London Orbital and M23 to Gatwick Route Strategy
March 2017
Route strategies

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

The modernisation of England’s motorways and major A roads, also known as the strategic road network (SRN), is making a vital contribution to economic wellbeing and growth. This Route Strategy – one of 18 such reports – provides a statement on the current performance of, and perceived pressures on, the London Orbital and M23 to Gatwick route to inform the planning of future investment.

The SRN supports national and local economic prosperity by:

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

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

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

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

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

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
Safety

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

1See Chapter 6 for more information on the next RIS
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.

<table>
<thead>
<tr>
<th>User Type</th>
<th>Completed interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>3,487</td>
</tr>
<tr>
<td>Bicycle</td>
<td>322</td>
</tr>
<tr>
<td>Bus</td>
<td>407</td>
</tr>
<tr>
<td>Other</td>
<td>206</td>
</tr>
<tr>
<td>Commuting</td>
<td>501</td>
</tr>
<tr>
<td>Business</td>
<td>1,367</td>
</tr>
<tr>
<td>Leisure</td>
<td>2,457</td>
</tr>
</tbody>
</table>

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).

Figure 1.4 - Driver sample breakdown

The research found that the 59% of users of the London Orbital to M23 and Gatwick route rated their experience of the motorway sections as either extremely good or fairly good, with 60% giving the same rating to the A road sections. As Table 1.1 shows, the London Orbital to M23 and Gatwick has comparatively more problems than most other routes, with 58% of users experiencing problems using the route, with congestion and high volumes of traffic cited as the two main causes.

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

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.

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

Table 1.1 - Transport Focus summary
2. The route

The M25 London Orbital and M23 to Gatwick route passes through Kent, Surrey, Buckinghamshire, Hertfordshire and Essex, the unitary boroughs of Thurrock, Slough and the Royal Borough of Windsor and Maidenhead, through the area of Slough and along the boundaries of the London boroughs of Hillingdon, Enfield and Havering.

The route is made up of the M25 motorway and a number of roads adjoining it. These roads include: the A282 Dartford Crossing; the M23 from the M25 to junction 9a and Airport Way to Gatwick; the M4 to junction 5; the A13 and A1089 from M25 junction 30 to Tilbury Docks; and all motorway and trunk road spurs within the M25 (except M40 junctions 1 to 1a).

It covers almost 200 miles; most of the route is motorway with the M25 section being mostly 4 lanes in each direction but varying between 6 lanes (junctions 14-15) and a 2-lane link road at junction 5. The trunk roads vary from a single lane on the A23 and the end of the A1089, to 3 lanes in most other cases.

The M25 south west quadrant (between junctions 10 and 16) experiences some of the highest volumes of traffic on the SRN, with a 2-way flow of around 200,000 vehicles per day. Compared to other parts of the SRN, the section has a relatively high proportion of commuter traffic travelling only 1 or 2 junctions, for example, between Surrey and West London.

Heathrow Airport, with direct access to the M25 and M4, attracts movements associated with handling more than 75 million passengers a year (over 200,000 per day) and 1.5 million metric tonnes of freight per year. For airport expansion the Government's preferred option is a new north-west runway at Heathrow Airport.
Dartford is the only river crossing on the SRN east of London and is also one of the more congested SRN sections. Capacity issues already experienced at the Dartford Crossing and its approaches will become more significant due to the need to accommodate growth in east London, Thurrock and that associated with the Thames Gateway, which is one of the biggest growth areas in Europe. The A13 and A1089 serve Tilbury docks, Lakeside and London Gateway port and are dominated by freight traffic. Near the M25, the A13 carries around 100,000 vehicles per day. At Tilbury, the A1089 carries around 22,000 vehicles per day.

The north side of the M25, particularly at junctions 21a-27, has a relatively high proportion of freight traffic connecting from the Midlands/North and the access points to the continent at Thames Gateway and the Kent Coast. The network here also needs to support adjacent growth, for example, in the Upper Lee Valley, Broxbourne and around Watford.

The M23 provides access to Gatwick Airport, Horley and Crawley. The M23 experiences higher flows on Fridays and Sundays and in holiday periods because of coastal bound and airport traffic.

In terms of its strategic economic function, the route services relatively short local commuter movements to and from outer London as well as traffic to and from 3 London airports and shopping centres at Lakeside, Bluewater and Brent Cross. In addition, as a part of the Trans-European Transport Network (TEN-T), the route facilitates sub-regional and national movements between 8 adjacent routes (East of England; Kent Corridor to M25; South Coast Central; M25 to Solent; London to Wales; London to Scotland West; London to Leeds; and London to Scotland East), including freight movements to and from the South Coast, Kent and Thames Gateway coastal ports.

The route also acts as a main interchange between strategic radial routes into and out of London and as a bypass of the capital. It has a strong relationship with major growth corridors and economic opportunity areas (EOAs) in London and supports several Local Enterprise Partnership (LEP) areas.

