Lydden, Northeast Maidstone, Sevenoaks (M25/M26), Ashford and Stop 24 Folkestone.

The area between London and the South East coast leading to Dover Port has an excess of vehicles parking off-site, including on hard-shoulders and slip roads, and a high number of critically defined Truckstops (service areas which are primarily aimed at lorry drivers, providing somewhere to park, eat and use toilets and showers). Almost all lorry parks within Kent were identified as being at critical levels of utilisation.

Diversiory 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.

There are a number of diversion routes that run alongside or broadly parallel to the M20/A20 on the western side of the route. However, limited options for the other sections of the route include the M2/A2 between Faversham and Dover, A249, A13 and A1089. Some

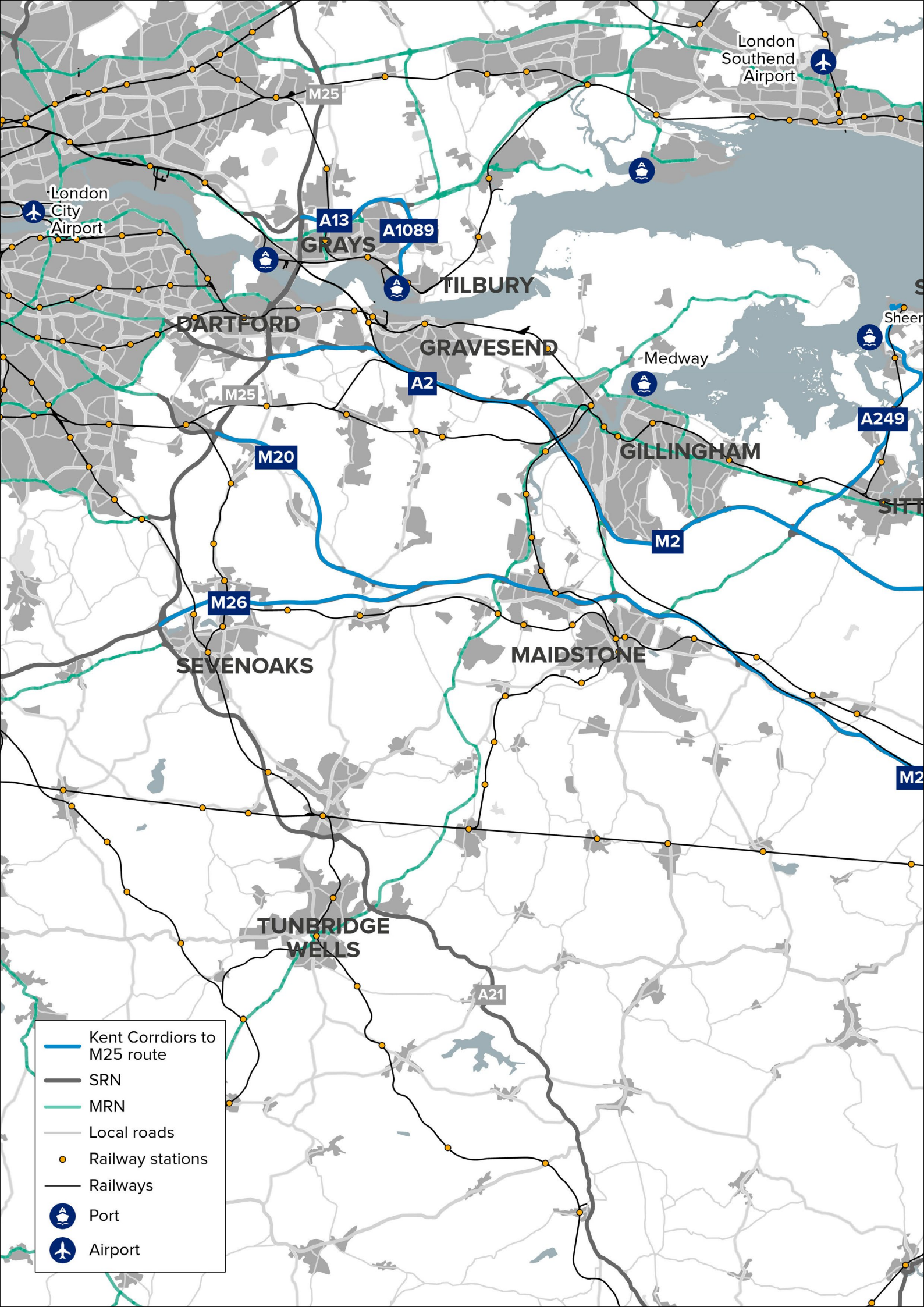
M20 diversion routes are less suitable for high volumes of freight or general traffic.









This is particularly notable on the A2, because of route inconsistencies (variable route standard and number of lanes), and on the A249 and A229, which are used as links between the M20 and M2. A lack of alternative diversion routes to and from Dover can lead to congestion within the wider region during periods of disruption.

Based on the current situation, the Lower Thames Crossing aims to provide additional resilience in the event of diversions and widen driver choice.

There is also a lack of technology to support the redistribution of traffic, and limited access to network conditions, including collisions and diversions for port operators and SRN users.

The provision of diversion routes is dependent on the nature of the incident and the suitability and availability of the surrounding network. In some instances, the diversion route may be less suitable for the use of HGVs. We are currently reviewing the quality and coverage of these routes. We work closely with local authorities, namely Kent County Council and Essex County Council to ensure all diversion routes are available.



-  Kent Corridors to M25 route
-  SRN
-  MRN
-  Local roads
-  Railway stations
-  Railways
-  Port
-  Airport



SHEERNESS

MARGATE

MARGATE

RAMSGATE

CANTERBURY

Kent International Airport

Ramsgate

M2

A2

A20

ASHFORD

Dover

DOVER

FOLKESTONE

A2070

Lydd Airport

Figure 13: Network integration

Esri UK, Esri, HERE, Garmin, Foursquare, METI/NASA, USGS. Contains public sector information licensed under the Open Government Licence v3.0.

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.

*The Network Rail Strategy*²⁶ 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 seeks to deliver its vision through a regional structure committed to responding to the needs of local customers and stakeholders, more quickly than if such decisions were made at a national level.

At a strategic level, 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 route provides access to numerous transport hubs and services used for both local and international travel, including the Port of Dover, The Channel Tunnel, High Speed 1 and DP World London Gateway. The Kent rail network is one of the busiest and most *congested in the country*²⁷. In addition, the network provides links for onward travel beyond the region, including key destinations on the south coast (via Ashford), and internationally (via Europe and the Channel Tunnel).

Poor rail connectivity other than between Kent and London, and slow links between Kent and the south coast (e.g. Maidstone to Brighton), can result in travellers choosing to drive rather than using sustainable travel services. The contained nature of the High Speed rail network and lack of east-west connectivity means that some rail users drive to stations to catch High Speed services (such as Ebbsfleet), or stations in other towns for convenience. This is known as 'railheading'.

Our route strategies understand the key role in which the SRN plays in providing access to and from these services.

The Network Rail South East Route: *Kent Area Route Study*²⁸ identifies a lack of intermodal traffic on the Kent routes due to gauge constraints. Strategic rail freight interchanges would be required across Kent to supplement any further mode shift.

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.

²⁶ Network Rail, February 2018, *Our delivery plan for 2019 – 2024*,

<https://www.networkrail.co.uk/who-we-are/publications-and-resources/our-delivery-plan-for-2019-2024/>

²⁷ <https://www.networkrail.co.uk/running-the-railway/our-routes/kent/>

²⁸ Kent County Council, September 2021, *Kent Rail Strategy 2021 Consultation Draft*,

<https://democracy.kent.gov.uk/documents/s98715/>

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 published in late 2021*²⁹. 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.

As part of the proposed UKNET, the Kent Corridors to M25 route itself plays a pivotal role in enabling international connectivity and trade by providing access routes to global markets via international gateways. There are major air, rail, sea and Freeports in the region that support the national economy and rely on the key transport corridors to connect to the M25 and, in turn, the wider UK. The route is important for both passengers and freight, and the SRN is considered within this broader context.

International connectivity

One of the objectives of the SRN is to support the important economic activity involved in international passenger and freight movement via good connections to ports and airports.

A key aspect of route strategies is ensuring that future investment continues to support these essential movements.

Along the Kent Corridors to M25 route, this means that the M20/A20, A2/M2 and A13/A1089 need to be considered not only within the context of the local access they provide, but also the connectivity they provide to international centres. These include the Port of Dover, Channel Tunnel, Medway Ports Cluster (Sheerness and Chatham Ports), Port of Tilbury, Thames Freeport and DP World London Gateway. The overall route provides connectivity between these international centres to the M25 and, in turn, the wider UK.

²⁹ 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 Department for Transport'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 National Traffic Information Service (NTIS) 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 prioritise route treatment. 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.

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

- A1089
- A249 north of the M2
- A2 between Aylesham and Dover

STATS19 data shows that there are concentrations of collisions on sections of the route where people were killed or seriously injured – including:

- coast-bound on the M20 between Maidstone and Ashford
- coast-bound on the M2 between the A249 and the A251

Using the latest available crash density data, the following parts of the route are classified as medium-risk roads by the Road Safety Foundation:

- the A2 between M2 and M25

The highest percentage of collisions resulting in death or serious injury of walkers, cyclists or horse riders, are on the A2 between the M2 and Dover, and the A249 north of the M2.

The data shows that between 26 and 50% of collisions resulting in death or serious injury involved motorcyclists on the A2, A249 north of the M2 and M26 sections of the route. This increases to 67% of recorded collisions on the A20 between Dover and Folkestone (from a small sample size).

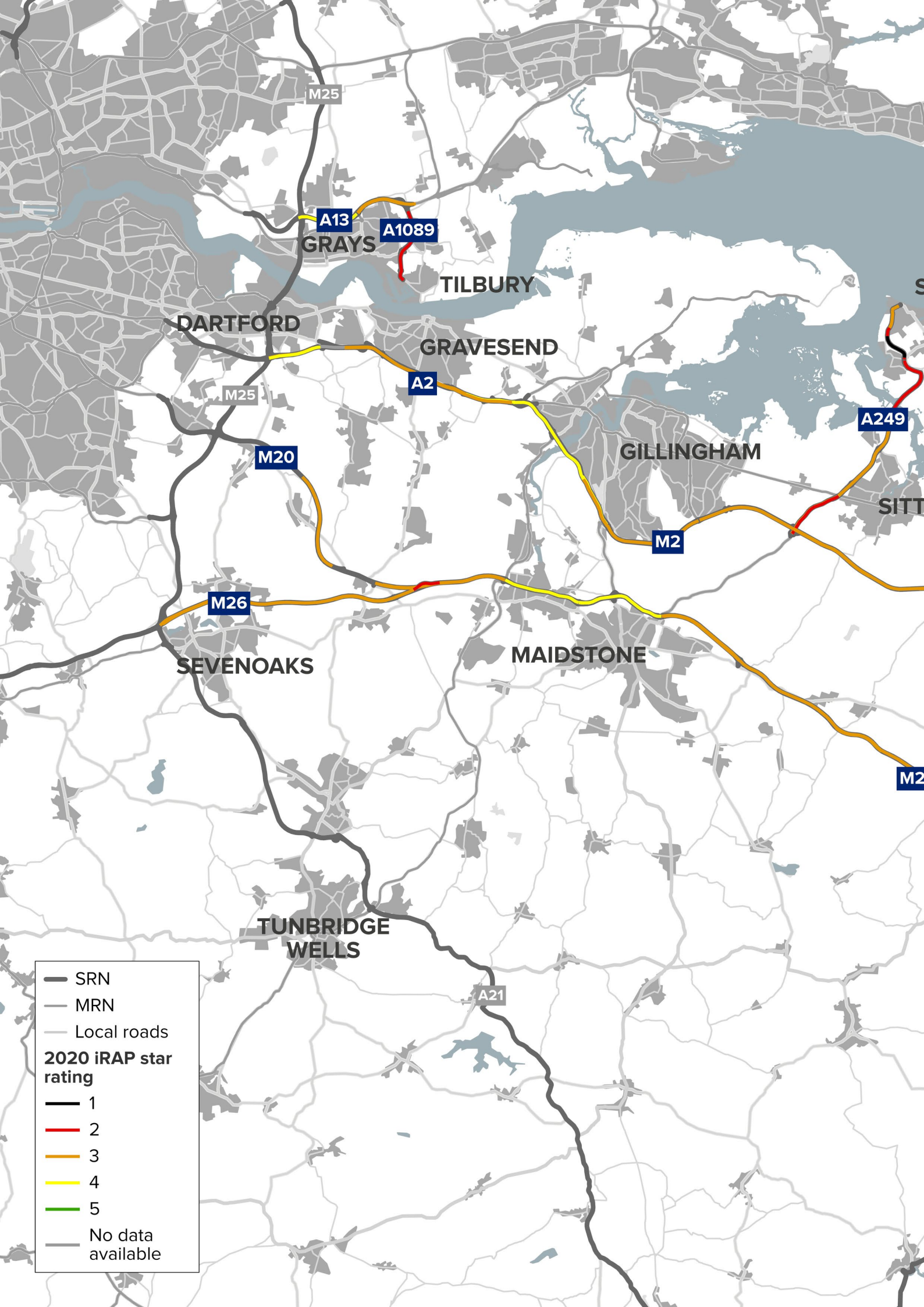
Much of the route is east-west facing, resulting in safety issues due to sun glare.

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

Key challenges

- The safety levels built in to the route (based on the International Road Assessment Programme) are rated as either 1-star or 2-star, on the A1 between Aylesham and Dover, the A249 north of the M2 and the A1089
- Higher collision rates and a higher proportion of collisions where someone has been killed or seriously injured occurred at key locations on the coastbound M20 and M2
- A higher percentage of collisions where someone has been killed or seriously injured involving walkers, cyclists or horse riders can be found on the A2 and A249, and involving motorcyclists on the A20, A2, A249 and M26
- The orientation of the route can result in safety issues due to sun glare





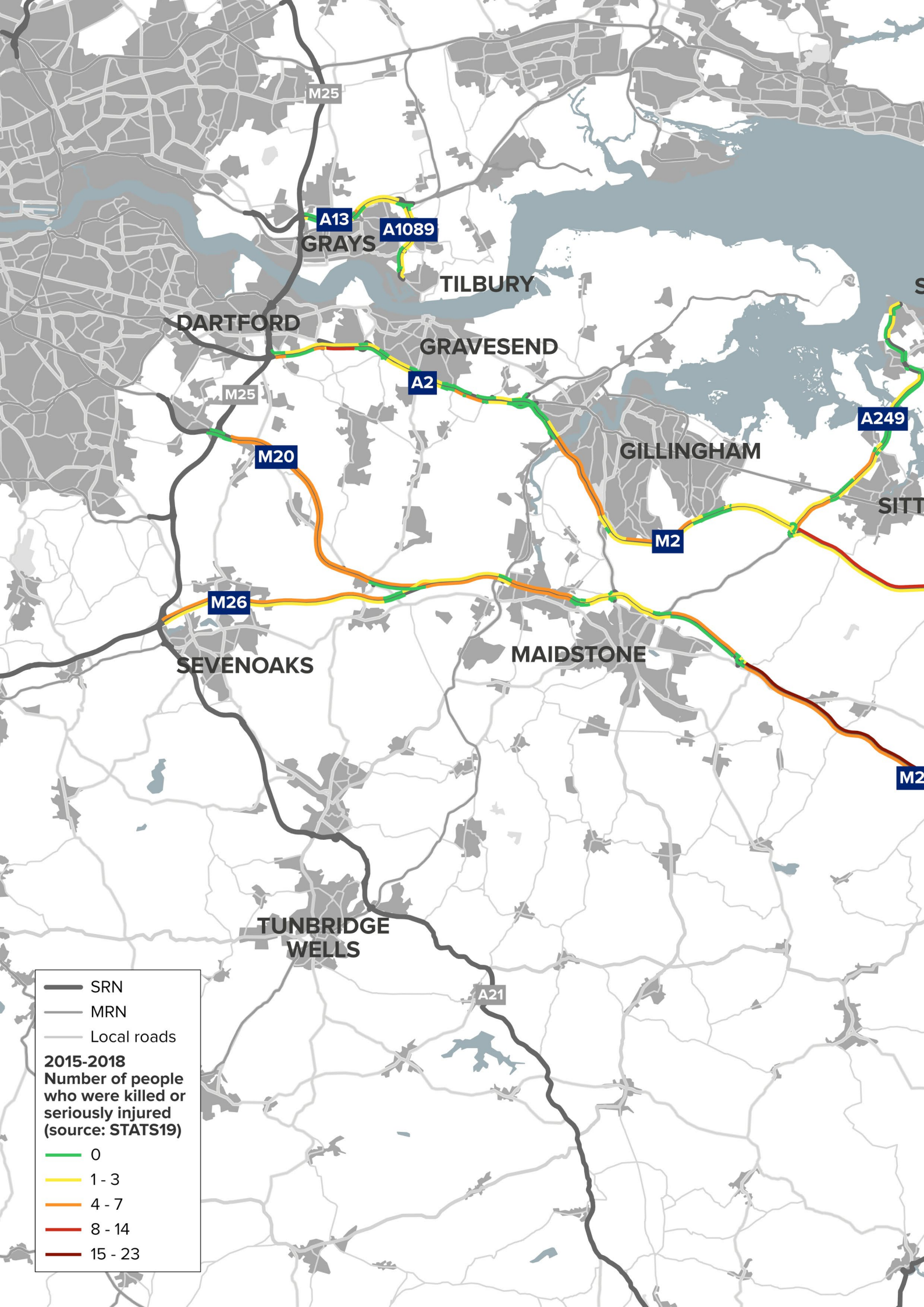
— SRN
— MRN
— Local roads

2020 iRAP star rating

- 1
- 2
- 3
- 4
- 5
- No data available



Figure 14: 2020 iRAP star rating



— SRN
— MRN
— Local roads

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

- 0
- 1 - 3
- 4 - 7
- 8 - 14
- 15 - 23



SHEERNESS

MARGATE

INGBOURNE

RAMSGATE

M2

CANTERBURY

A2

0

ASHFORD

A20

DOVER

A2070

FOLKESTONE

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



2. Network performance

Network performance is measured by average delay, seasonal delay and journey time reliability. Many sections of the Kent Corridors to M25 route experience one or more of these types of delay.

