







1. Introduction

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

The SRN supports national and local economic prosperity by:

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

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

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





Purpose of Route Strategies

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

- bring together information from key partners, motorists, local communities, construction partners, environmental groups and across the business
- achieve a better understanding of the condition and performance of our roads, and local and regional aspirations
- shape our investment priorities to improve the service for road users and support a growing economy
- help inform the next RIS¹

Strategic themes

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

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



Economy



Environment



Network capability



Integration



Figure 1.1 - RIS1 strategic vision

Highways England Strategic Business Plan's key outcomes



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



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



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



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



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

Figure 1.2 - Highways England strategic outcomes



Stakeholder engagement

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

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

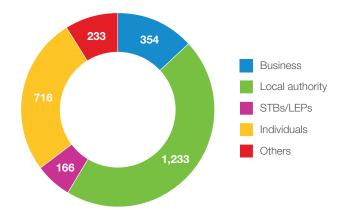


Figure 1.3 - External stakeholder responses

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

Transport Focus

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

Completed interviews

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

Figure 1.4 - Driver sample breakdown



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

The research found that the South Coast Central route was one of the lower rated of the routes, with only 57% of users rating their experience of the route as either extremely good or fairly good. As Table 1.1 shows, 50% of users experienced problems using the route, with congestion and busy roads/high volume of traffic cited as the two main causes.

The full report has been published on Transport Focus's website www.transportfocus.org.uk/researchpublications/publications/road-to-the-future.

We will continue to work closely with Transport Focus to understand customer priorities to ensure that the next RIS reflects their needs.

Experienced problems %	Route impacted	Largest problem	Second largest problem
61%	M25 to Solent	***	
58%	London Orbital and M23 to Gatwick		æ æ æ
50%	South Coast Central	**	8 €
46%	Solent to Midlands	& &	æ æ æ
44%	East of England	*	84
43%	Birmingham to Exeter	**	
41%	South West Peninsula		
41%	North and East Midlands	& & & & & & & & & & & & & & & & & & &	6 6
40%	London to Scotland East		
40%	South Pennines	*	
39%	Kent Corridor to M25		89
37%	London to Scotland West	*	
32%	Midlands to Wales and Gloucestershire		
30%	Felixstowe to Midlands	*	
30%	South Midlands	-	
28%	London to Leeds East	6 60	
27%	London to Wales	***	
17%	North Pennines		8,9









Table 1.1 - Transport Focus summary

2. The route

The South Coast Central route is critical for future economic growth around the coastal urban centres of Chichester, Worthing, Brighton and Hove, Eastbourne and Hastings, as well as several inland commercial areas.

The route is formed of variable standards of the roads, ranging from single 2-lane sections of the A27 and A259, through to 6-lane motorway standard sections on the A23.

The A27 is the only element of the SRN running east—west below the M25, resulting in it serving as both part of the SRN and as a local distributor, with short trips and long-distance heavy traffic causing substantial interaction at junctions.

South Coast Central route covers approximately 175 miles and contains a mixture of motorway and trunk road sections. It comprises:

- the A27 (from the A3 through to Pevensey in East Sussex)
- the A259 (from Pevensey through Hastings to Brenzett to the south of Ashford)
- the A2070 (between Brenzett and Ashford)
- the A21 (between M25 junction 5 and Hastings)
- the A23 (between M23 junction 9 and Brighton)

The A27 section extends along the South Coast between Portsmouth and Hastings, and then continues through to Ashford via the A259 and A2070. In the west, it serves the densely populated towns adjacent to the M27/A27. To the east, the A27 skirts the conurbations of Chichester, Arundel, Worthing and Brighton. To the east of Brighton the road runs adjacent to population centres, which include Lewes, Newhaven and Hastings.