Figure 16 shows the delay caused by congestion during the morning peak in 2019. The lengthiest delays experienced on the Kent Corridors to M25 route are:

- A249 Sittingbourne southbound to the M2 Junction (up to 112 seconds pvpm)
- M20 Maidstone (up to 58 seconds pvpm)
- A2 and A20 Dover (up to 42 seconds pvpm)
- A2 at Gravesend (up to 38 seconds pvpm)

On the Kent Corridors to M25 route, delays are exacerbated by seasonality due to travel to coastal destinations and Europe via the Port of Dover and the Channel Tunnel, particularly:

Average peak period delay is measured in seconds per vehicle 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.

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

- on the A2 between Gravesend and the M25
- around the Junction of the M20/M26
- on the A2 on approach to Dover
- on the A249 approach to M2 Junction 5

The Major Road Network (MRN) connects strategic locations and the SRN, as well as providing alternative routes. Local roads, including the MRN, that interface with the SRN can suffer from impacts of the lack of SRN alternative routes and capacity or reliability issues.

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 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 mile. It is a concern for most drivers, but particularly affects just-in-time freight traffic and other strategic journeys.

When there is disruption at the international gateways, freight traffic queues can extend onto the network, including through towns and residential communities. With forecast freight usage increasing, this will place additional pressure on already constrained facilities. Diversion routes are often less suitable for high volumes of freight or general traffic, which can result in secondary impacts, such as increased congestion, reduced air quality and increased noise. This lack of suitable alternative routes means that incidents can result in severe disruption across both the SRN and MRN, as well as local roads. Limited technology provision makes it more difficult to manage disruptive incidents and communicate information to users.

Some junctions suffer from delay when traffic diverts (or in some cases during typical operation), particularly where the MRN and LRN interact with the SRN. Junctions mentioned by interested parties include the:

- M2 Junction 7 (Brenley Corner), due to there being no freeflow movement for traffic travelling between the M2 and A2
- A2 Whitfield and Duke of York Roundabouts, due to insufficient capacity to accommodate traffic volumes
- A13/A1089 Junction, the M2 Junction 3 (Bluebell Hill) and M20 Junction 6, due to rerouting traffic using the A229

Committed Housing Infrastructure Fund schemes are expected to improve congestion at two junctions on the A249 north of the M2. Local Road Network operation can also result in local traffic 'junction hopping', for example at Ashford, Maidstone, Medway, Gravesham and Dartford.

The A229 plays a significant role in supporting the SRN, but does not form part of the SRN. It is the shortest and most direct connection between the M20 and A2, and supports freight movement. However, it also provides an important link for local traffic travelling between key towns and settlements in Kent.

*Kent County Council*³⁰ are investigating options to improve the A229 Blue Bell Hill between M20 Junction 7 and M2 Junction 3 to increase journey time reliability, reduce delays and enhance road safety.

The route serves as a trading route internationally, with high volumes of heavy goods vehicle (HGV) traffic using it daily. During typical operation, delays are apparent on the links to international gateways, including:

- M20 at Maidstone and Ashford
- A249 north of the M2
- In and around Dover
- A13 / A1089 east of the M25
- A2 on approach to the M25

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.

³⁰ <https://www.kent.gov.uk/roads-and-travel/road-projects/planned-road-projects/a229-blue-bell-hill>

Figure 17 highlights the morning peak delays for 2031, based upon forecasts. The data shows that delays (measured in seconds pvpm) are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover and the M2 at Stockbury and Faversham.

The Dartford Crossing's unique position as the only road crossing of the Thames east of London makes it one of the UK's most vital roads, but due to the huge demand it is also the most congested and least reliable. Problems at the Dartford Crossing frequently result in significant issues to traffic flow, not just at the crossing itself, but along the M25 and rippling out along other parts of the strategic and local road networks. As demand on the network grows, these effects will become more acute.

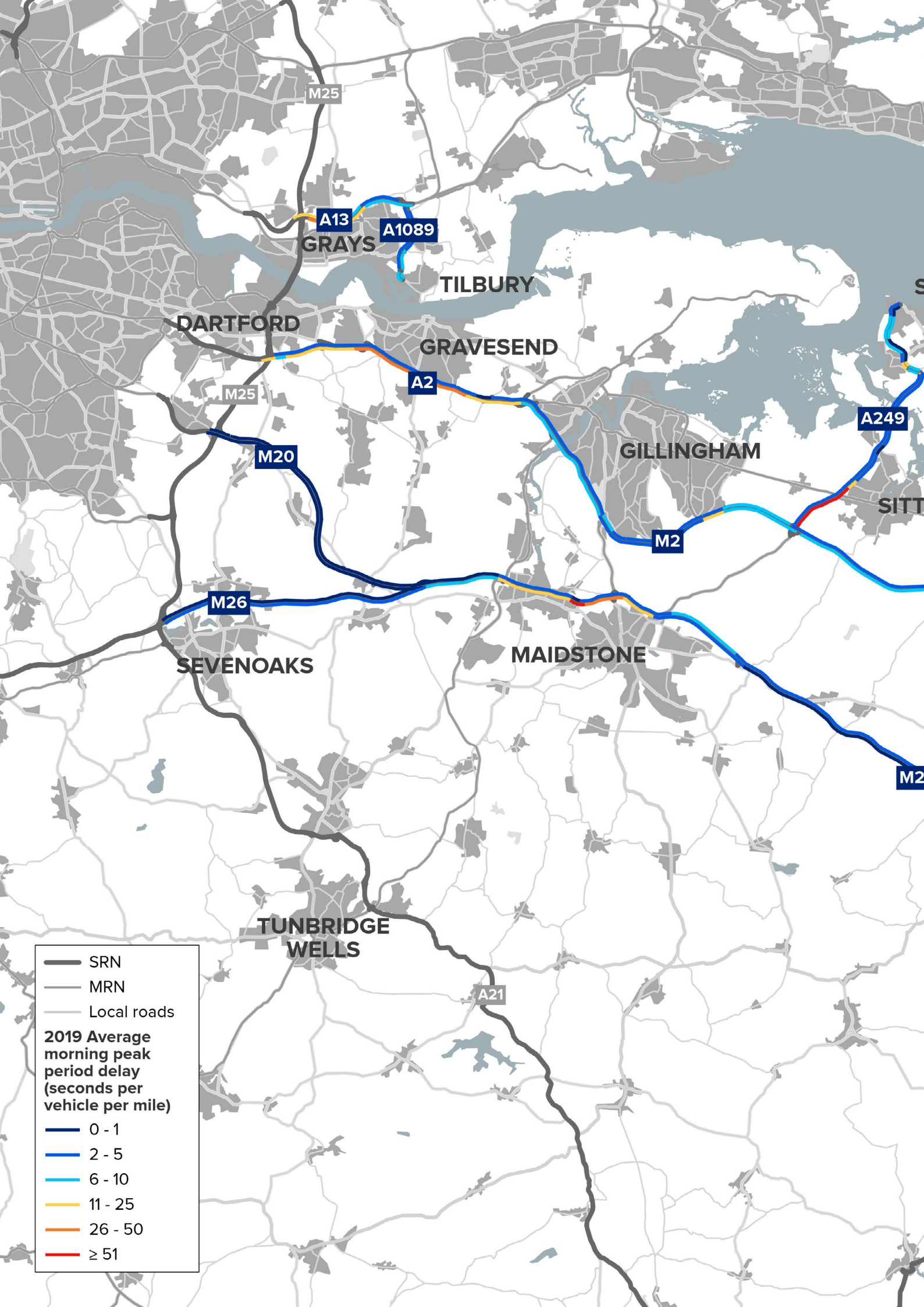
On its day of opening The Lower Thames Crossing will take around 22% of traffic off the Dartford Crossing, improving its reliability by easing congestion and reducing the likelihood of incidents at Dartford (including weather resilience), while also providing a free flowing alternative to the existing crossing.

The implementation of the Lower Thames Crossing scheme is expected to provide benefit to freight movement across the SRN within the Kent Corridors area with some sections of the strategic road network seeing higher or lower volumes of freight traffic.

Key challenges

- Congestion related delay occurs on sections of the A2, A249, M20 at Maidstone, the A2 and A20 at Dover, and the A13 and A1089
- Local roads, including the MRN, that interface with the SRN can suffer from consequential impact of the lack of SRN alternative routes, and capacity and reliability issues
- When there is disruption at the international gateways, freight traffic queues can extend onto the network, including through towns and residential communities
- Diversion routes are often less suitable for high volumes of freight or general traffic, which can result in secondary impacts such as increased congestion, reduced air quality, and increased noise
- Limited technology provision makes it more difficult to manage disruptive incidents and communicate information to users
- Delay can occur at junctions when traffic diverts (or in some cases during typical operation), particularly where the MRN and LRN interact with the SRN. This includes the M2 Junction 7 (Brenley Corner), the A2 Whitfield and Duke of York Roundabouts, the A13 / A1089 Junction, the M2 Junction 3 (Bluebell Hill), and M20 Junction 6 LRN operation can also result in local traffic 'junction hopping'
- Delays are exacerbated by seasonality due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover
- Delays are expected to worsen by 2031 at several locations, particularly along sections of the A2 and A20 at Dover and the M2 at Stockbury and Faversham





M25

A13

A1089

GRAYS

TILBURY

DARTFORD

GRAVESEND

A2

M25

M20

GILLINGHAM

A249

SITT

M2

M26

SEVENOAKS

MAIDSTONE

M2

TUNBRIDGE
WELLS

A21

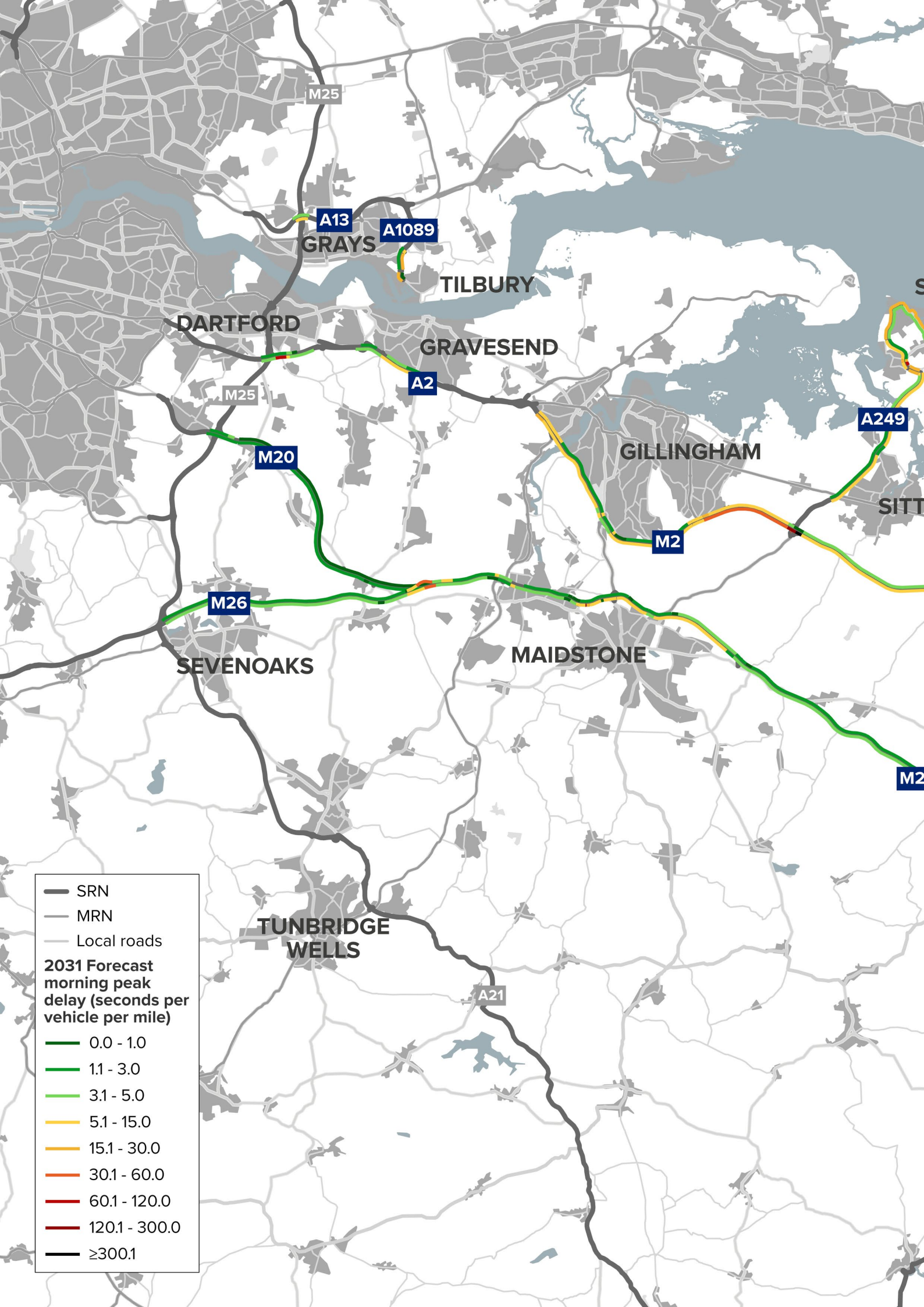
— SRN
— MRN
— Local roads

2019 Average morning peak period delay (seconds per vehicle per mile)

- 0 - 1
- 2 - 5
- 6 - 10
- 11 - 25
- 26 - 50
- ≥ 51



Figure 16: 2019 Average morning peak delay (source: NTIS)



M25

A13

A1089

GRAYS

TILBURY

DARTFORD

GRAVESEND

A2

M25

M20

GILLINGHAM

A249

SITT

M2

M26

SEVENOAKS

MAIDSTONE

M2

TUNBRIDGE
WELLS

A21

— SRN
— MRN
— Local roads

2031 Forecast morning peak delay (seconds per vehicle per mile)

- 0.0 - 1.0
- 1.1 - 3.0
- 3.1 - 5.0
- 5.1 - 15.0
- 15.1 - 30.0
- 30.1 - 60.0
- 60.1 - 120.0
- 120.1 - 300.0
- ≥300.1



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 a government-owned company tasked with building and maintaining the strategic road network, 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*³¹ 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*³² third and most recent independent assessment of climate risk, 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.

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.

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 Kent Corridors to M25 area. We will need to consider better integration with other transport modes and how to support the transition to electric cars and zero carbon heavy goods vehicles (HGVs).

The route has significant ecological, cultural and environmental sensitivities. The route runs alongside or through much of the Kent Downs Area of Outstanding Natural Beauty (AONB), a nationally protected landscape stretching from the White Cliffs of Dover to the Surrey and London border. There are also Special Areas of Conservation (SACs) directly adjacent to the M20 and A2 at Folkestone and Dover respectively.

The route passes through and between numerous urban areas, creating severance and impacting walking and cycling.

Elevated levels of noise, particularly from traffic, can be associated with heart attacks, strokes and hearing impairment, as well as sleep disturbance and annoyance. 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.

³¹ 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>

³² Climate Change Committee, 2021, *Independent Assessment of Climate Risk*, <https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/>

In terms of air quality, there are receptors within 100 metres of the strategic road network which may be more likely to experience adverse air quality impacts: and therefore most likely affected by poor air quality, are on the M20 west of Maidstone and at Ashford, the A2 west of Canterbury at Boughton under Blean, and the A20 west of Dover. Air Quality Management Areas (AQMAs) either surround roads (such as the A13) or larger areas (for example Dartford Borough).

There are receptors within 300 metres of the SRN which may be more sensitive to high noise levels on the M20 between Maidstone and Ashford and London-bound near Aylesford. Noise Important Areas (NIAs) have been identified along the route, for example the A2 and M2 Canterbury to Rochester, M20 Wrotham to Harrietsham, and A20 at Dover.

Freight movement is reliant on the road network to connect to the wider UK. For example, the Port of Dover has no dedicated freight railheads. It relies solely on the M20/A20 and M2/A2 to access the wider region and connections to major warehousing and distribution centres, and end consumers. Similarly, the London Freeports are reliant on the A13 and A1089. The Medway Ports cluster has rail links, and there are aspirations to return intermodal traffic from Thamesport, which would provide opportunities for modal shift from Sheerness. However, it also relies on the efficient operation of the A249 and A2/M2 corridor for road freight.

*The Kent County Council Bus service improvement plan*³³ highlights a vision to improve public transport choices and encourage more travel to school by bus, which will help reduce congestion. The Plan identified initiatives to embed the 'mobility as a service' concept as part of future provision in the county.

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

The proposed Lower Thames Crossing scheme is named within our Net zero highways 2030/2040/2050 plan as a key project to test and commercialise low carbon innovation and approaches to support the construction industry in meeting its net zero targets.

There may be a risk of flooding on the A249 and on the M2 east of Gillingham. Some areas are also susceptible to adverse weather events, such as the A20 Folkestone to Dover, A249 Sheppey Bridge and M2 Junctions 2 to 4. Access to ports can also be affected by adverse weather conditions. For example, the Port of Dover closes to all shipping movements when the sustained wind speed in the harbour exceeds 55 knots in particular directions. When visibility reduces to less than 500 metres only vessels equipped with suitable radars are permitted to move within the harbour. This in turn can impact on the operation of the SRN due to delayed vehicles waiting to use the ports or Channel Tunnel.

Interested parties would like to see reduced greenhouse gas emissions by providing alternative modes of travel and encouraging a lower share of journeys to be made by car.

³³ <https://letstalk.kent.gov.uk/busfuture>

Key challenges

- Reliance of freight movement on the road network to connect to the wider UK
- Significant ecological, cultural and environmental sensitivities, particularly the Kent Downs Areas of Outstanding National Beauty and Special Areas of Conservation directly adjacent to the M20 and A2
- Traffic related severance, noise and air quality can impact on local communities with existing Air Quality Management Areas (AQMA) and Noise Important Areas (NIA) in place
- There are a number of receptors along sections of the route which may be more sensitive to air quality issues, including sections of the M20, the A2 and the A20
- There are a number of receptors along sections of the route which may be more sensitive to noise issues, predominantly on the M20 around Maidstone, Ashford and Aylesford
- Aspiration to minimise greenhouse gas emissions and building resilience to future climate change
- There may be a risk of flooding on the A249 and on the M2 east of Gillingham, and susceptibility to adverse weather conditions
- Access to ports can be affected by adverse weather conditions, resulting in challenges in crossing the Channel and associated SRN disruption due to delayed vehicles waiting to use the Ports or Channel Tunnel



4. Growing the economy

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

The route provides access to global markets via international gateways. The Kent Corridor (M25 to Dover) is identified as part of the proposed UKNET, the strategic transport network for the whole United Kingdom, within the *Union connectivity review*³⁴ led by Sir Peter Hendy CB. It plays a pivotal role in international connectivity and trade, linking the UK and mainland Europe via Dover, Folkestone, Sheerness, the Channel Tunnel and the Thames Ports and Thames Freeport, and attracting significant freight movements as well as passengers.

The future of freight: A long-term plan, published by the Department for Transport in June 2022, notes that, with imports and exports comprising 62.9% of GDP in 2019, we are reliant on the freight and logistics sector for our economic wellbeing. One-seventh of all UK trade passes through the Port of Dover. The Thames Ports at both Tilbury and London Gateway are also of strategic national importance for international trade, particularly given their Freeport designation. Border control points and inland border facilities are located at Ebbsfleet and Sevington, with additional facilities proposed at Dover.

The route also provides the primary access to significant urban areas of high-value economic activity. There are dedicated economic opportunity areas at Dover and Sheerness, and planned growth at the Thames Freeport sites, Port of Dover and Medway Ports.

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

There are high levels of planned housing and employment development within the region, notably around the Thames Estuary, Dartford, Gravesend, Tilbury, Maidstone, Sittingbourne, Canterbury, Ashford and Dover. Government targets for new homes in Kent are annually in the order of 10,000.

According to Kent County Council's *Growth and infrastructure framework*³⁵, in Kent and Medway the population is expected to increase to 2.1 million by 2031, up from 1.8 million in 2015. The substantial development and growth planned within the region will exacerbate pressure on the route.

The index of priority places for the Levelling Up Fund places local authorities into categories 1, 2 or 3, depending on their identified level of need, with category 1 representing places deemed in most need of investment through this Fund. Kent and Essex are seen as affluent counties, but there are pockets of deprivation. Several Kent local authorities were ranked as category 1 authorities, including Gravesham, Swale, Canterbury, Dover, and Folkestone and Hythe.

³⁴ 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

³⁵ Kent County Council, 2018, *2018 Update of the Kent and Medway Growth and Infrastructure Framework* https://www.kent.gov.uk/_data/assets/pdf_file/0009/79920/GIF-2050-Picture.pdf

Despite levelling up being a key goal within the region around the route, the Kent corridors remain critical in also supporting levelling up across the UK as they play a key role in connecting people and jobs, and companies to customers internationally.

Both the projected growth of freight and tourism entering the UK, as well as housing and employment growth, could impact the route. Congestion issues at various junctions could inhibit economic growth and levelling up.

This is because local roads that interface with the SRN currently are impacted as a result of congestion, and a lack of alternative routes on the SRN. There is poor east-west connectivity via rail and slow links between Kent and the south coast. Finally, the concentration of High Speed 1 services on a single corridor can result in rail users driving to stations in other towns.

Key challenges

- The route plays a pivotal role in international connectivity, linking the UK and mainland Europe via Dover, Folkestone, Sheerness, the Channel Tunnel and the Thames Ports (London Gateway and Tilbury), which form part of the Thames Freeport
- The route provides the primary access to significant urban areas of high-value economic activity
- There are dedicated economic opportunity areas at Dover and Sheerness, and planned growth at the Thames Freeport sites, Port of Dover and Medway Ports. High levels of planned housing and employment development within the region are expected to exacerbate pressure on the route
- Congestion issues at various junctions could inhibit economic growth, with several Kent local authorities identified as government priorities for levelling up, including Gravesham, Swale, Canterbury, Dover, and Folkestone and Hythe
- There is poor east-west connectivity via rail and slow links between Kent and the south coast, and a concentration of High Speed 1 services on a single corridor





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 (KPI3) and shows the condition of all available lanes of the main carriageway 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 1,050 lane-kilometers 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 722 structures across the route, including bridges and large culverts. According to an analysis of current data, 96% 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 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 10 structures in this route. This route has only one tunnel, the Roundhill tunnel, which opened to traffic in 1992. The management of tunnel assets vary from the management of other structures in two ways. Firstly, the assets within a tunnel have a wide variety of design lives, from 120 years for the tunnel structure, to far less for the technology systems for operations and fire life safety. Secondly, tunnel systems require 24/7 control by our operations centres, to maintain safe operation.

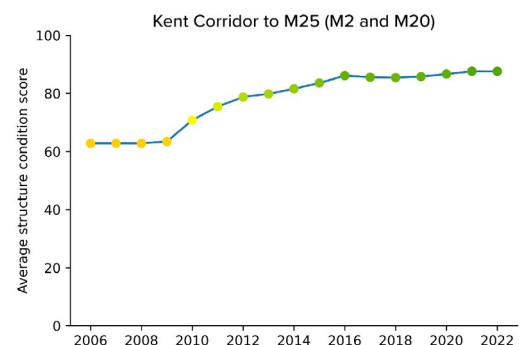


Figure 18: Average condition scores of structures, since 2006

Drainage

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

Geotechnical features

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

Future developments

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

Operations

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

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

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

Key challenges

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



The average condition of the structures on each of National Highways' Routes is either 'Good' or 'Very Good'



The average condition score is the aggregated result of structural components, into a single metric, accounting for the relative importance and size of each component. A score of 100 indicates perfect (as new) condition.

There are no Routes with an average condition score below 70.



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



6. A technology-enabled network

Facilities to improve journey quality and network efficiency on the strategic road network (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

There is a lack of technology across the route. The route serves as one of the most important trading routes for the UK. An essential component of a resilient network is the ability to effectively divert traffic. There are a lack of alternative routes to Dover and Tilbury that are suitable for freight, and some diversion routes are less suitable for high volumes of freight or general traffic. This is particularly notable on the A2 due to route inconsistencies (variable route standard and number of lanes) and on the A249 and A229, which are used as informal links between the M20 and M2. A lack of technology to inform drivers of the best routes to use, and a lack of alternative routes to and from Dover and Tilbury, can result in secondary impacts such as increased congestion, reduced air quality and greater noise for local communities.

Congestion and traffic issues along the M20 and A13 results in uncontrolled redistribution of strategic traffic using other routes (including local roads) as there is a lack of coordinated infrastructure to communicate conditions or issues to road users.

We will support improved communications and facilities for all

There is also a lack of technology to support operation of the international gateways, including routing between them and border control points, inland border facilities and rest areas. *The National survey of lorry parking undertaken by the Department of Transport in showed that Kent facilities were repeatedly discussed during consultation. The area between London and the South East coast leading to Dover Port can be seen to have an excess of vehicles parking off-site and a high number of critically defined Truckstops. Almost all lorry parks within Kent were identified as being at critical levels of utilisation, which can lead to drivers visiting multiple rest stops before finding a space.*

There are notable gaps in electric vehicle charging provision across the route, with the majority provided in urban areas, meaning SRN users have to divert.

The Government's March 2022 *Electric Vehicle Taking charge: the electric vehicle infrastructure strategy*³⁶ 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 £950m *Rapid Charging Fund*³⁷.

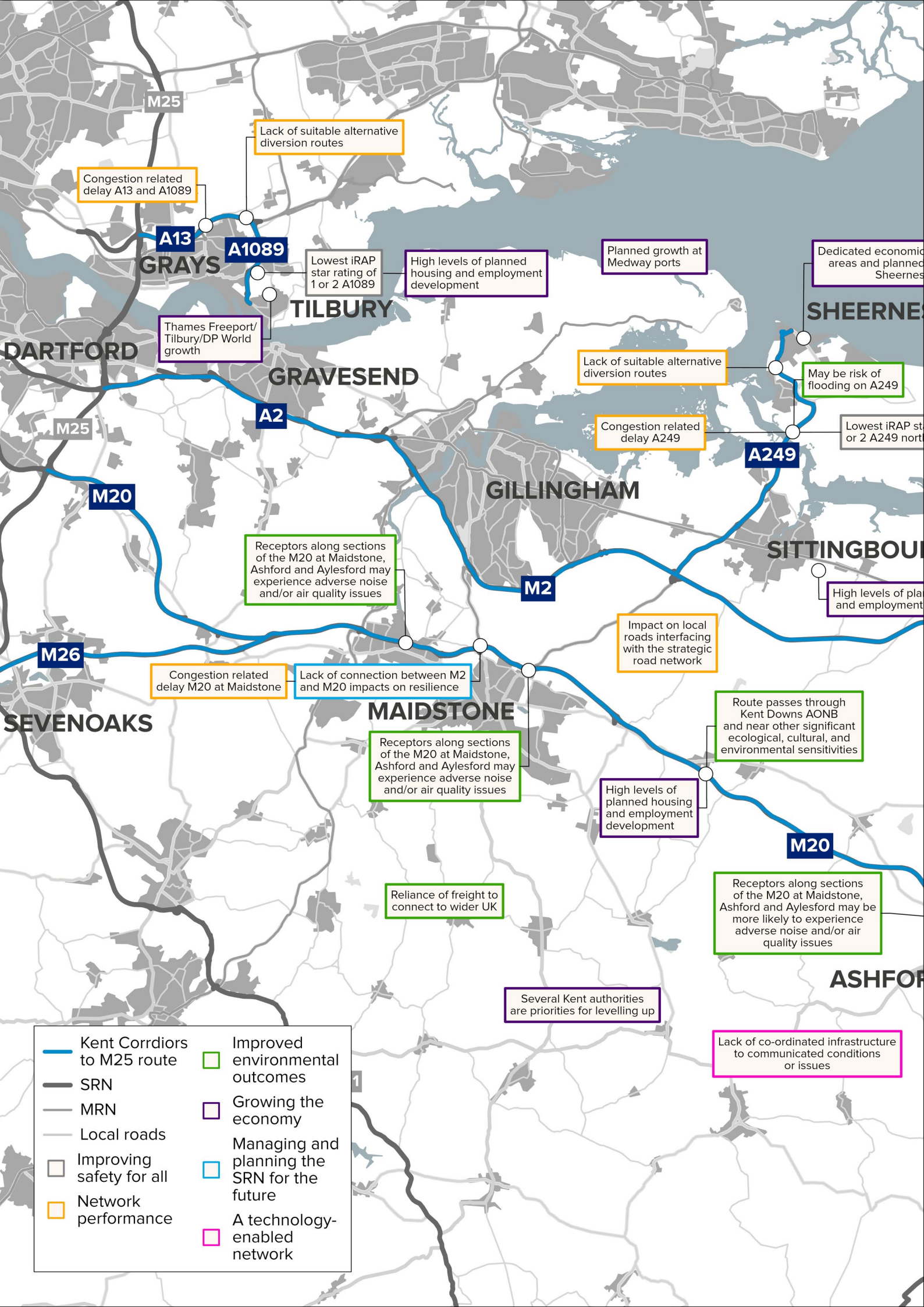
³⁶ HM Government, March 2022, *Taking charge: the electric vehicle infrastructure strategy*, <https://www.gov.uk/government/publications/uk-electric-vehicle-infrastructure-strategy>

³⁷ <https://www.gov.uk/guidance/rapid-charging-fund>

Key challenges

- Lack of technology across the route to inform drivers of the best routes to use, as some diversion routes are less suitable for high volumes of freight and/or general traffic
- Lack of coordinated infrastructure to communicate conditions or issues to road users
- Lack of technology to support operation





Congestion related delay A13 and A1089

Lack of suitable alternative diversion routes

Thames Freeport/Tilbury/DP World growth

Lowest iRAP star rating of 1 or 2 A1089

High levels of planned housing and employment development

Planned growth at Medway ports

Dedicated economic areas and planned Sheerness

Lack of suitable alternative diversion routes

May be risk of flooding on A249

Congestion related delay A249

Lowest iRAP star rating of 1 or 2 A249 north

Receptors along sections of the M20 at Maidstone, Ashford and Aylesford may experience adverse noise and/or air quality issues

Impact on local roads interfacing with the strategic road network

High levels of planned housing and employment development

Congestion related delay M20 at Maidstone

Lack of connection between M2 and M20 impacts on resilience

Route passes through Kent Downs AONB and near other significant ecological, cultural, and environmental sensitivities

Receptors along sections of the M20 at Maidstone, Ashford and Aylesford may experience adverse noise and/or air quality issues

High levels of planned housing and employment development

Reliance of freight to connect to wider UK

Receptors along sections of the M20 at Maidstone, Ashford and Aylesford may be more likely to experience adverse noise and/or air quality issues

Several Kent authorities are priorities for levelling up

Lack of co-ordinated infrastructure to communicated conditions or issues

Kent Corridors to M25 route	Improved environmental outcomes
SRN	Growing the economy
MRN	Managing and planning the SRN for the future
Local roads	A technology-enabled network
Improving safety for all	
Network performance	

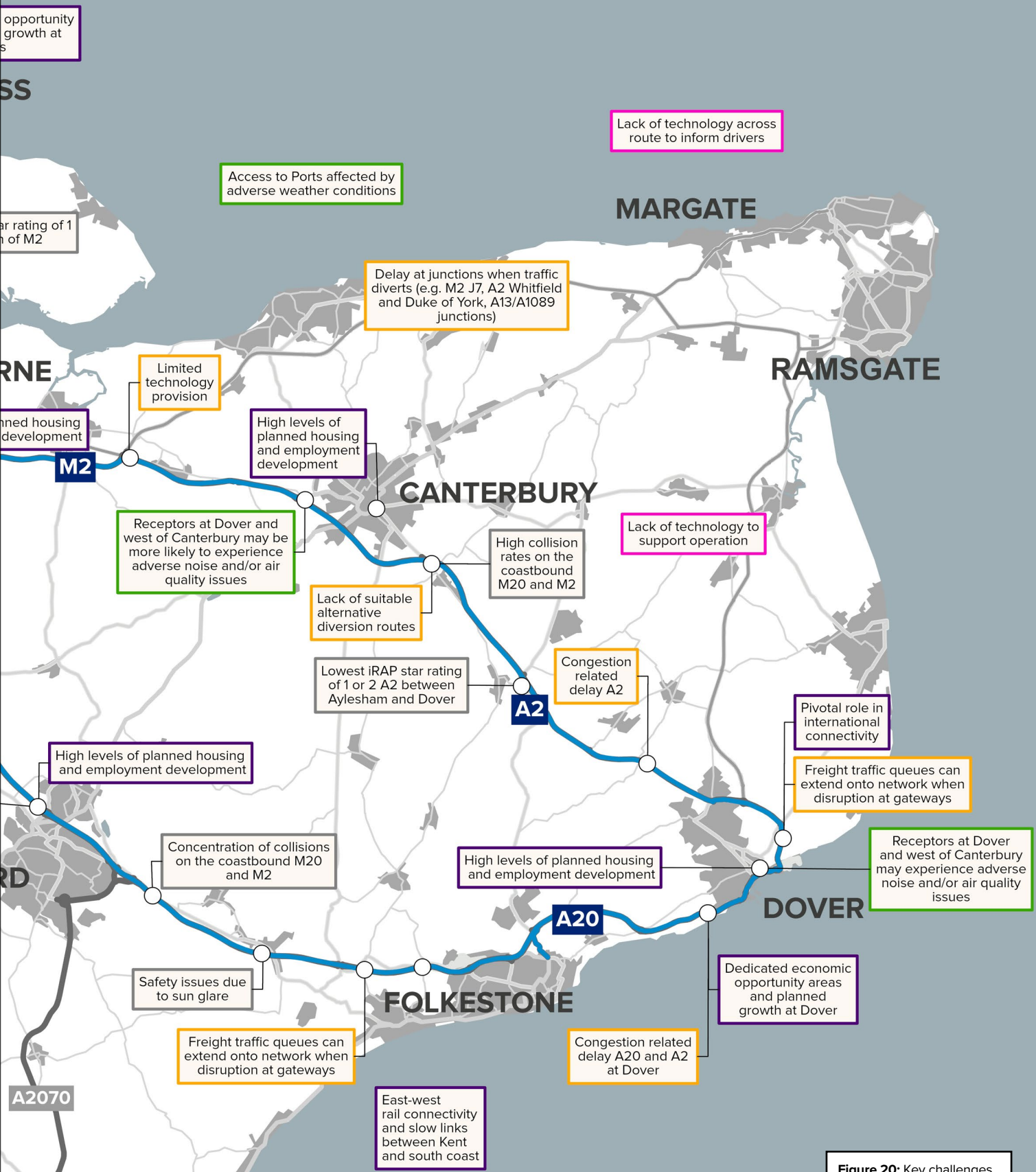


Figure 20: Key challenges



**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 Kent Corridors to M25 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 Department for Transport's (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 strategic road network.