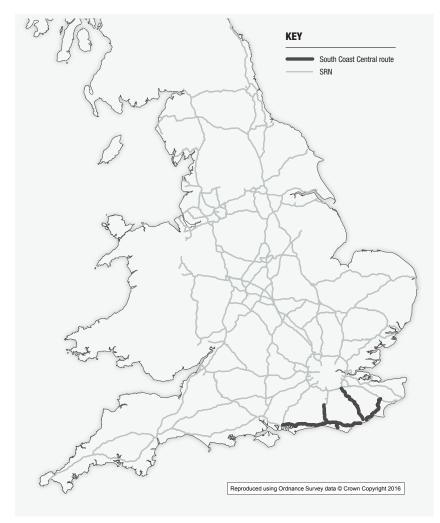


Figure 2.1 - Route overview map

The route includes the A21 that extends northwards from Hastings to M25 junction 5, running close to Pembury, Tunbridge Wells, Tonbridge and Sevenoaks, as well as through a number of smaller communities in East Sussex. The route extends along the A23 as far as junction 9 on the A23/M23 corridor, linking Brighton and Hove to the population and employment centres in and around Crawley, Horsham, East Grinstead and Gatwick.

The A23 section of the route is a key route for freight travelling to and from Newhaven and Shoreham ports. The M3 and the M27/A27 form part of the Trans-European Network – Transport (TEN-T). The section of road between Portsmouth and Brighton provides an opportunity for more strategic traffic movement from the west through to the M25 and Gatwick Airport via the A23/M23 corridor.

Between Portsmouth and Brighton the route is constrained to the north by the South Downs National Park (SDNP), and by the English Channel to the south. The road is predominantly of at least a dual carriageway standard across this section, with a notable exception at Arundel and Worthing where it reduces to single carriageway in residential areas.

To the east of Brighton the route passes through the South Downs and crosses the Pevensey levels to Hastings.

The A2070 runs from Brenzett on Romney Marsh to Kennington in the northern suburb of Ashford. Five miles later it reaches the suburbs of Ashford and becomes a dual carriageway, meeting the M20 at junction 10, 2 miles later. Beyond this, the A2070 is a suburban route.

The A21 is a north–south trunk road connecting London and various commuter towns to the South Coast. It provides a strategically important link through to Bexhill as well as Hastings, East Sussex and parts of Kent. There is a a reduction in the standard of the A21 between Kent and East Sussex.



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The A23 is an important freight route, with heavy goods vehicles travelling to and from Newhaven and Shoreham ports.

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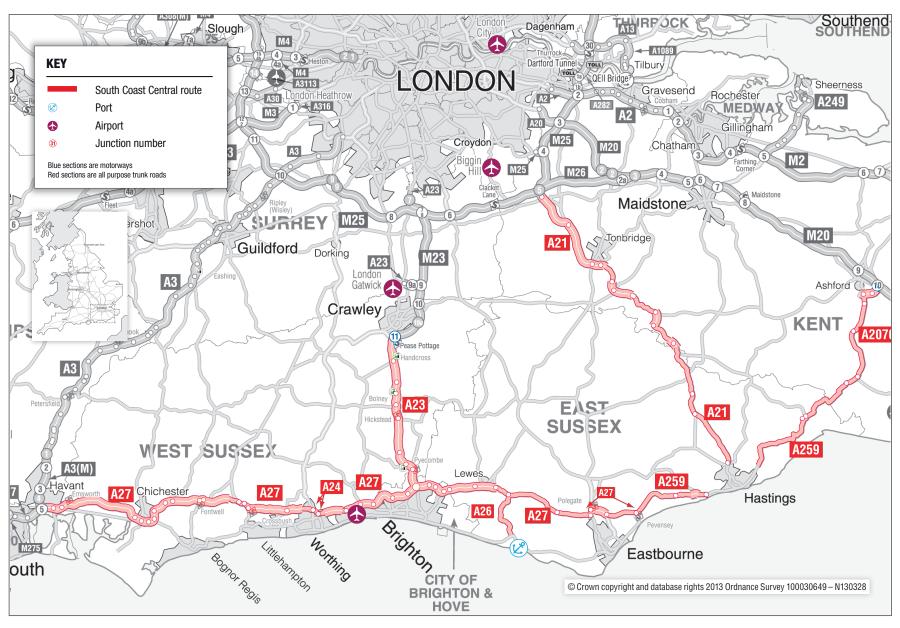


Figure 2.2 - Route Strategy overview map



3. Current constraints and challenges

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

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



There are concentrations of safety issues at various points on the route, particularly on the A21, A23 and A27.