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

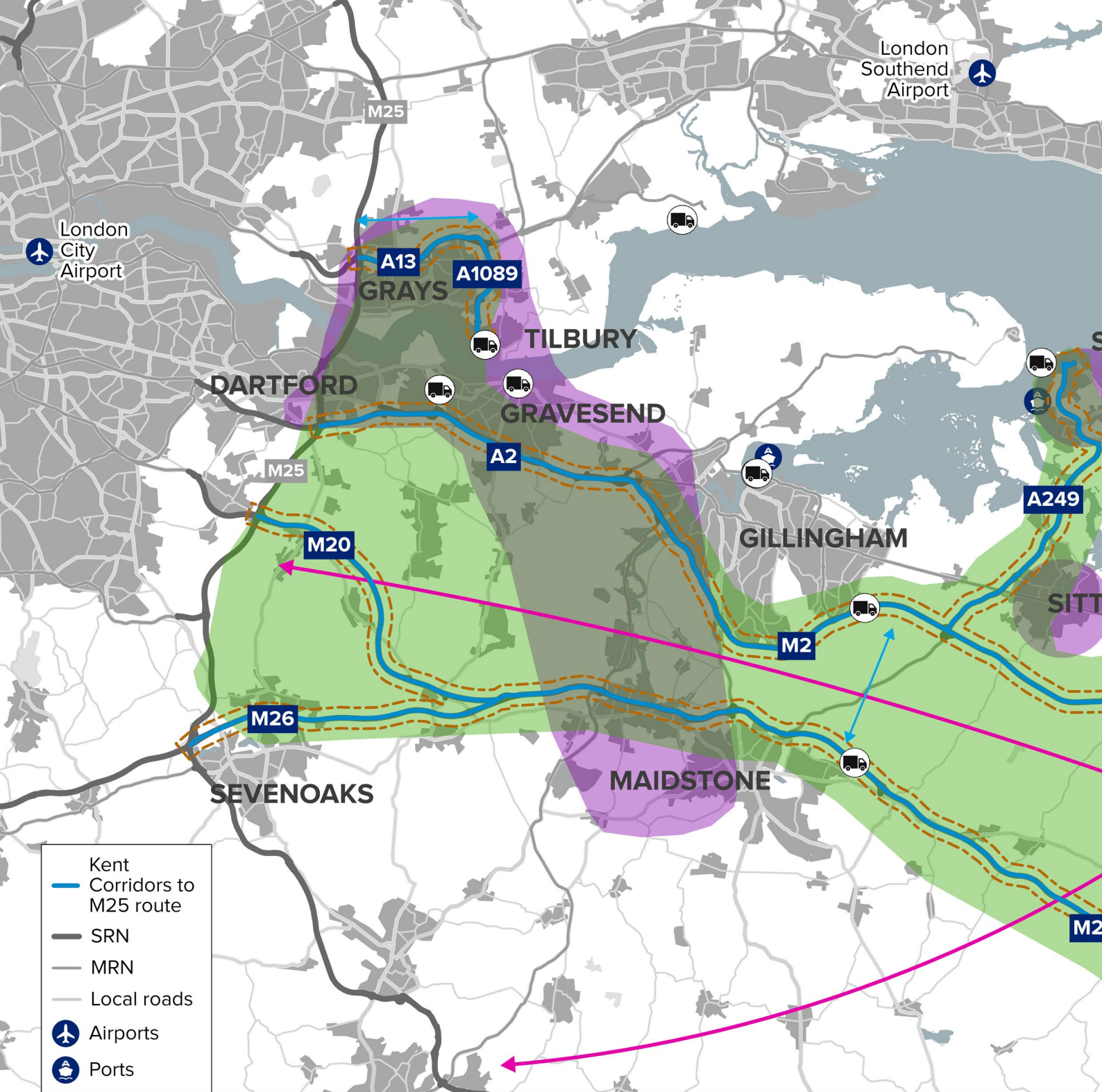
In Figure 21 we illustrate the seven route objectives on our route map and, in Table 1, we show how they contribute to the Government's strategic objectives for our network as a whole.

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

	Ref.	Route objective
	A	Support safe and efficient freight movement to and from air, rail, sea and freeports in the Kent Corridors. Support driver welfare, including supporting provision of appropriate driver facilities and reducing delay, particularly on the M2/A2, A249 and A13 / A1089
	B	Support sustainable development within Kent and Thurrock. Support effective local and regional connectivity through improved integration with sustainable transport modes to minimise the impact of short distanced trips from key growth areas and strategic development sites to benefit the economy
	C	Promote the Kent Corridors as a region that sets the standard in supporting the use of technology. Improve communication technology to better inform users during periods of disruption, providing an enhanced end to end journey experience on the Kent Corridors. Maximise the use of emerging technologies to support the net zero economy, and use schemes such as the Lower Thames Crossing to test low carbon innovation and approaches
	D	Improve resilience of routes from Dover, Sheerness, Tilbury and Thames Gateway Ports to the M25. Provision of safe, suitable, and efficient routes to further improve resilience between the M20/A20 - M2/A2 corridors and A13/ A1089, improving journey time reliability and reducing impact on the Local Road Network
	E	Promote sustainable connectivity in region. Improve connectivity to ports and airports and the rail network (including access to high-speed services and east-west connectivity), to broaden mode and route choice and reduce vehicle use where possible
	F	Be a better neighbour by safeguarding the environment and reducing the impact of air quality and noise on local communities including Dover, Maidstone, Aylesford, Ashford and Canterbury. Support schemes that reduce the impact of travel on neighbours, and protect areas with environmental designation around the route notably the Kent Downs Area of Outstanding Natural Beauty (AONB) and Special Areas of Conservation (SAC) as far as practicable which lie directly adjacent to the M20 and A2

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 technology-enabled network
✓	✓		✓		
	✓		✓		
	✓			✓	✓
✓	✓				
	✓	✓	✓	✓	
		✓			



- Kent
- Corridors to M25 route
- SRN
- MRN
- Local roads
- Airports
- Ports

Route objectives

- A. Support safe and efficient freight movement to and from air, rail, sea and freeports in the Kent Corridors.**
Support driver welfare, including supporting provision of appropriate driver facilities and reducing delay, particularly on the M2/A2, A249 and A13/A1089
- B. Support sustainable development within Kent and Thurrock.** Support effective local and regional connectivity through improved integration with sustainable transport modes to minimise the impact of short distanced trips from key growth areas and strategic development sites to benefit the economy
- C. Promote the Kent Corridors as a region that sets the standard in supporting the use of technology.** Improve communication technology to better inform users during periods of disruption, providing an enhanced end to end journey experience on the Kent Corridors. Maximise the use of emerging technologies to support the net zero economy, and use schemes such as the Lower Thames Crossing to test low carbon innovation and approaches
- D. Improve resilience of routes from Dover, Sheerness, Tilbury and Thames Gateway Ports to the M25.** Provision of safe, suitable, and efficient routes to further improve resilience between the M20/A20 - M2/A2 corridors and A13/A1089, improving journey time reliability and reducing impact on the local road network
- E. Promote sustainable connectivity in region.** Improve connectivity to ports and airports and the rail network (including access to high speed services and east-west connectivity), to broaden mode and route choice and reduce vehicle use where possible
- F. Be a better neighbour by safeguarding the environment and reducing the impact of air quality and noise on local communities including Dover, Maidstone, Aylesford, Ashford and Canterbury.** Support schemes that reduce the impact of travel on neighbours, and protect areas with environmental designation around the route, notably the Kent Downs Area of Outstanding Natural Beauty (AONB) and Special Areas of Conservations (SAC) as far as practicable, which lie directly adjacent to the M20 and A2

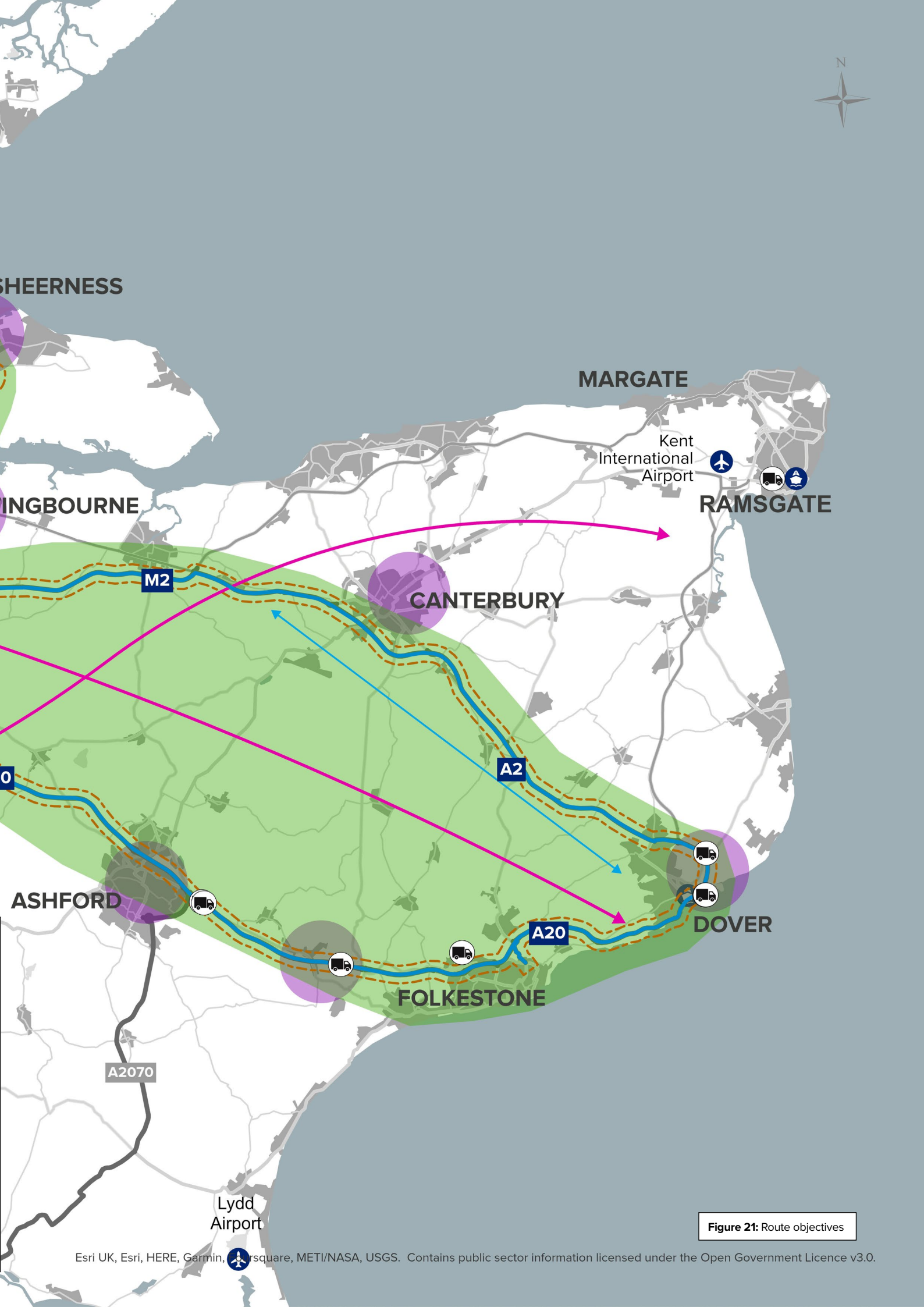


Figure 21: Route objectives



A. Support safe and efficient freight movement to and from air, rail, sea and freeports in the Kent Corridors

Objective

Support driver welfare, including supporting provision of appropriate driver facilities and reducing delay, particularly on the M2/A2, A249 and A13 / A1089

Context

The Kent Corridors play a pivotal role in enabling international gateways connectivity and trade by providing access routes to global markets. Key freight movements are shown in Figure 22. There are major air, rail, sea and freeports in the region which support the national economy:

- Port of Dover – one-seventh of all UK trade passes through this port (the value of freight passing through is £144 billion, accounting for around 33% of all trade with the EU)
- The Channel Tunnel – around €140 million of goods passes through per year, representing approximately 26% of trade between the UK and the EU
- Medway Ports cluster – 12.5million tonnes of freight entered the UK via these ports in 2019
- Port of Tilbury – annual throughput of 16 million tonnes, estimated to value approximately £8.5 billion, which represents 4% of UK sea freight
- Thames Freeport – forecast to generate £2.6billion of contribution to the economy in terms of gross value added (GVA)
- DP World London Gateway - with capacity for c.1,875 million 20-ft shipping containers per annum

The Department for Transport's 2022 *The future of freight*: A long-term plan notes that we are reliant on the freight and logistics sector for our economic wellbeing. The Union connectivity review, led by Sir Peter Hendy CBE, identifies the need to secure better connectivity for freight across the UK with ports and Freeports. One of Transport East's four strategic priorities is unlocking international gateways, and these gateways have ambitious expansion plans so a reliable network with appropriate facilities for drivers is essential.

The National survey of lorry parking published by the Department of Transport showed that Kent was repeatedly discussed during consultation. The area between London and the South East coast leading to Dover Port can be seen to have an excess of vehicles parking off-site and a high number of critically defined Truckstops. Engagement with interested parties highlighted that heavy goods vehicles (HGVs) use existing laybys as overnight stops, there are a lack of welfare facilities, and drivers often arrive at parking to find it full.

Interested parties raised that there are visibility and access challenges at particular junctions across the route, including connections with the Major and Local Road Networks.

There are sections of the route that have the lowest iRAP star ratings of 1 or 2, and the highest percentage of collisions where someone is killed or seriously injured that involve walkers, cyclists, horse riders or motorcyclists.

Data indicates that congestion-related delays occur on various sections across the route, and delays are expected to worsen by 2031 at several locations. It is well documented that when there is disruption at the international gateways, freight traffic queues can extend onto the network, including through towns and residential communities. Interested parties noted that there is also a need to consider the impact of challenges with crossing to Europe across the whole M20, not just near the ports, and that there are congestion and journey time reliability challenges across the whole network.

Our network considerations

The route is critical for freight movement connecting gateways and freight-focused centres to the wider UK. When there is disruption on the M20, drivers divert to other routes, such as the M2/A2 and local A-roads. There are delays at junctions when traffic diverts (or in some cases during typical operation), particularly where the Major and Local Road Networks interact with the SRN, including M2 Junction 7 (Brenley Corner), the A2 Whitfield and Duke of York Roundabouts, the A13/A1089 Junction, the M2 Junction 3 (Bluebell Hill) and M20 Junction 6.

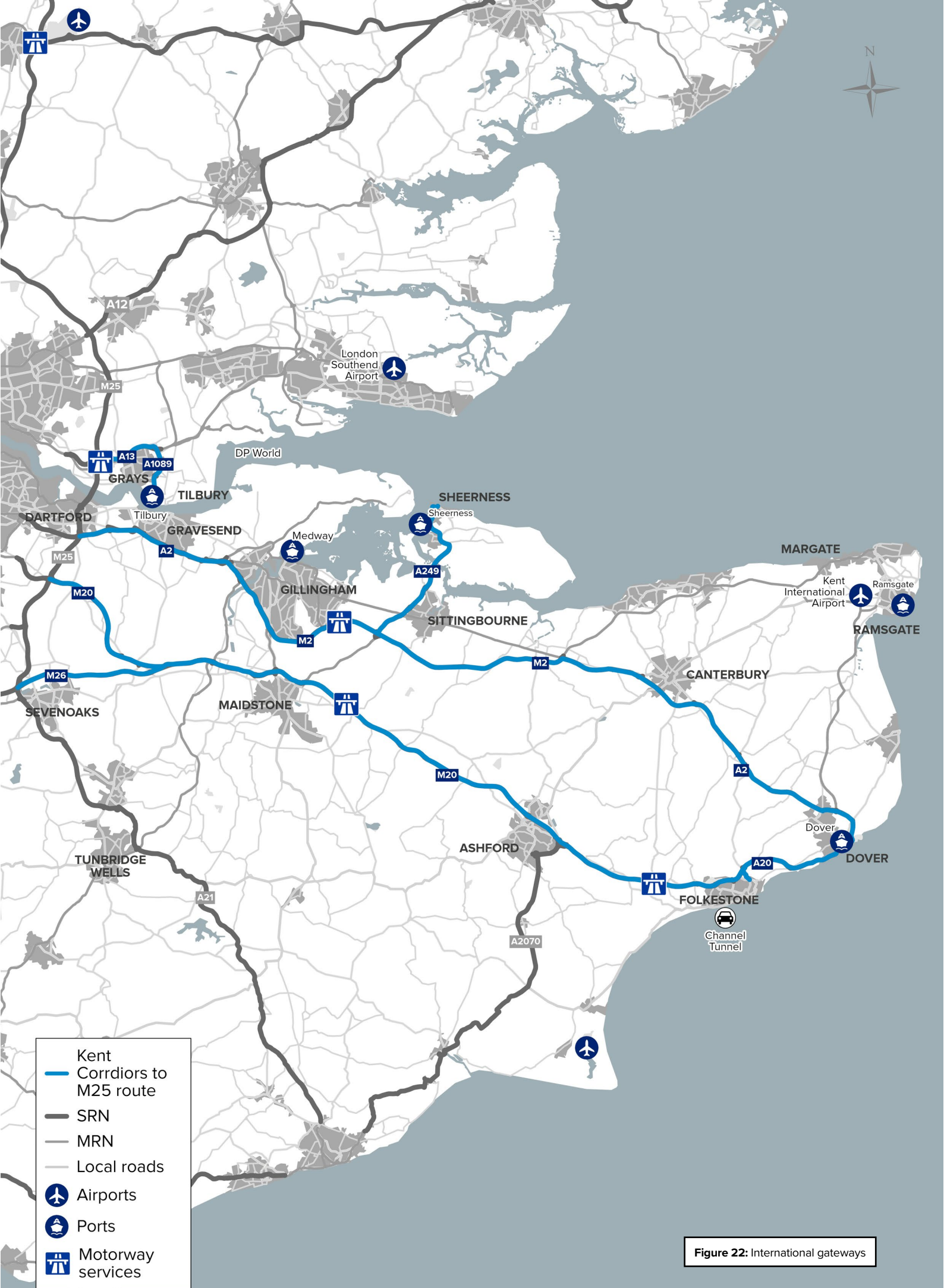


Figure 22: International gateways

Data indicates that congestion related delays occur across the route during typical operation on the A2, A249, M20, and the A2 and A20 near Dover. During typical operation, delays are apparent on the M20 at Maidstone and Ashford, A249 north of the M2, in and around Dover, A13 / A1089 east of the M25 and A2 on approach to the M25. Delays are exacerbated by seasonality due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover.

Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover with a decrease in traffic use of Dartford, an increase in traffic crossing the river from South Essex to Kent and higher volumes of freight traffic opting to use the M2/ A2 corridor and A13 than currently. The implementation of the Lower Thames Crossing scheme may change the profile of traffic using the route by widening driver choice in route selection.

Interested parties have highlighted that static queueing traffic can be a cause of safety concerns when the ports are busy, and variable road standards can impact the safety of the route, particularly along the A2. The A2 between Aylesham and Dover, along with the A1089, has one of the lowest iRAP star ratings. The A2 between the M2 and Dover has one of the highest percentage of collisions where someone is killed or seriously injured that involves walkers, cyclists and horse riders. Overall between 26 and 50% of collisions resulting in death or serious injury involved a motorcyclist on the A2.

The A249 north of the M2, another key freight route, has one of the highest percentage of collisions where someone is killed or seriously injured involving walkers, cyclists, horse riders and motorcyclists, and the A20 between Dover and Folkestone involving motorcyclists.

The National survey of lorry parking published by the Department for Transport indicated that almost all lorry parks within Kent were identified as being at critical levels of use. The current lack of suitable parking and facilities for freight drivers can result in HGVs parking in inappropriate locations. A lack of suitable holding areas results in freight traffic queues extending onto the network, including through residential communities, when there are challenges with crossings to Europe. This can have an impact on air quality and worsen noise pollution. When lengthy static queues occur, this can also lead to safety issues.

The orientation of the route can also result in safety issues due to sun glare.

Outcomes

- Regional and national economy supported through safe and efficient access to international air, rail and sea ports
- More freight parking and suitable welfare facilities for HGV drivers, and provision of holding areas
- Improved reliability and fewer delays along the M2/ A2, A13 / A1089 and A249

DfT's Strategic objectives



Improving safety for all

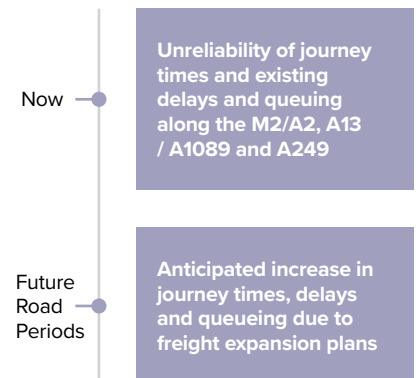


Network performance



Growing the economy

Timeframe based on the issues and constraints identified





B. Support sustainable development within Kent and Thurrock



Objective

Support effective local and regional connectivity through improved integration with sustainable transport modes to minimise the impact of short distanced trips from key growth areas and strategic development sites to benefit the economy.

Context

The route serves an area of high-value economic activity and high levels of planned housing and employment development. Economic Opportunities are shown in Figure 23. Engagement with interested parties highlighted the importance of the role of the SRN in both supporting regeneration and growth and mitigating the impacts of it on the road network.

Transport for the South East's (TfSE) priorities identify a need for a more integrated approach to land use and transport planning, and for there to be a reduction in the need to travel, particularly by private car, to reduce the impact of transport on people and the environment. Interested parties suggested that there is a need for future planning to avoid car dependent housing development.

Several Kent local authorities were ranked by the Government as in the priority category to receive funding from the Levelling Up Fund. As most large settlements in the region are located along or close to the SRN, businesses and residents rely heavily on it, meaning it will be integral for levelling up ambitions. A number of roads classified as the Major Road Network (MRN) connect strategic locations and the SRN, as well as providing alternative routes to the SRN.

Interested parties raised that capacity issues at various junctions across the network inhibits housing and employment growth. Data indicates that congestion-related delay occurs across the route, and there are delays apparent during typical operation. Delays are expected to worsen by 2031 at several locations.

There is poor east-west connectivity via rail and slow links between Kent and the south coast, and a concentration of High Speed 1 services on a single corridor.

Our network considerations

Congestion at junctions threatens to inhibit economic growth and levelling up, with local roads, including the MRN that interface with the SRN suffering from lack of alternative routes, capacity and reliability issues. Examples include the M2 Junction 7, A229 Bluebell Hill, A13/A1089 and M20 Junctions 5-7. Existing delay and journey time reliability issues are also prevalent on roads that provide access to key areas of growth, including the A2 (at Gravesend and near Dover), A249, M20 (at Maidstone and Ashford), and A13/A1089. Delays are expected to worsen by 2031 around Dover and Faversham.

Significant growth is expected, with notable Local Plan allocations and economic opportunity areas in areas surrounding the route. These include, development for North Kent and the Thames Estuary, major residential and employment growth areas at and around Tilbury, land allocations for housing and employment in urban centres along the M20 and the M2/A2 corridor, and significant growth planned at international gateways.

Interested parties have mentioned that while Kent and Essex are seen as affluent counties, several Kent local authorities were ranked as category 1 (most priority) locations when it comes to allocating funds from the Levelling Up Fund. These locations include Gravesham, Swale, Canterbury, Dover and Folkestone and Hythe.

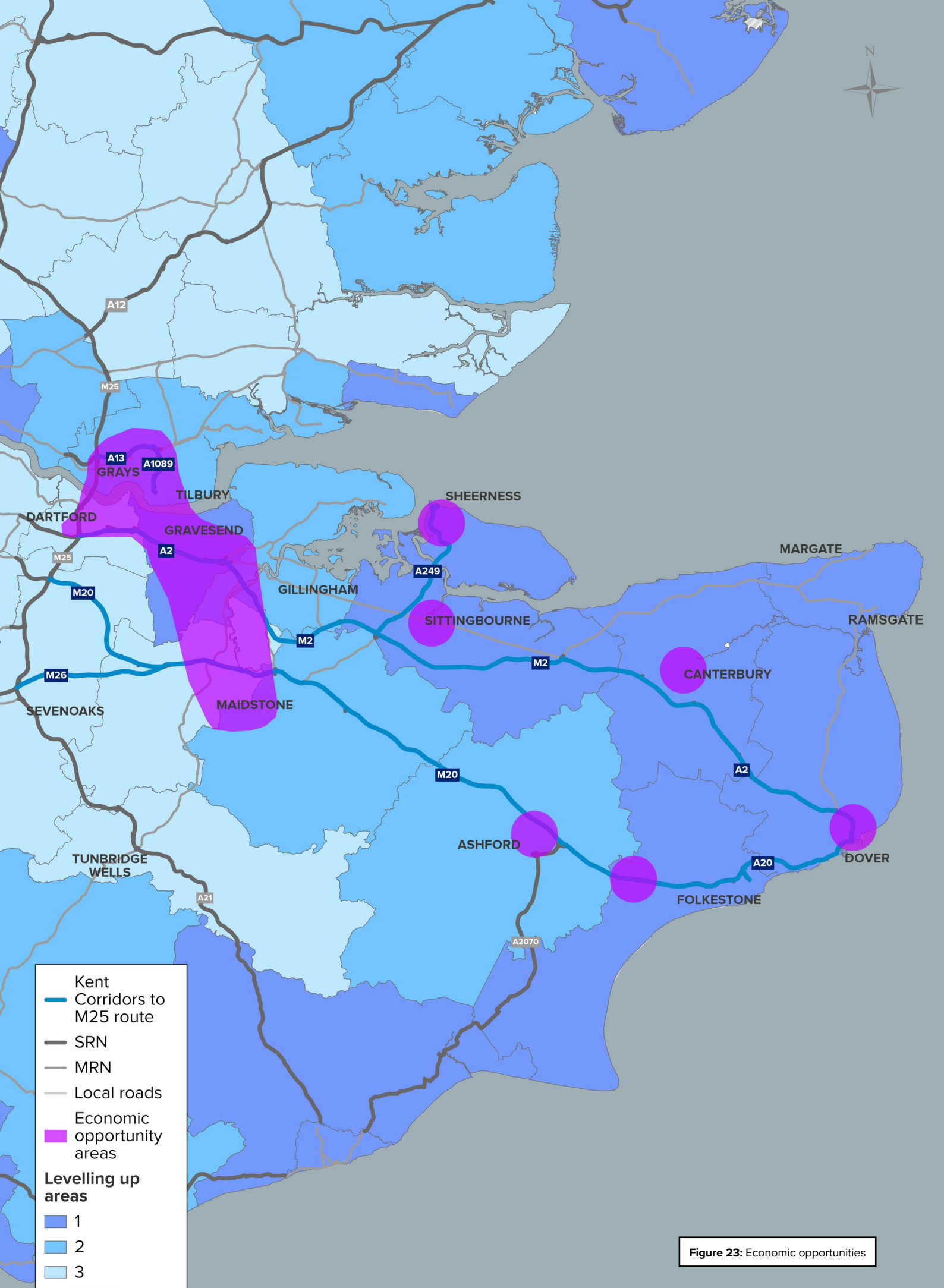


Figure 23: Economic opportunities

The Kent Corridors remain critical in supporting levelling up across the UK as they play a key role in connecting people and jobs, and companies to customers internationally. Investment in transport networks is essential for levelling up, unlocking development sites and improving connectivity and capacity of the major routes.

Interested parties highlighted that poor rail connectivity other than between Kent and London, and slow links between Kent and the south coast (such as Maidstone to Brighton), can result in travellers choosing to drive rather than using sustainable travel services. The attraction of particular High Speed 1 services results in rail users driving to stations in other towns.

Outcomes

- Improved reliability and fewer delays along the M2/A2 corridor, the M20 and the A13/A1089
- Sustainable growth supported through improved multimodal connectivity
- Benefits to local and regional economies through job creation and economic investment
- Capacity and reliability issues addressed at interfaces with the Major Road Network (MRN)

DfT’s Strategic objectives

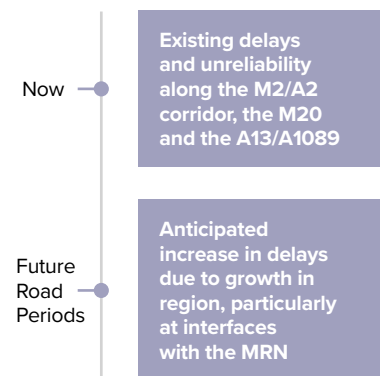


Network performance



Growing the economy

Timeframe based on the issues and constraints identified







C. Promote the Kent Corridors as a region that sets the standard in supporting the use of technology

Objective

Improve communication technology to better inform users during periods of disruption, providing an enhanced end to end journey experience on the Kent Corridors. Maximise the use of emerging technologies to support the net zero economy, and use schemes such as the Lower Thames Crossing to test low carbon innovation and approaches

Context

The Kent Corridors play a strategic economic role in the movement of goods, and the Union connectivity review led by Sir Peter Hendy CBE highlights that the route is important for both passengers and freight. Given the key role the route plays in the movement of goods nationally, it is important that it is also capable of adapting to future changes and responding to the Government's plan to decarbonise transport.

TfSE priorities include a seamless, integrated transport network, making it simpler and easier to plan journeys. TfSE priorities also highlight the desire for a network that is more resilient to incidents, extreme weather and the impacts of a changing climate, and a 'smart' transport network that uses digital technology to manage transport demand.

TfSE are aiming for a reduction in carbon emissions to net zero by 2050 at the latest. Transport East priorities also include decarbonisation to net zero.

There is limited technology provision on the route, and a lack of technology to support the operation of the international gateways. Interested parties highlighted the need for increased technology for routing to ports, border control points and international border facilities.

Data indicates that congestion-related delay occurs on sections of the route, which can be exacerbated by seasonality, and delays are expected to worsen by 2031 at several locations. Engagement with interested parties highlighted concerns about the impact of challenges of crossing to Europe via the whole length of the M20, and raised the need for communication infrastructure for when there is disruption on the road network and more road signage to communicate travel conditions across the channel.

Electric vehicle charging points (EVCPs) are available, but there are gaps in provision. There are no hydrogen refuelling stations in the region.

Engagement with interested parties highlighted concerns on the impact of automated vehicles and infrastructure to enable their use needs, and a lack of understanding of what the future role of all lane running might be.

Our network considerations

Data indicates that congestion-related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover. Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover, and the M2 at Stockbury and Faversham. Network performance issues experienced across the year are exacerbated by seasonality, due to summer travel to coastal destinations and access to international gateways on the coast. This particularly impacts the M20 / M26, Dover and A2 to the east of the M25. Interested parties highlighted that congestion due to inland border facilities can impact on road users.

There is a lack of technology across the route to inform drivers of the best routes to use, with some diversion routes being less suitable for high volumes of traffic. Across the route, technology is only on M20 Junctions 3 to 5 (Junctions 5 to 7 is controlled motorway). Management systems (such as Dover Traffic Access Protocol, or TAP) are also manually monitored and triggered, and operators have limited access to network conditions. The limited technology provision makes it more difficult to manage disruptive incidents and communicate information to users. This can result in the uncontrolled redistribution of SRN traffic using other routes (including local roads), and may contribute to congestion and traffic issues along the M20 and A2.

There is also limited technology available to support routing between international gateways, border control posts, inland border facilities and rest areas. This can result in drivers visiting multiple rest stops before finding a space, or parking in less ideal locations to adhere to drivers' hours rules. During periods of disruption, this can also pose challenges in the management of the release of vehicles from rest areas and lorry areas.

Electric vehicle charging points are available. However, there is limited provision of charging points for the strategic movements to and from the gateways and freight focused areas. Interested parties highlighted a lack of refueling provision for alternative fuels, and the need for associated infrastructure at motorway service areas.

Planning for the future increasingly requires planning for uncertainty. This is driven both by climate change and technological advances, such as automated vehicles, HGV platooning (using driver assistance systems to allow HGVs to safely travel close together) and other similar technologies. We recognise that, in the future, these types of changes will impact on how freight operators conduct journeys and what their needs will be when interacting with the SRN.

Given the limited provision of technology on the route, there is currently limited ability to utilise existing infrastructure to respond to future technologies.

Provision of infrastructure to facilitate communication of route conditions to road users will maximise the opportunities offered by new technologies and support growth in it.

Communicating effectively will also improve freight movement, and benefit the overall experience for all users. Provision of technology will be key in ensuring that the network is fit for the future and that international gateways are able to continue to operate effectively.

Net zero highways: *Our 2030/2040/2050 plan*³⁸ outlines National Highways' ambition to lead the industry and play a key role in decarbonisation. The proposed Lower Thames Crossing scheme is named as a key project to test low carbon innovation and approaches across every aspect of the project.

Outcomes

- Improved communication of up-to-date route conditions to customers, to re-route vehicles during periods of disruption if required, or encourage sustainable choices
- Drivers better informed of conditions along the route and at Portals, rest areas and international gateways
- Effectively accommodated and protected network for changing freight needs
- Improved provision of and information on electric vehicle and alternative fuel charging
- Integrated low carbon and future proofing measures as part of delivery of nationally significant infrastructure schemes within the region
- Mode shift of freight to rail to meet net zero carbon travel by 2050

DfT's Strategic objectives



Network performance

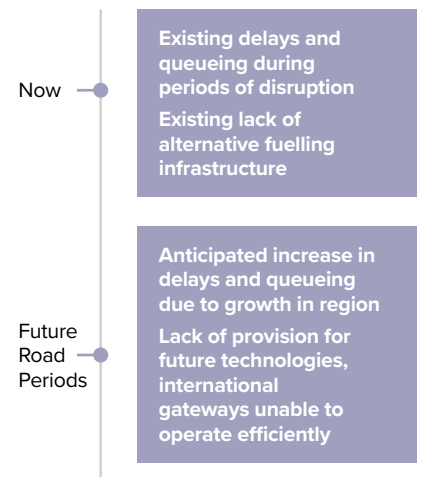


Managing and planning the SRN for the future



A technology-enabled network

Timeframe based on the issues and constraints identified



³⁸ National Highways, 2022, *Net zero highways: Our 2030 /2040 / 2050 plan*, <https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf>



D. Improve resilience of routes from Dover, Sheerness, Tilbury and Thames Gateway Ports to the M25

Objective

Provision of safe, suitable, and efficient routes to further improve resilience between the M20/ A20 - M2/A2 corridors and A13/ A1089, improving journey time reliability and reducing impact on the Local Road Network

Context

The future of freight: A long-term plan, published by the Department for Transport in June 2022, notes that we are reliant on the freight and logistics sector for our economic wellbeing. As an important trading route to Europe, the route plays a pivotal role in enabling international connectivity and trade by providing routes to global markets. It provides access to international gateways, including the Port of Dover, Channel Tunnel, Medway Ports cluster, Port of Tilbury and Thames Gateway Ports. It thus supports the movement of goods and services between Europe and the rest of the UK.

TfSE priorities include more reliable journeys for people and goods travelling between the South East's major economic hubs and to and from international gateways. The TfSE strategy highlights that the rail and road routes in this region are particularly important for freight.