These issues are exacerbated by the lack of CCTV in some areas, which makes incident detection difficult.

There are also safety issues on the stretch between the M25 and A225 which is one of the worst ranked A roads for safety issues based on numbers of collisions or casualties. Its safety record is poor due to factors such as the poor horizontal alignment (the degree of left or right turn required to stay on the road) and vertical alignment (the impact of changing gradients). It has many side roads and private accesses that lead to poor visibility for vehicles trying to join the route.

Looking wider the route contains some of the worst performing links for safety issues in the country, specifically: on the A27 between Lancing and the A24; between Arundel and the A284; between the A23 and Polegate; and around Chichester.



More free-flowing network

Although some sections of the route work well, including sections of the A27 west and east of Chichester and north of Brighton, many parts of the route suffer from congestion. The A23 suffers delays and unreliable journey times due to congestion, while the lack of free-flow slips (provided for only one movement) at the A27/A23 interchange results in delays. Congestion, journey time unreliability and speed issues result in poor-quality user experience at Chichester, Arundel and Worthing.

Congestion is also a problem on the A21, where sections of single carriageway and at-grade junctions result in delays, and on the A27 where it passes through major towns.

Capacity is restricted by single carriageway sections with at-grade junctions between Kippings Cross and Lamberhurst and around Hurst Green.

A recent Highways England led feasibility study identified that there is considerable peak hour congestion on the A27, as well as safety concerns due to the number of local accesses at 2 locations: on the single carriageway sections through Arundel and Worthing; and in East Sussex between Lewes and Polegate. These accesses attract considerable peak local traffic that reduces the strategic road function.

Congestion problems also tend to be exacerbated by seasonality impacts, with higher traffic volumes experienced in the summer months because of increased access to coastal towns. There is no technology across the route, which is required to cover numerous events and seasonal traffic flows. The lack of viable alternative routes also means this corridor has limited resilience to disruption. This, and the congested nature of local roads parallel to the route and limited scope for traffic divergence, also means even small incidents on the network can quickly escalate into major congestion problems and delays, particularly on the A27, A259 and A21.

Supporting economic growth

The route is a focal point for economic growth around the coastal urban centres of Chichester, Worthing, Brighton and Hove, Eastbourne and Hastings, as well as several inland commercial areas. The congestion described above, particularly on the A27, may worsen as a result of future economic growth and investment commitments set out in local plans.

Crawley produces a quarter of the West Sussex county's annual wealth. Two-thirds of the county's key employment sites that can accommodate additional major business growth are based either in the town or in nearby Horsham. Stakeholders have indicated that concerns over congestion have constrained growth around the Gatwick business partnership area. East Sussex businesses have also identified the A27 road network as a significant barrier to growth.

The A21/A259 economic opportunity area (EOA) includes some of the local enterprise partnership's most severely deprived communities. It also features major investment opportunity sites and has Assisted Area Status.

Much of the local access to the motorway network is from the A21, which means that it must function effectively and safely in order to help deliver planned growth.

The lack of connectivity between the M26 and A21 at M25 junction 5 could also be acting as a constraint to economic growth and housing development.



An improved environment

The A27 is a key transport route along the South Downs National Park, providing access to the park.

There are a number of Air Quality Management Areas (AQMAs) along the route that are seen to exist as a direct consequence of proximity to the SRN, notably on the A27. There are also a number of small Noise Important Areas (NIAs) on the route including the A23 around Crawley and Handcross.

A more accessible and integrated network

Locations have been identified where accessibility is affected by the SRN.

Severance has been identified as an issue on the A27 where it runs through and close to settlements, particularly Worthing and Selmeston. The evidence review has also highlighted that the A21 non-motorised user (NMU) route between Tonbridge and Pembury is not connected with local cycle and pedestrian networks, and that crossing facilities on the A27 at Wilmington junction are considered as having safety and local access issues.

While the coastal area is served by a number of rail routes, which run in parallel to the A27, these routes cater for local stopping stations providing good rail accessibility for shorter journeys but catering less well for longer-distance journeys.

South Coast Central - Route Strategy: Map 1 of 2

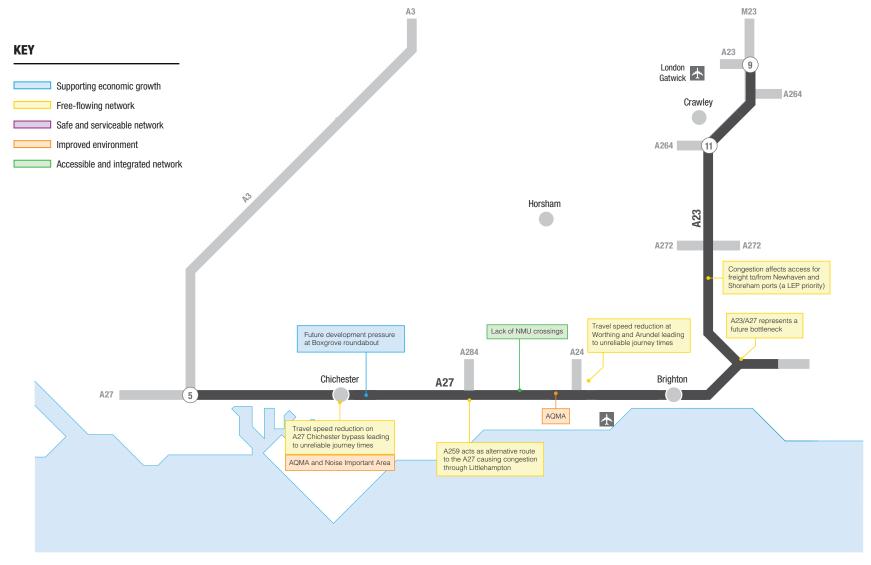


Figure 3.1 - Key challenges for the route

South Coast Central - Route Strategy: Map 2 of 2

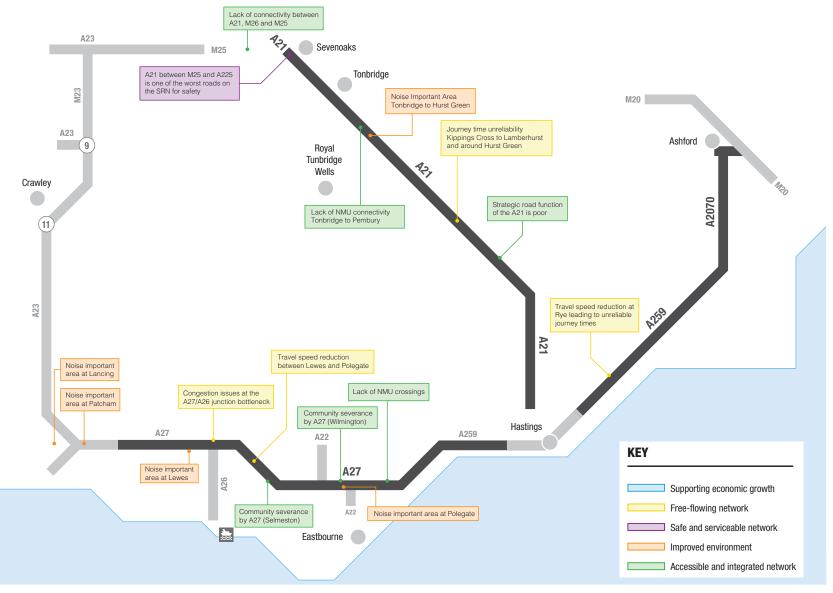


Figure 3.2 - Key challenges for the route

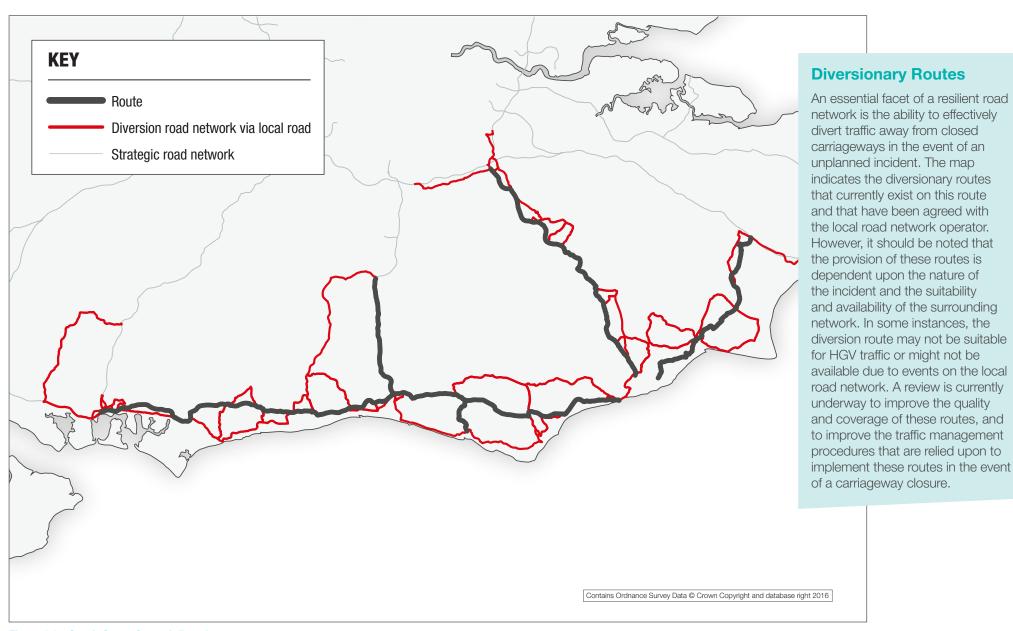


Figure 3.3 - South Coast Central diversionary routes

Maintaining the strategic road network

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

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

Road surface

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

Bridges and structures

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

Drainage

Drainage assets are represented by both linear assets (for example pipes, channels, ditches, drains) and non-linear assets (for example gullies, chambers). Across the route, drainage assets are considered to be in good condition for linear assets and very good condition for non-linear assets. Of those assets inspected, just under 70% of linear assets have no defects, while just over 80% of non-linear assets have been assessed as having no defects or only superficial defects.

Earthworks

The geotechnical earthworks across the route are considered to be in good condition, with the total length of earthworks that require further investigation amounting to less than 2%.

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



Future developments

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

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

Operations

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

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

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

4. Current investment plans and growth potential

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

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

Economic context

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

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

 economic growth and the SRN – an evidence review of the relationship between transport investment and economic growth