A key challenge identified is that the roads serving the Port of Dover and Eurotunnel routinely suffer from poor resilience due to port and border operations on both sides of the English Channel, which can cause freight traffic to build up on the M20.

In the Kent Corridors area, the MRN and LRN work in combination with the SRN to support the movement of goods and people, particularly in providing alternative routes to and from the international gateways when there are incidents. There are limited diversion options for some sections of the route. Consequently, local roads, including the MRN, that interface with the SRN can suffer from the lack of local SRN alternative routes, as well as from capacity and reliability issues.

Delays are notable at junctions when traffic diverts (or in some cases during typical operation), particularly where the Major Road and Local Road Networks interact with the SRN. Delays are exacerbated by seasonality due to travel to coastal destinations and Europe via the Port of Dover and the Channel Tunnel. Delays are expected to worsen by 2031 at several locations.

There are sections of the route that have the lowest iRAP star ratings of 1 or 2, and the highest percentage of collisions where someone is killed or seriously injured involving walkers, cyclists, horse riders and motorcyclists

It is well documented that when there is disruption at the international gateways, freight traffic queues can extend onto the network, including through towns and residential communities. Interested parties expressed concerns about performance when Dover Traffic Access Protocol is in place, and the challenge of accommodating traffic moving between the M2 and M20.

There is constrained access across the Thames. Engagement with interested parties identified concerns around the potential impact of Lower Thames Crossing on the LRN and other SRN routes.

Our network considerations

Resilience and access to international gateways is constrained by the lack of reliable alternatives to the M20/ A20 and A2/M2, and to the A13 / A1089. There are a number of diversion routes that run alongside or broadly parallel to the M20/A20 on the western side of the route. However, there are limited options for the other sections of the route, including the M2/A2, A249 and A13/A1089. Alternative routes are often unsuitable for high volumes of traffic, particularly on the A2 because of route inconsistencies (variable route standard and number of lanes), and on the A249 and A229, which are used as links between the M20 and M2. This can result in secondary impacts such as increased congestion, reduced air quality and increased noise.

The A2 between Aylesham and Dover, the A249 north of the M2, and the A1089, all key routes to international gateways, have the lowest iRAP Star Ratings of 1 or 2. Higher collision rates and proportions of collisions where someone is killed or seriously injured are also apparent at key locations on the coast-bound M20 and M2. The highest percentage of collisions resulting in death or serious injury that involves walkers, cyclists or horse riders are on the A2 between the M2 and Dover, and the A249 north of the M2. The data shows that between 26 and 50% of collisions where someone has been killed or seriously injured involved motorcyclists on the A2, A249 north of the M2, and M26 sections of the route. This increases to 67% of recorded collisions resulting in death or serious injury on the A20 between Dover and Folkestone.

Delay is notable at junctions when traffic diverts (or in some cases during typical operation), particularly where the MRN and LRN interact with the SRN, including M2 Junction 7, the A2 Whitfield and Duke of York Roundabouts, the A13/A1089 Junction, the M2 Junction 3 and M20 Junction 6. Data indicates that congestion related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover. During typical operation, delays are apparent on the M20 at Maidstone and Ashford, A249 north of the M2, in and around Dover, A13 / A1089 east of the M25 and A2 on approach to the M25.

Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover and the M2 at Stockbury and Faversham. Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover.

Delays are exacerbated by seasonality. For example, interested parties highlighted the A2 on approach to Dover was a constraint, particularly the Whitfield and Duke of York Roundabouts.

Network constraints and associated congestion and queuing are exacerbated by incidents at the Gateways, resulting in long delays for freight vehicles and local users alike. A lack of alternative diversion routes can lead to congestion within the wider region during periods of disruption.



The challenge of accommodating traffic moving between the M2 and M20 (currently and in a future growth scenario with local growth and Lower Thames Crossing open)

was highlighted by interested parties, which adds additional pressure to M2 Junction 3 (Bluebell Hill) and M20 Junction 6. Kent County Council are investigating options to improve the A229 Blue Bell Hill between M20 Junction 7 and M2 Junction 3 to increase journey time reliability, reduce delays and enhance road safety on the route. Furthermore, the implementation of the Lower Thames Crossing scheme may change the profile of traffic using the route, aiming to provide additional resilience in the event of diversions and accommodate a significant number of forecast new journeys on the network.

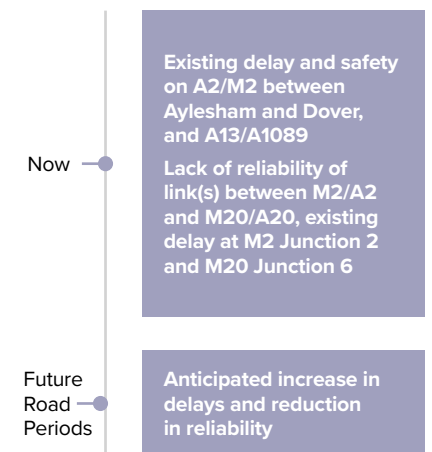
Outcomes

- Improved reliability of link(s) between the M2/A2 and M20/A20
- Improved resilience with alternative routes that are of a suitable standard for high volumes of freight
- Reduced delay points on the corridors, such as the M2 Junction 7 (Brenley Corner), A2 Whitfield Roundabout, A13/A126
- Improved connectivity through supported schemes, such as Tilbury Link Road

DfT's Strategic objectives

-  Improving safety for all
-  Network performance

Timeframe based on the issues and constraints identified





E. Promote sustainable connectivity in region

Objective

Improve connectivity to ports and airports and the rail network (including access to high speed services and east-west connectivity), to broaden mode and route choice and reduce vehicle use where possible

Context

The route provides access to numerous transport hubs and services used for local and international travel:

- Port of Dover - 11.8million passengers in 2018
- The Channel Tunnel - 21.5million passengers in 2019, including 4.2million passenger and freight vehicles
- High Speed 1 - 37,000 daily domestic journeys of which 18,000 are commuting trips
- Tilbury / Gravesend Ferry – approximately 150,000 journeys made on the Ferry each year
- Kent International Airport – closed currently, Development Consent Order submitted to reopen

TfSE priorities include a network that promotes active travel and active lifestyles, and better connectivity between the region's major economic hubs, international gateways (ports, airports and rail terminals) and their markets.

Priorities also include improved air quality, supported by initiatives to reduce congestion and encourage further shifts to public transport. Similarly,

Transport East has identified a priority to provide enhanced links between growing places and business clusters, improving access for people and enabling the area to function as a coherent economy.

The Kent rail network is one of the busiest and most congested routes in the country. In addition, the network provides links for onward travel beyond the region, including key destinations on the south coast (via Ashford), and Europe (via the Channel Tunnel). Interested parties highlighted that there is a lack of access across the Thames, but that improvement works may have an adverse impact on air quality.

The Kent rail strategy³⁹ identifies a lack of intermodal traffic on the Kent routes due to gauge capability. Strategic rail freight interchanges would be required across Kent to supplement any further mode shift.

Congestion related delay occurs on sections of the route, and delays are exacerbated by seasonality. Delays are expected to worsen by 2031 at several locations.

The Kent County Council Bus service improvement plan highlights a vision to improve public transport choices and encourage more travel to school by bus, which will help reduce congestion.

The Plan identified initiatives to embed the 'Mobility as a Service' concept as part of future provision in the county.

The route passes through the Kent Downs Area of Outstanding Natural Beauty (AONB), a nationally protected landscape, and between numerous urban areas.

Our network considerations

The international gateways rely on the M2, M20 and A13, alongside existing passenger rail facilities, for staff and passenger access. Poor east-west connectivity via rail, and slow links between Kent and the south coast, and lack of linkage across the Thames Estuary, can all contribute to travellers choosing to drive, and using already constrained sections of the SRN. The self-contained nature of the High Speed rail network and lack of east-west connectivity means that some rail users drive to stations to catch High Speed services, including stations in other towns. This can lead to delays at local access points, including around Maidstone, Ashford, Dover and on the A249 and A13/A1089.

Congestion related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover. During typical operation, delays are apparent on the M20 at Maidstone and Ashford, A249 north of the M2, in and around Dover, A13 and A1089 east of the M25, and A2 on approach to the M25.

³⁹ Kent County Council, March 2021, *Kent Rail Strategy 2021*, <https://democracy.kent.gov.uk/documents/s98715/Item%2012%20Appendix%20-%20Kent%20Rail%20Strategy%202021%20-%20Main%20Doc.Draft%20v04.13.08.20.CMM-ETCC%20Version.pdf>

Delays are worsened by seasonality, due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover. Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover and the M2 at Stockbury and Faversham. Interested parties raised that there is additional pressure on the Major Road Network (MRN) between the M2 and M20 due to commuting from Medway or Swale to Maidstone.

Sustainable travel network constraints and existing congestion-related delay risk inhibiting growth, with several Kent local authorities identified as priorities for levelling up, including Gravesham, Swale, Canterbury, Dover, and Folkestone and Hythe.





The route passes between numerous urban areas, creating severance and impacting walkers, cyclists or horse riders. Collision data indicates that the A2 (between the M2 and Dover) and the A249 north of the M2 have highest percentage of collisions where someone is killed or seriously injured involving walkers, cyclists or horse riders.

The Kent Corridors frame the *Kent Downs Area of Outstanding Natural Beauty (AONB)*, and there is also a concentration of Special Areas of Conservation that lie directly adjacent to the M20 and A2. Managing impacts on these important areas can be supported through provision of multi-modal transport solutions.

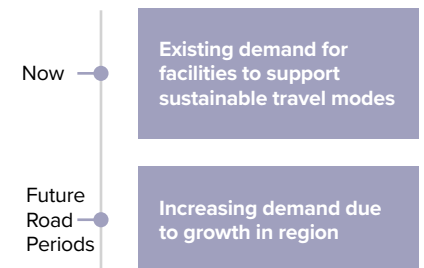
Outcomes

- Improved connectivity on east-west routes and across the River Thames Estuary, and improved active travel connectivity
- Improved connectivity to commuter settlements by public transport
- Increased sustainable travel options to international gateways
- Reduction in severance impacts on walkers, cyclists or horse riders

DfT's Strategic objectives

-  Network performance
-  Improved environmental outcomes
-  Growing the economy
-  Managing and planning the SRN for the future

Timeframe based on the issues and constraints identified





F. Be a better neighbour by safeguarding the environment and reducing the impact of air quality and noise on local communities including Dover, Maidstone, Aylesford, Ashford and Canterbury

Objective

Support schemes that reduce the impact of travel on neighbours, and protect areas with environmental designation around the route notably the Kent Downs Area of Outstanding Natural Beauty (AONB) and Special Areas of Conservation (SAC) as far as practicable which lie directly adjacent to the M20 and A2

Context

The Kent Corridors play a strategic economic role in the movement of goods, as well as serving existing areas of high-value economic activity, housing and employment and areas with high levels of planned housing and employment development.

The route, which has high volumes of HGV traffic using the network daily, passes through areas of significant, cultural and environmental sensitivities.

TfSE priorities include improved air quality, supported by initiatives to reduce congestion and encourage further shifts to public transport. Traffic-related severance, noise and air quality issues can impact on local communities with existing AQMAs and NIAs.

Interested parties also raised concerns of potential adverse air quality on residential receptors due to planned works.

The National survey of lorry parking undertaken by the Department of Transport showed that Kent was repeatedly discussed during consultation. The Report highlights that the area between London and the South East coast leading to Dover Port can be seen to have an excess of vehicles parking off-site. Interested parties have also highlighted that HGVs use existing laybys as overnight sleep stops and there is a lack of facilities for drivers.

During engagement with interested parties, the role of the SRN in decarbonisation was raised. TfSE priorities aim to use the principle of 'biodiversity net gain' in all transport initiatives (i.e. transport initiatives leaving biodiversity in a better state than before).

Some areas across the route are susceptible to adverse weather conditions. In addition, climate change impacts have the potential to create major safety risks, for example heat stress and low soil moisture causing traffic delays, closures, safety incidents and structural failures.

Our network considerations

The route, which has high volumes of HGV traffic using the network daily, passes through the Kent Downs Area of Outstanding Natural Beauty (AONB), a nationally protected landscape. Special Areas of Conservation lie directly adjacent to the M20 and A2.

The route also passes between numerous urban areas, creating severance and impacting walkers, cyclists or horse riders. For example, the A2/A20 in Dover, which forms part of the SRN, plays a significant role in local connectivity as it provides a route for traffic to avoid the town centre. However, the A2 at Dover has one of the highest percentage of collisions where someone is killed or seriously injured that involves walkers, cyclists or horse riders. This may lead to severance-related issues for local residents and visitors.

Existing AQMAs are in place around roads, such as the A13, and larger areas, such as Dartford Borough. NIAs are in place along the route, including sections of the A2/M2, M20 and A20. Receptor locations may be more likely affected on sections of the M20 (west of Maidstone and at Ashford), A2 (west of Canterbury) and A20 (west of Dover).

Receptor locations may be more likely affect by higher noise on sections of the M20 (between Maidstone and Ashford, and London-bound near Aylesford).

Much of the route is east-west facing, resulting in safety issues due to sun glare. There may be a risk of flooding on the A249 and on the M2 east of Gillingham. Some areas are also susceptible to adverse weather events, such as the A20 Folkestone to Dover, A249 Sheppey Bridge and M2 Junctions 2 to 4.

Access to ports can be affected by adverse weather conditions, resulting in challenges in crossing the Channel and associated SRN disruption due to delayed vehicles waiting to use the Ports or Channel Tunnel. This can place additional pressure on the resilience of the road network during these periods, and have a consequential impact on air quality and noise pollution.

A lack of parking can result in HGVs parking in existing laybys and alternative areas. Local communities may be affected by the consequential impact of a lack of facilities (including toilets and refuse bins), and noise relating to parked refrigerated HGVs.

In 2021 we published our *Net zero highways plan*⁴⁰ to show how we will meet the target of net zero greenhouse gas emissions.

Outcomes

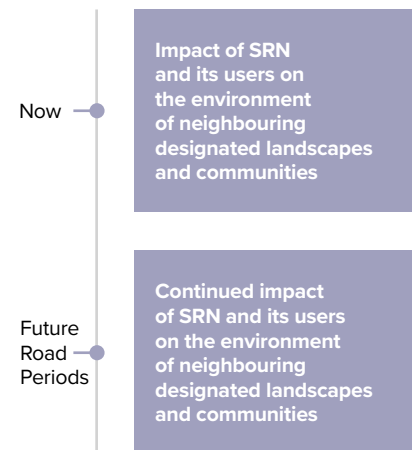
- Working with partners to maximise natural capital and achieve biodiversity net gain
- A climate resilient network that improves the way we respond to and plan for environmental conditions

DfT’s Strategic objectives



Improved environmental outcomes

Timeframe based on the issues and constraints identified



⁴⁰ National Highways, 2022, *Net zero highways: Our 2030 /2040 / 2050 plan*, <https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf>

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
<p>A Support safe and efficient freight movement to and from air, rail, sea and freeports in the Kent Corridors.</p> <p>Support driver welfare, including supporting provision of appropriate driver facilities and reducing delay, particularly on the M2/A2, A249 and A13 / A1089.</p>	<p>Route wide but particularly on the M2/A2, A249 and A13 / A1089.</p>	<p>Concerns of interested parties related to road safety and movement on:</p> <ul style="list-style-type: none"> • static, queuing traffic when Dover Port is busy • there are visibility and access challenges at particular junctions including M20 Junction 11a and connections with the Major Road Network / Local Road Network from the A2 • a need for suitable rest areas to stop HGVs using existing laybys as overnight sleep stops. Off-road parking for HGVs does not meet demand, HGV drivers often arrive at parking to find it full and a lack of facilities • a need to consider the impact of challenges with crossing to Europe across whole lengths of M20, not just at Portals • a need to address congestion and journey time reliability challenges • a need to consider network performance when Dover Traffic Access Protocol is in place 	<p>Transport for the South East social priorities identify the need for a safely planned, delivered and operated transport network with no fatalities or serious injuries among transport users, the workforce or the wider public.</p> <p>One of the four Transport East strategic priorities is unlocking international gateways. Better connected ports and airports to help UK businesses thrive, boosting the nation's economy through better access to international markets and facilitating foreign investment.</p>	<p>The A2 between Aylesham and Dover, A249 north of the M2 and A1089 have an iRap one or two star rating.</p> <p>Higher collision rates and proportion of people being killed or seriously injured at key locations on the coast-bound M20 and M2.</p> <p>The orientation of the route can result in safety issues due to sun glare.</p> <p>A higher percentage of collisions resulting in someone being killed or seriously injured involving:</p> <ul style="list-style-type: none"> • walkers, cycles or horse riders on the A2 between the M2 and Dover, and the A249 north of the M2 • motorcyclists on the A2, A249 north of the M2 and M26 sections <p>Congestion related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover and the A13 / A1089 east of the M25. Delays are expected to worsen by 2031, including the A2 and A20 at Dover and the M2 at Stockbury and Faversham.</p> <p>Delays are exacerbated by seasonality due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover.</p> <p>When there is disruption at the international gateways, freight traffic queues can extend onto the network including through towns and residential communities.</p> <p>Delay at junctions when traffic diverts, particularly where the Major Road and Local Road Networks interact with the SRN, including M2 Junction 7 (Brenley Corner), the A2 Whitfield and Duke of York Roundabouts, the A13/A1089 junction, the M2 Junction 3 (Bluebell Hill) and M20 Junction 6.</p> <p>The route plays a pivotal role in international connectivity, linking the UK and mainland Europe via Dover, Folkestone, Sheerness, the Channel Tunnel and the Thames Ports / Freeport.</p> <p>The implementation of the Lower Thames Crossing scheme is expected to provide benefit to freight movement across the SRN within the Kent Corridors area.</p>