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

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

Innovation

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

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

Investment plans

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

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

South Coast Central - Route Strategy: Map 1 of 2

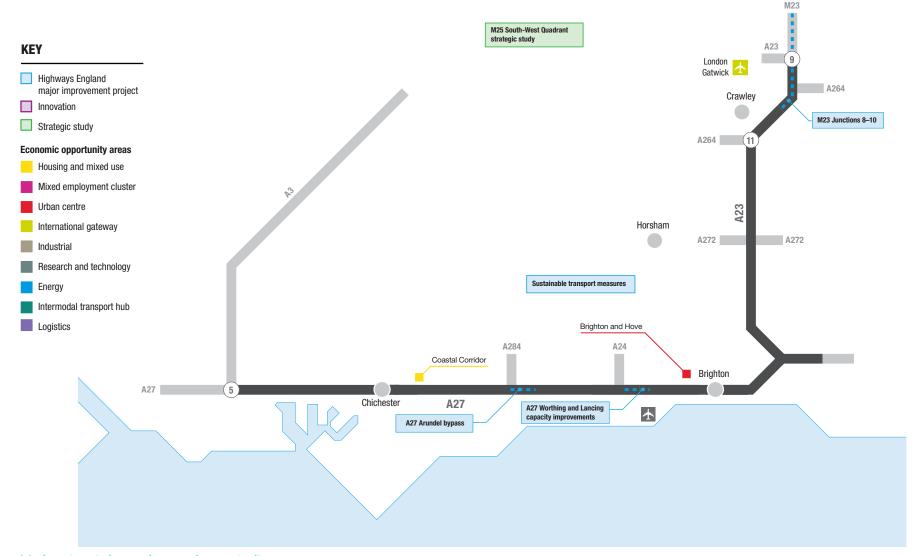


Figure 4.1 - Investment plans and economic opportunity areas

South Coast Central - Route Strategy: Map 2 of 2

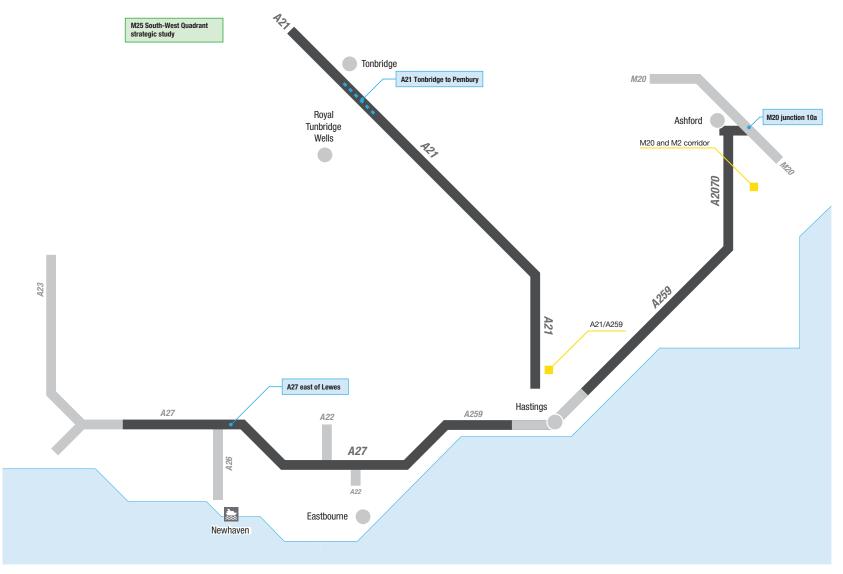


Figure 4.2 - Investment plans and economic opportunity areas



5. Future challenges and opportunities

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

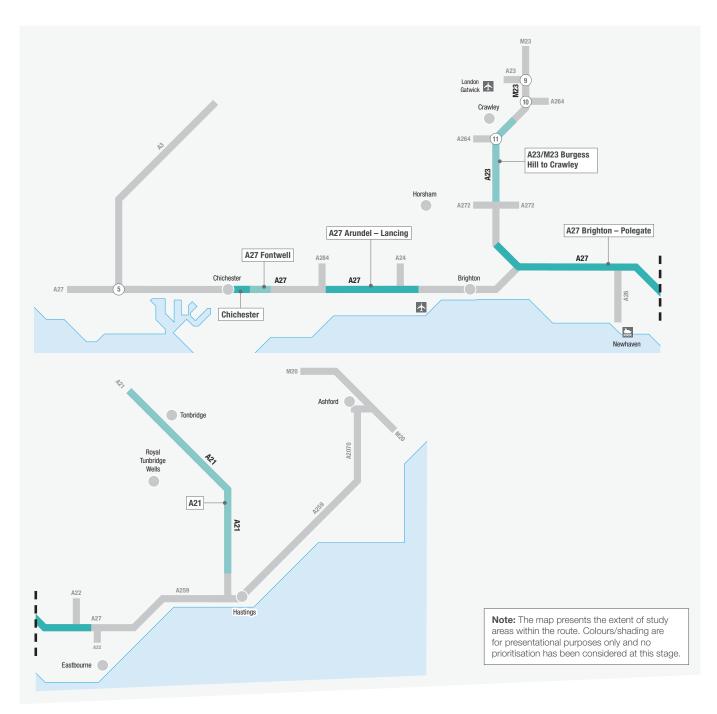


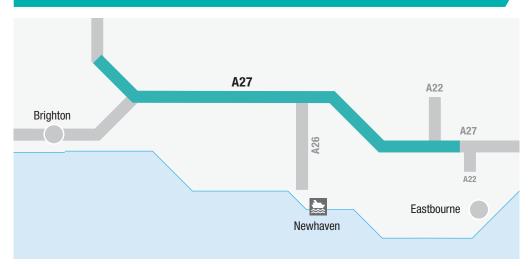
Figure 5.1 - Map of all study areas

A21



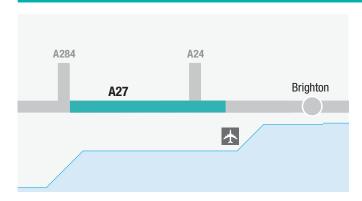
- Safety issues will be addressed by the RIS1 dualling scheme between Tonbridge and Pembury.
- Much of the corridor is identified as being poorly performing in terms of road safety.
- Capacity issues exist, particularly between Kippings Cross and Lamberhurst, and at Hurst Green, constraining corridor growth.
- There is a lack of connectivity between local and the Tonbridge–Pembury NMU routes.
- There is a lack of connectivity between the M26 and A21 at M25 junction 5, worsening traffic congestion and acting as a growth constraint.

A27 Brighton – Polegate



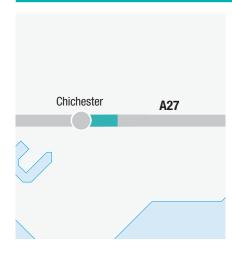
- There are RIS1 schemes to include localised capacity enhancements and sustainable transport measures east of Lewes.
- Capacity issues will still exist at A23/A27, Falmer interchange and on the section of the A27 from Lewes to Polegate.