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
<p>B Support sustainable development within Kent and Thurrock. Support effective local and regional connectivity through improved integration with sustainable transport modes to minimise the impact of short distanced trips from key growth areas and strategic development sites to benefit the economy.</p>	<p>Areas of growth including (but not limited to) Local Plan allocations and Economic Opportunity Areas.</p>	<p>Concerns of interested parties related to sustainable development on:</p> <ul style="list-style-type: none"> • there is a need for further input in early stages of plan-making and future planning to avoid car dependent housing development • capacity issues at various junctions across the network inhibits housing and employment growth • a number of new housing developments are designed for easy access to the strategic road network (SRN), but there are challenges in providing direct connections • significant growth is planned in this region, the SRN has a role in supporting (not just mitigating) regeneration and growth • the South East is seen as an affluent area, but there pockets of deprivation that need help and levelling up 	<p>Transport for the South East economic priorities identify the need for a more integrated approach to land use and transport planning that helps partners across the South East meet future housing, employment and regeneration needs sustainably.</p> <p>Transport East's vision is "A thriving economy for the East, with fast, safe, reliable and resilient transport infrastructure driving forward a future of inclusive and sustainable growth for decades to come".</p>	<p>Delay at junctions when traffic diverts (or in some cases during typical operation), particularly where the Major Road and Local Road Networks interact with the SRN, including M2 Junction 7 (Brenley Corner), the A2 Whitfield and Duke of York Roundabouts, the A13/A1089 junction, the M2 Junction 3 (Bluebell Hill) and M20 Junction 6.</p> <p>The route provides the primary access to significant urban areas of high-value economic activity. There are dedicated Opportunity Areas at Dover and Sheerness, and planned growth at the Thames Freeport sites, Port of Dover and Medway Ports. High levels of planned housing and employment development within the region will exacerbate pressure on the route.</p> <p>There are high levels of planned housing and employment development within the region, notably around the Thames Estuary, Dartford, Gravesend, Tilbury, Maidstone, Sittingbourne, Canterbury, Ashford and Dover. The substantial development and growth planned within the region will exacerbate pressure on the route.</p> <p>Congestion issues at various junctions threaten to inhibit economic growth, with several Kent Local Authorities identified as priorities for levelling up including Gravesham, Swale, Canterbury, Dover and Folkestone & Hythe</p> <p>There is poor east-west connectivity via rail and slow links between Kent and the South Coast, and a concentration of High-Speed 1 services on a single corridor.</p> <p>Congestion related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover. During typical operation, delays are apparent on the M20 at Maidstone and Ashford, A249 north of the M2, in and around Dover, A13 / A1089 east of the M25 and A2 on approach to the M25.</p> <p>Delays are expected to worsen by 2031 at several locations.</p>

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
<p>C Promote the Kent Corridors as a region that sets the standard in supporting the use of technology. Improve communication technology to better inform users during periods of disruption, providing an enhanced end to end journey experience on the Kent Corridors. Maximise the use of emerging technologies to support the net zero economy, and use schemes such as the Lower Thames Crossing to test low carbon innovation and approaches.</p>	<p>Route-wide however focused on international gateways, inland border facilities, border control points and lorry parks plus key decision points along the route.</p>	<p>Concerns of interested parties related to technology:</p> <ul style="list-style-type: none"> • there needs to be consideration of the impact of challenges with crossing to Europe across whole length of M20, not just at Portals • congestion due to Inland Border Facilities and how they impact on users needs to be considered • it is essential that technology is increased for routing to Ports, Border Control Points and International Border Facilities • management systems (such as Dover Traffic Access Protocol, or TAP) are manually monitored and triggered • communication infrastructure is needed for when there is disruption on the road network, and more road signage is needed to communicate travel conditions across the channel • there is a lack of charging for alternative fuels, and Electric Vehicle Charging infrastructure / infrastructure is required to support low fuels. There needs to be enough provision at Motorway Service Areas • the impact of automated vehicles and infrastructure to enable their use needs to be considered. There is currently a lack of technology • uncertainty of the future roll out of all lane running smart motorways 	<p>Transport for the South East social priorities include a seamless, integrated transport network with passengers at its heart, making it simpler and easier to plan journeys.</p> <p>One of Transport East's four strategic priorities is to decarbonise to net zero, building on the region's status as the UK's premier renewable energy region.</p>	<p>Delays are exacerbated by seasonality due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover.</p> <p>Limited technology provision makes it more difficult to manage disruptive incidents and communicate information to users.</p> <p>Lack of technology across the report to inform drivers of the best routes to use, as some diversion routes are less suitable for high volumes of freight and/or general traffic.</p> <p>Lack of coordinated infrastructure to communicate conditions or issues to road users.</p> <p>Lack of technology to support operation of the international gateways, including routing between them and Border Control Points, Inland Border Facilities and rest areas.</p> <p>Notable gaps in Electric Vehicle Charging Points across the route, with the majority provided in urban areas.</p> <p>Congestion related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover.</p> <p>Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover and the M2 at Stockbury and Faversham.</p>

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
<p>D Improve resilience of routes from Dover, Sheerness, Tilbury and Thames Gateway Ports to the M25. Provision of safe, suitable, and efficient routes to further improve resilience between the M20/A20 - M2/A2 corridors and A13/ A1089, improving journey time reliability and reducing impact on the Local Road Network.</p>	<p>The following sections of the route: Between M20/ A20 and M2/A2 corridors, and on the A2 to Dover and A13 / A1089.</p>	<p>Concerns of interested parties related to resilience:</p> <ul style="list-style-type: none"> • there is lack of resilience on the M20 and M2/A2 • links between M2 and M20 [are] limited, which would help with resilience • there are concerns on performance with Dover Traffic Access Protocol (TAP) is in place • accommodating traffic moving between the M2 and M20 is a challenge. Potential trunking of A229, A249 and A299 should be considered to address the lack of suitable link between the M20/ A20 and M2/A2 • access to Dover is constrained at Whitfield and Duke of York Roundabouts • there is lack of access across the Thames, however there is concern around the potential impact of Lower Thames Crossing on the Local Road Network and other SRN routes 	<p>Transport for the South East economic priorities include a more reliable journey for people and goods travelling between the South East's major economic hubs and to and from international gateways, as well as a transport network that is more resilient to incidents, extreme weather and the impacts of changing climate.</p> <p>One of Transport East's four strategic priorities is Unlocking international gateways. Better connected ports and airports to help UK businesses thrive, boosting the nation's economy through better access to international markets and facilitating foreign investment.</p>	<p>Local roads, including the major road network (MRN), that interface with the strategic road network (SRN) can suffer from consequential impact of the lack of local of SRN alternative routes and capacity/reliability issues.</p> <p>When there is disruption at the international gateways, freight traffic queues can extend onto the network including through towns and residential communities.</p> <p>Diversion routes are often less suitable for high volumes of freight and / or general traffic, which can result in secondary impacts such as increased congestion, reduced air quality and increased noise.</p> <p>Delay at junctions when traffic diverts (or in some cases during typical operation), particularly where the Major Road and Local Road Networks interact with the SRN, including M2 Junction 7 (Brenley Corner), the A2 Whitfield and Duke of York Roundabouts, the A13/A1089 junction, the M2 Junction 3 (Bluebell Hill) and M20 Junction 6.</p> <p>Congestion related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover. During typical operation, delays are apparent on the M20 at Maidstone and Ashford, A249 north of the M2, in and around Dover, A13 / A1089 east of the M25 and A2 on approach to the M25.</p> <p>Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover and the M2 at Stockbury and Faversham.</p> <p>Delays are exacerbated by seasonality due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover.</p>

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
<p>E Promote sustainable connectivity in region. Improve connectivity to ports and airports and the rail network (including access to high-speed services and east-west connectivity), to broaden mode and route choice and reduce vehicle use where possible.</p>	<p>Route wide however focused on international gateways, rail network and connectivity on east-west routes and across the River Thames Estuary</p>	<p>Concerns of interested parties related to sustainable connectivity:</p> <ul style="list-style-type: none"> • there is lack of access across the Thames • works may have a potential adverse air quality impact on residential receptors • there is additional pressure on the MRN links between the M2 and M20 due to commuting from Medway / Swale to Maidstone • need to consider the impact of challenges with crossing to Europe across the whole length of M20, not just at portals (Eurotunnel and ports) • poor access to Dover Port via sustainable or active modes 	<p>A Transport for the South East economic priority is for better connectivity between the region's major economic hubs, international gateways (ports, airports and rail terminals) and their markets.</p> <p>Transport for the South East social priorities include improved air quality supported by initiatives to reduce congestion and encourage further shifts to public transport.</p> <p>One of Transport East's four strategic priorities is connecting growing towns and cities, providing enhanced links between growing places and business clusters, improving access for people and enabling the area to function as a coherent economy.</p>	<p>The highest percentage of killed or seriously injured collisions involving walkers, cyclists and horse riders are on the A2 between the M2 and Dover, and the A249 north of the M2.</p> <p>The data shows that between 26 and 50% of collisions classified as killed or seriously injured involved motorcyclists on the A2, A249 north of the M2 and M26 section of the route. This increases to 67% of recorded killed or seriously injured collisions on the A20 between Dover and Folkestone (from a small sample size).</p> <p>Congestion related delay occurs on sections of the A2 at Gravesend, A249 north of the M2, M20 at Maidstone, and on and A2 and A20 near Dover. During typical operation, delays are apparent on the M20 at Maidstone and Ashford, A249 north of the M2, in and around Dover, A13 / A1089 east of the M25 and A2 on approach to the M25.</p> <p>Delays are expected to worsen by 2031 at several locations, particularly the A2 and A20 at Dover and the M2 at Stockbury and Faversham.</p> <p>Delays are exacerbated by seasonality due to travel to coastal destinations and Europe, for example on the A2 on approach to Dover.</p> <p>The Kent County Council Bus Service Improvement Plan highlights a vision to improve public transport choices and encourage more travel to school by bus, which will help reduce congestion. The Plan identified initiatives to embed the 'Mobility as a Service' (MaaS) concept as part of future provision in the county.</p> <p>Significant ecological, cultural and environmental sensitivities, particularly the Kent Downs AONB and SACS directly adjacent to the M20 and A2.</p> <p>Reliance of freight movement on the road network to connect to the wider UK.</p> <p>The route plays a pivotal role in international connectivity, linking the UK and mainland Europe via Dover, Folkestone, Sheerness, the Channel Tunnel and the Thames Ports / Freeport. There is poor east-west connectivity via rail and slow links between Kent and the South Coast, and a concentration of High-Speed 1 services on a single corridor.</p>

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
<p>F Be a better neighbour by safeguarding the environment and reducing the impact of air quality and noise on local communities including Dover, Maidstone, Ashford and Canterbury.</p> <p>Support schemes that reduce the impact of travel on neighbours, and protect areas with environmental designation around the route notably the Kent Downs Area of Outstanding Natural Beauty (AONB) and Special Areas of Conservation (SAC) as far as practicable which lie directly adjacent to the M20 and A2.</p>	<p>Route wide but particularly affecting communities such as Dover, Maidstone, Ashford and Canterbury.</p>	<p>Concerns of interested parties related to safeguarding the environment:</p> <ul style="list-style-type: none"> • there is the potential adverse air quality impact on residential receptors due to planned works • there is a need to consider decarbonisation • there is a need for suitable rest areas to stop HGVs using existing laybys as overnight sleep stops • off-road parking for HGVs does not meet demand, HGV drivers often arrive at parking to find it full and a lack of facilities 	<p>Transport for the South East social priorities include improved air quality supported by initiatives to reduce congestion and encourage further shifts to public transport.</p> <p>A Transport for the South East environmental priority is the use of the principle of 'biodiversity net gain' (i.e. development that leaves biodiversity in a better state than before) in all transport initiatives.</p> <p>One of Transport East's four strategic priorities to deliver their vision is decarbonisation to net zero. Working to achieve net zero carbon emissions from transport, building on the region's status as the UK's premier renewable energy region.</p>	<p>Significant ecological, cultural and environmental sensitivities, particularly the Kent Downs AONB and SACS directly adjacent to the M20 and A2.</p> <p>Traffic related severance noise and air quality impacts on local communities with existing AQMAs (such as the A13 and Dartford Borough) and NIAs (such as the A2/M2 Canterbury to Rochester, M20 Wrotham to Harrietsham, and A20 at Dover) in place.</p> <p>Receptors may be more likely affected by poor air quality on sections of the M20 (west of Maidstone and at Ashford), A2 (west of Canterbury) and A20 (west of Dover).</p> <p>Receptors may be more likely to be affected by higher noise on sections of the M20 (between Maidstone and Ashford, and London-bound near Aylesford)</p> <p>There may be a risk of flooding on the A249 and on the M2 east of Gillingham. Some areas are also susceptible to adverse weather conditions, particularly affecting access to ports.</p> <p>There are high levels of planned housing and employment development within the region, notably around the Thames Estuary, Dartford, Gravesend, Tilbury, Maidstone, Sittingbourne, Canterbury, Ashford and Dover.</p>



**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 Kent Corridors to M25 route objectives the Department for Transport's (DfT's) 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 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 focussed on reducing incident severity through a package of activities to promote 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 collaborate 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 such as Network Rail to consider interventions to improve network performance as 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 digital 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 infrastructure design to scheme delivery and ensuring we meet our statutory obligations, and the way we manage and operate our network. In developing our intervention 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 its 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 a properly maintained, future-ready road network, that is fitted to support the transition to electric vehicles, 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 efficiencies, enable us to deliver more within our funding. We also expect this approach to help us support 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 SRN is a significant economic asset for the UK and is essential for people to access jobs, and for businesses and logistics firms moving goods around the country. Our regional planning teams continue to work closely with local planning authorities to support sustainable growth and development aspirations, including integration with other 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 through which we 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 providing 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 strategic road network is designed, built, operated and used for the future. This will enable safer journeys, faster delivery and an enhanced customer experience for all, recognising the specific challenges of delivering technology and relevant information in more rural and remote parts of the network. The vision is structured around three themes: Design & Construction; Operations; 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 24 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.

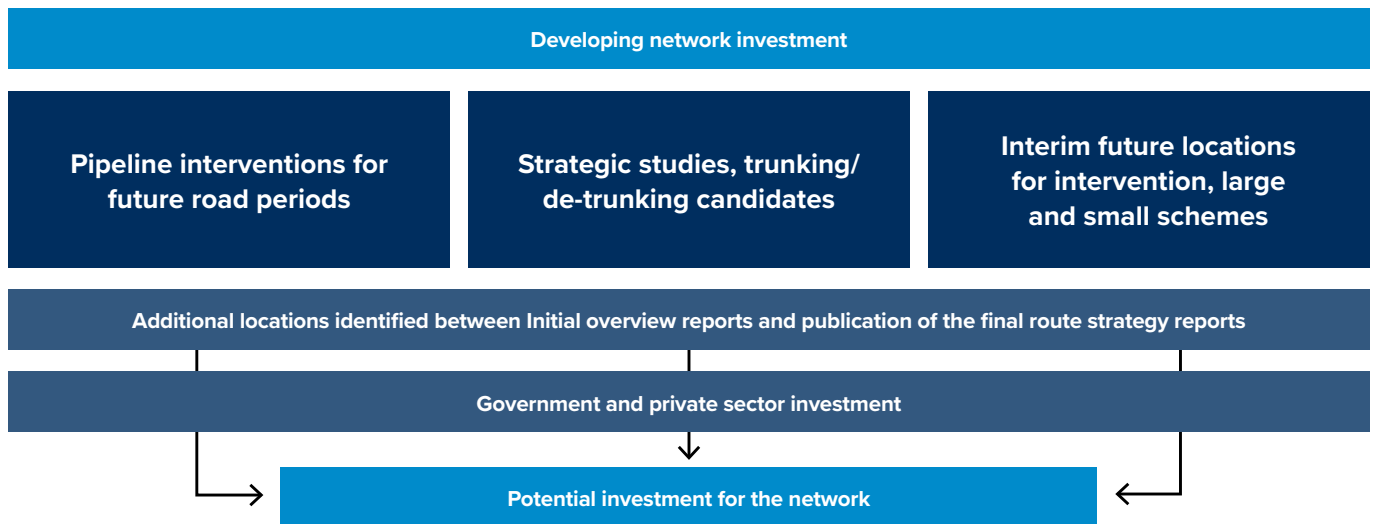


Figure 24: Process to identify potential investment on the network

Types of investment and funding sources

There are a variety of funding streams which enable us to invest in our network and which form part of our investment planning. These are summarised in the following section, along with the current committed schemes associated with each funding source for the Kent Corridors to M25 route. Key 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 that 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 for delivering infrastructure enhancements on, or close to, the SRN including Government, third parties, private sector developments, and inward investment

RIS2

The following schemes are committed for the second road period (2020-2025) on the Kent Corridors to M25 route:

Scheme number	Scheme	Description	Start of works	Open for traffic
Committed for the second road period (2020-2025)				
1	Lower Thames Crossing	The Lower Thames Crossing is part of the biggest investment in the country's road network for a generation and an essential component in the UK's future transport infrastructure. On the south side of the River Thames, the new road would link to the A2 and M2 in Kent. On the north side, it would link to the A13 in Thurrock and the M25 in Havering.	2024-25 Q4 ⁴¹	Road Period 3
2	M2 Junction 5	Improvements to the slip roads and junction approaches at the M2 Junction 5. One aim is to improve journey times, reduce delays and improve the safety of the junction for all road users. The improvements will support economic growth as increasing capacity at the junction will support the future housing and employment growth in the area.	Started	2024-25

RIS4 pipeline

The following uncommitted schemes are in the pipeline for the fourth road period (2030-2035) on the Kent Corridors to M25 route:

Scheme number	Scheme	Description
1	A2 Brenley Corner	Upgrading the A2 Brenley Corner junction near Faversham in Kent.
2	A2 Dover Access	Upgrading sections of the A2 to improve traffic flow and resilience between Lydden Hill and Dover in Kent.
3	Tilbury Link Road	In development.