- There are seasonal traffic issues due to coastal events. A lack of coordination in the management of event-related traffic can lead to area-wide issues although local management is often undertaken for sizeable events.
- There are a lack of NMU crossings at Willmington junction and at other locations in this study area.

A27 Arundel – Lancing



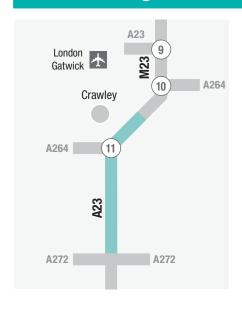
- RIS1 Worthing and Lancing improvements should support some strategic economic growth and improve safety. However, delay and congestion issues may not be fully resolved.
- There are seasonal traffic issues due to coastal events.

Chichester



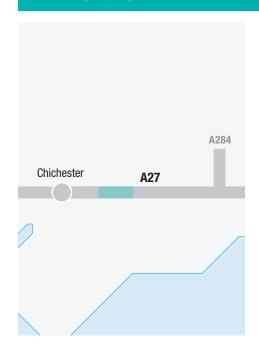
- There are seasonal traffic issues due to coastal events.
- A lack of coordination in the management of event-related traffic can lead to area-wide issues.

A23/M23 Burgess Hill to Crawley



- Congestion issues may be exacerbated due to major growth planned in and around Crawley, restricting growth.
- There are persistent safety and congestion issues, which are exacerbated by the lack of incident monitoring facilities.

A27 Fontwell



- There are seasonal traffic issues due to coastal events.
- The A27 RIS1 scheme at Arundel, and local growth pressures may increase the need for future capacity enhancements at the Fontwell junction (A27/A29).



6. Next steps

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

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

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

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

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

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



Figure 6.1 - RIS2 high-level process

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

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

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

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





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