⁴¹ Date revised due to planning constraints and stakeholder input

Other notable schemes

On the Kent Corridors to M25 Route, in addition to the committed schemes listed above, there are several notable schemes of relevance (not National Highways schemes) that are either under construction or where planning is in advanced stages⁴².

A249 Junctions – Kent County Council have been awarded £38.1million from the Housing and Infrastructure Fund to deliver highway improvements at two junctions at Grovehurst Road / A249 Junction and at Key Street (A249 /A2) roundabout. Construction is due to commence in January 2023. Existing congestion has restricted development and the following improvement scheme will increase capacity and enable Swale’s adopted local plan to be delivered.

Bluebell Hill – this area is currently congested and restricted in its development. There are 4,628 new homes planned on the A249 corridor from the junction with the M2 to the Isle of Sheppey. The improvement scheme will increase capacity on the road network, and provide the infrastructure needed for the housing plans in Swale’s adopted local plan to be delivered.

A20 Coldharbour Roundabout – the scheme is due to start Autumn 2022 and will enlarge the roundabout and remove traffic signals to improve the capacity of the roundabout.

Dover Fastrack – is a new bus rapid transit system that will connect Whitfield, Dover town centre and Dover Priory Station, to provide a reliable, high-quality, and frequent bus service. The buses will have priority over other traffic on the route. The Dover Fastrack will use existing roads, new roads and dedicated busways and link the proposed housing developments of Whitfield Urban Expansion and Connaught Barracks, White Cliffs Business Park, the new leisure centre and Dover Castle. Construction is due to complete in late summer 2023.

A249 Bearsted Road – The proposed scheme aims to accommodate increased traffic volume by signalling the A249 Bearsted Road roundabout and enlarging the New Cut Road roundabout, whilst widening between the two. Additional smart technology will help ease congestion and improve traffic flow. Construction is due to commence in autumn 2022 and complete in late summer 2023.

Thanet Parkway Railway Station – a new railway station in Thanet on the Ashford International to Ramsgate line. Thanet Parking will increase rail connectivity between East Kent, London and the wider Kent area by providing access to mainline and high-speed services. Opening is due in May 2023.

⁴² <https://www.kent.gov.uk/roads-and-travel/road-projects>

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 can involve close working with key partners including STBs and the DfT, the consideration of options for improvements, and can be used to help to decide on whether to fund any proposed improvements in the future.

There are no Strategic Studies currently identified on the Kent Corridors to M25 route.

National Highways was asked to explore changes to the SRN to ensure the network aligns with RIS2 strategic priorities reflected in the *Strategic business Plan*⁴³. 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 has 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 Highway road to the local Highway Authority control and vice 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 the 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 RIS 3 process.

Locations identified through route strategies for future investigation

National Highways undertakes route studies to investigate 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 Kent Corridors to M25 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 helps 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 enabled the identification of 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 reports, additional data from the regional traffic models will also be considered, to enable the identification of locations for further investigation in future roads periods.

Further development of any proposed intervention 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.

⁴³ National Highways, *Strategic Business Plan: 2020-2025*, <https://nationalhighways.co.uk/strategic-business-plan/>

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 resilient to changing priorities, the carbon and environment agenda.

We have a wide range of potential intervention types within our toolkit, such as both non-roads 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:

- at a strategic level in addition to Lower Thames Crossing, we will continue to progress those remaining schemes in RIS1 and RIS2⁴⁴ that will not be in construction at the end of RP2, as well as the RIS4 pipeline
- 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 strategy (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.

⁴⁴ Plans for new smart motorways have now been cancelled and previously paused smart motorways will now not go ahead.

Table 3 and Figure 25 show the areas identified for further investigation, where interventions at these locations 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 intervention to the issues identified, exploring:

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

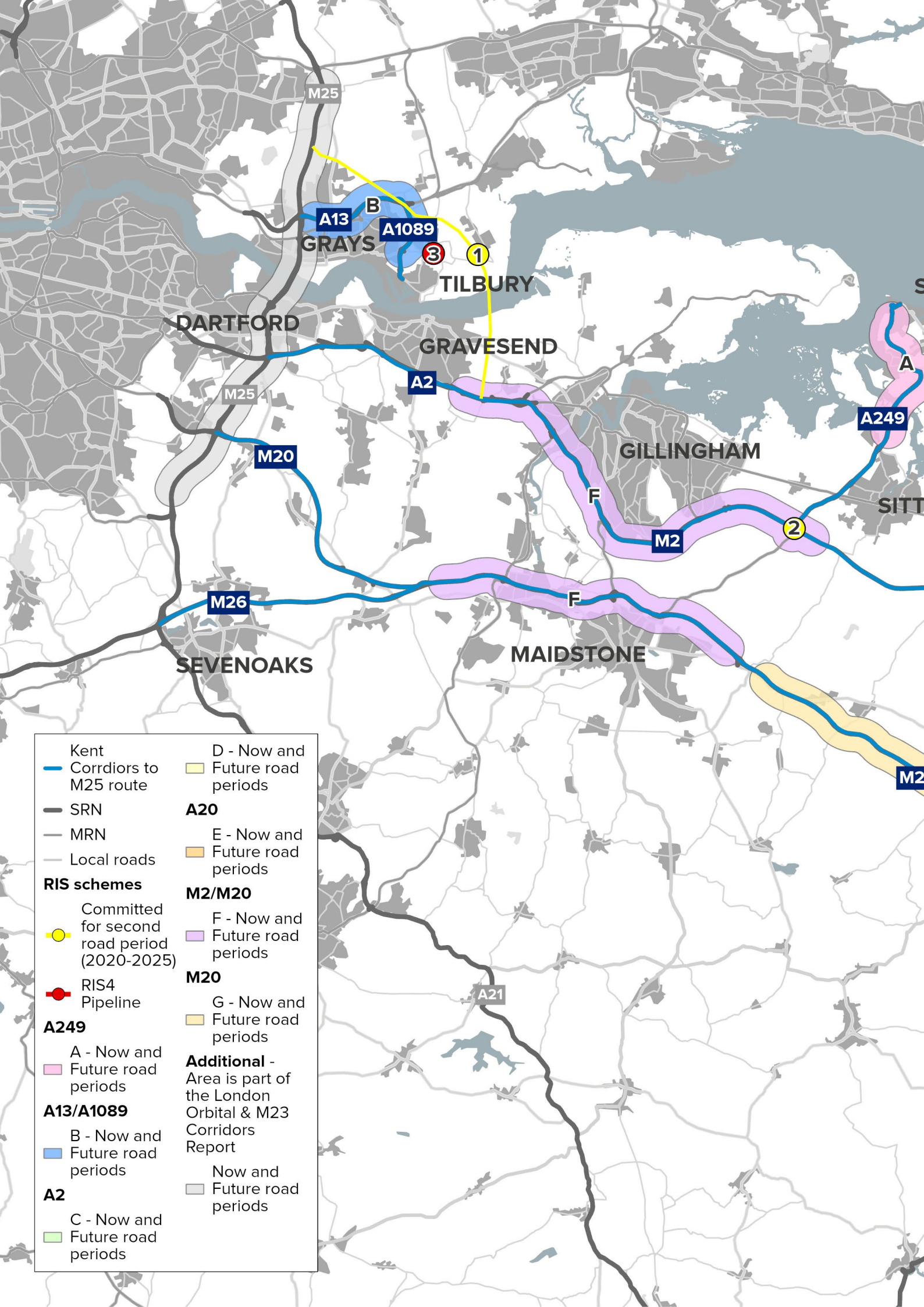
As part of the ongoing evolution of the route strategies toward final publication we will further strengthen its role in being a strategic planning tool for interested parties who have a stake in the SRN and its future.

Table 3: Areas of interest for further investigation

Area location	Area of interest	Area issues	Now	Future road periods
A249				
A249 (between Sheerness and Grovehurst)	A	There are safety issues on the A249 north of the Sheppey Bridge. There are high levels of total delay throughout, and high peak hour, non-recurrent, and seasonal delay around Neats Court. The A249 may also have an impact on noise and air quality where it passes close to receptors around Sheerness. The A249 Sheppey Bridge can be susceptible to adverse weather events, but there is limited technology to communicate route conditions to the wider area, and limited diversion options . There is also poor passenger rail connectivity, and there are aspirations to provide opportunities for shifts in modes of transport from Sheerness. In combination with the issues noted, at Sheerness and Swale there is a application for levelling up funding.	✓	✓
A13 / A1089				
A1089 and A13 to M25	B	There are safety concerns on the A1089 south of the A13. There are high levels of total delay and average delay throughout this section of the route, but particularly near Tilbury. Delay is generally forecast to reduce by 2031 except non-recurrent delay near Tilbury. There is also limited technology to communicate route conditions to the wider area, and limited diversion options . In combination with the issues noted, significant growth is expected for the Thames Estuary, including major housing and employment at and around Tilbury. In 2031 HGVs are expected to form over 50% of total traffic on the route. The implementation of the Lower Thames Crossing may change the profile of traffic in the area, and the Tilbury Link Road is identified as a pipeline project for the third road period.	✓	✓
A2/A20				
A2 (Barham to Dover and A20)	C	There are safety concerns between Barham and Dover (including around Dover Castle) on the A2 and A20, and the A2 between the M2 and Dover has a higher percentage of collisions involving motorcyclists, walkers and cyclists. There are high levels of peak hour delay, average delay and non-recurrent delay throughout, and particularly at Whitfield and Duke of York roundabout and central Dover. The route is characterised by high proportions of HGVs , which are forecast to increase by 2031 so resilience is a key concern. The implementation of the Lower Thames Crossing may change the profile of traffic. Access to Dover Port can be affected by challenges crossing the Channel and adverse weather conditions, resulting in associated SRN disruption. This is exacerbated by a lack of lorry parking and facilities . Alternative routes are often unsuitable, particularly on the A2 due to route inconsistencies. There is limited technology to communicate route conditions or support HGV routing, and the Dover Traffic Assessment Project (TAP) is manually operated. The corridor is in close proximity to communities and environmentally sensitive assets (including the Kent Downs AONB and SACs). Lack of intermodal (rail) traffic limits mode shift to rail, and there is both a lack of sustainable access and high speed services. In combination with the issues noted, there is significant planned growth at the international Gateways, in Dover and in urban centres along the A2. Dover is identified as a priority for levelling up activity.	✓	✓

Area location	Area of interest	Area issues	Now	Future road periods
A20				
A2 (M2 Junction 7 Brenley Corner to Canterbury)	D	There are peak hour, average, non-recurrent, seasonal and total delay concerns at Brenley Corner, and total delay concerns around Dunkirk. Non-recurrent and seasonal delays are forecast to remain at Brenley Corner to 2031. Interested parties raised concerns that the M2 Junction 7 (Brenley Corner) suffers from delays for traffic travelling between the M2 and A2. Receptors, particularly around Canterbury and Dunkirk, may be more likely affected by noise and air quality issues . The route is characterised by high proportions of HGVs , so resilience is a key concern. The A2 supports regional and local growth aspirations and levelling up priority areas.	✓	✓
A20				
A20 (A2 Dover to Folkestone)	E	There are safety concerns throughout this section of the route and higher than average motorcycle collision rates on the A20 between Dover and Folkestone. There is peak hour delay, average delay and non-recurrent delay at Central Dover, which is generally forecast to reduce by 2031. The route is characterised by high proportions of HGVs , so resilience is a key concern. Access to Dover Port can be affected by challenges crossing the Channel and adverse weather conditions, resulting in associated SRN disruption. This is exacerbated by a lack of lorry parking and driver welfare facilities . There is limited technology to communicate route conditions or support HGV routing. The corridor is in close proximity to communities and environmentally sensitive assets (including the Kent Downs AONB and SACs). Receptors located close to the A20, particularly at Dover, Folkestone and Aycliffe, may be more likely impacted by noise and air quality issues . Lack of intermodal (rail) traffic limits mode shift to rail, and there is both a lack of sustainable access and high speed services. In combination with the issues noted there is significant planned growth at the international gateways and in Dover, and Dover is identified as a priority for levelling up activity.	✓	✓

Area location	Area of interest	Area issues	Now	Future road periods
M20 and M2				
M20 and M2 (LRN and MRN interaction with SRN)	F	<p>There are Collisions near Strood and Farthing Corner typically involve a higher proportion of motorcycles. There are peak hour, average, non-recurrent, seasonal and total delay concerns throughout, but especially on the M20 around and between Maidstone and West Malling. This is expected to reduce on the M20 in 2031, but with higher non-recurrent and total delays on the M2. Interested parties raised concerns about the challenge of accommodating traffic moving between the M2 and M20, and associated delays at the M2 Junction 3 and M20 Junction 6. Alternative routes are often unsuitable for high volumes of freight and general traffic, particularly on the A249 and A229 which are used as links between the M2 and M20. The route is characterised by high proportions of HGVs, so resilience is a key concern. There is limited technology to communicate route conditions or support HGV routing. There are high levels of planned housing and employment development, notably around Sittingbourne and Maidstone. Both the M20 and M2 impact noise and air quality where they pass close to receptors, particularly at West Malling and Farthing Corner. There may be a higher risk of flooding around Maidstone and Sittingbourne.</p>	✓	✓
M20				
M20 (Maidstone to Ashford)	G	<p>There are safety concerns coast-bound on this section of the route. This section of the route also experiences issues with total delay on the M20 between Maidstone and Ashford, although these are forecast to reduce by 2031. The route is characterised by high proportions of HGVs, so resilience is a key concern. Receptors located between Maidstone and Ashford on the M20 may be more likely impacted by noise and air quality issues. There are higher incidents of flooding around Ashford. In combination with the issues noted there are high levels of planned housing and employment development, notably around Ashford and Maidstone.</p>	✓	✓



Kent Corridors to M25 route	D - Now and Future road periods
SRN	A20
MRN	E - Now and Future road periods
Local roads	M2/M20
RIS schemes	F - Now and Future road periods
Committed for second road period (2020-2025)	M20
RIS4 Pipeline	G - Now and Future road periods
A249	Additional -
A - Now and Future road periods	Area is part of the London Orbital & M23 Corridors Report
A13/A1089	Now and Future road periods
B - Now and Future road periods	
A2	
C - Now and Future road periods	



SHEERNESS

INGBOURNE

MARGATE

RAMSGATE

M2

1

D

CANTERBURY

A2

G

2

ASHFORD

A20

DOVER

A2070

E

FOLKESTONE

Figure 25: 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*⁴⁵ 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/

⁴⁵ National Highways (2022) *Connecting the country: Our long-term strategic plan to 2050*.
<https://nationalhighways.co.uk/connectingthecountry>

Glossary of terms

Term	Acronym	Description
Active users and active modes of transport		Active users and active modes of transport refers to walkers, cyclists and horse riders.
Air quality management area	AQMA	If a local authority identifies any locations within its boundaries where the Air Quality Objectives are not likely to be achieved, it must declare the area as an Air Quality Management Area (AQMA). The area may encompass just one or two streets, or it could be much bigger. The local authority is subsequently required to put together a plan to improve air quality in that area - a Local Air Quality Action Plan.
Area of Outstanding Natural Beauty	AONB	An area of outstanding natural beauty (AONB) is one of the classes of land protected by the Countryside and Rights of Way Act 2000 (CROW Act). It protects the land to conserve and enhance its natural beauty.
All Lane Running	ALR	All Lane Running (ALR) motorways apply controlled motorway technology, permanently converting the hard shoulder as a running lane, and feature emergency areas.
A-roads		Major roads intended to provide large-scale transport links between regional towns and cities.
Assets		National Highways assets include our infrastructure such as 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		<p>The severity of a collision is based on the severity of the most severely injured casualty and is broken down into:</p> <ul style="list-style-type: none"> • 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

Term	Acronym	Description
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.
Diversionsary 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 45 kilometres beyond the port(s)
Heavy Goods Vehicle	HGV	A heavy goods vehicle (HGV) is a large vehicle intended for the transportation of heavy loads.
Growth Boards		Growth Boards have been established by some counties as a joined-up way of managing local future growth and supporting economic recovery.
International connectivity		Transport connectivity of the United Kingdom with Europe and the rest of the world.
In-vehicle Technology		This can be in-car systems that typically take the form of a touchscreen or display that is mounted on the dashboard. It can be a collection of hardware and software, which can provide information, data and connectivity to infrastructure to support the customer experience. It can also be the data and technology capability to enable the operation of the car (this might be connected services, autonomous capability, parking sensors, cameras etc.). It can be any technology within a vehicle.

Glossary of terms

Term	Acronym	Description
Levelling up		Levelling up is a moral, social and economic programme for the whole of government. It places emphasis on ensuring no community is left behind.
Local Road Network		England's road network consists of motorways, major 'A' roads, and local classified and unclassified roads. The vast majority of motorways and major 'A' roads for the strategic road network (SRN) and are managed by National Highways. All other roads are managed by local authorities and make up the local road network (LRN)
Major Road Network	MRN	The major road network (MRN) is the middle tier of England's road network, comprising the busiest and most economically important local authority A-roads.
National Highways Licence		The Licence sets out the Secretary of State's statutory directions and guidance to National Highways.
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
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.

Term	Acronym	Description
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.
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. SSSIs 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: <ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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

Glossary of terms

Term	Acronym	Description
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.
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
UNESCO World Heritage Site		Inscription as a UNESCO World Heritage Site is an acknowledgement of the global significance of such places.

Term	Acronym	Description
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		Walkers, cyclists and horse riders

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