Technology provision varies along the route. The London Orbital is mostly controlled motorway (other than junctions 3-5 and the A282 Dartford Crossing) and has Variable Message Signs (VMS) and Motorway Incident Detection and Signalling (MIDAS) throughout. There are sections of all lanes running smart motorway from junction 5-7 and 23-27. Technology on the radial motorways is less extensive and largely absent on the trunk road network.

Most of the route, including all spurs and the M23 from within the M25 to the A25 Bletchingley Road overbridge south of M23 junction 8, is managed, maintained and operated as part of a privately financed design, build, finance and operate contract (DBFO) which runs for 30 years (until 2039).

The M25 south west quadrant (between junctions 10 - 16) experiences some of the highest volumes of traffic on the SRN, with a 2-way flow of around 200,000 vehicles per day.
Figure 1 - London Orbital and M23 to Gatwick Route-based strategy overview map

**KEY**
- Blue sections are motorways
- Red sections are all-purpose trunk roads
- Port
- Airport
- Junction number

Blue sections are motorways
Red sections are all-purpose trunk roads

Figure 2.1 - 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.

More free-flowing network

Many motorway junctions in this part of the SRN experience capacity issues, causing congestion, delays and unreliable journeys during much of the day. The M1, M11, M4 and A23 radial routes all suffer from peak hour traffic flows into and out of London.

The route is consequently one of the worst for journey experience, with the M25 cited as being the most problematic road to join and exit because of traffic volume, congestion or traffic queuing and delays caused by accidents or roads closed (Transport Focus).

Particularly around the south west quadrant of the M25, capacity issues are exacerbated by drivers making short hops of 1 or 2 junctions, causing weaving, delays and affecting journey time reliability for other users. The Dartford Freeflow scheme has improved journey times, particularly southbound, but congestion remains high. The proposed Lower Thames Crossing project would provide improved resilience at Dartford.

Overall the route performs poorly in terms of congestion, queuing and delays caused by accidents and road closures. However, most of the motorways are well covered by technology such as VMS, CCTV, MIDAS or controlled motorway or traffic officer patrols. The smart motorways on M25 junctions 23-27 and M25 junctions 5-7 have improved traffic flow.

Some traffic signals are adjacent to local authority controlled areas but are not coordinated with them, meaning that signals are not operating as effectively as they might.
The route is key to the whole SRN, as it serves the high economic output areas to the north and west of London. The western and southern edges of the route (around Heathrow), and to the north-east (around the A12) are important locations for high productivity SRN-dependent sectors. The western and eastern edges of the route are key locations for the industrial and logistics sector. The large number of EOAs identified in the area, combined with the traffic from the international gateways connected to the M25, mean any impacts on the resilience and accessibility of the network from higher demand could act as a constraint on delivering future growth.

Many local plans and Local Enterprise Partnerships (LEPs) indicate substantial growth in future years, which will be exacerbated by recent announcements to increase housing delivery. This includes pressure associated with key growth corridors outlined in the London Plan and shown across Figures 3.1 to 3.3.

The route passes through a variety of areas experiencing different environmental challenges. Air quality and noise issues are problematic at many locations. Almost 200 Noise Important Areas have been identified, for example at Ashtead, Leatherhead and Merstham. A number of locations are within or close to Air Quality Management Areas (AQMAs) and nitrogen dioxide emissions are frequently above statutory limits and close to sensitive receptors on a number roads, for example, on the M25, the A282, the M1 and the M11.

The M25 passes through 3 Areas of Outstanding Natural Beauty (the Kent Downs, Surrey Hills and Chilterns), which are vulnerable to visual impacts. Inclement weather can cause issues at some locations on the route. For example, the M25 between junctions 7 and 8 is vulnerable to snowfall and ice formation while QEII bridge closures on the A282 at Dartford can be caused by high winds, resulting in severe delays. Some links (for example, the M1 junctions 4-5) can flood during intense rainfall events.

Stakeholders have identified a need for improvements to facilities for non-motorised users (NMUs) in order to encourage more sustainable travel and unlock suppressed demand around the Thames Gateway and Heathrow growth areas. Improvements at the A30/A308 in Staines and near M4 junction 3 would support planned cycle network facilities in the area and could encourage more local Heathrow employees to cycle.

Local roads also suffer as a result of incidents on the corridor. Specific locations include the Dartford Crossing near Thurrock, diversions onto the A25, and local road impacts through villages near Heathrow Airport affected by Heavy Goods Vehicle (HGV) traffic. Some SRN junctions also suffer from queues building up at pinch points on the adjacent local network, such as signal crossings near junction 8 of the M25 at Reigate and junction 9 at Leatherhead. This is compounded by a lack of coordination between sets of adjacent traffic signals at some locations.

A lack of convenient interchanges with rail services has been cited as an issue to address.
London Orbital & M23 to Gatwick - Route Strategy: Map 1 of 3

Figure 3.1 - Key challenges for the route

- Supporting economic growth
- Free-flowing network
- Safe and serviceable network
- Improved environment
- Accessible and integrated network
Figure 3.2 - Key challenges for the route

- **Airport expansion** – Government’s preferred option is a new NW runway at Heathrow.
- **Congestion into London**, including junctions 3-4, restricts growth at Heathrow and Southall.
- **Major maintenance works on the M4 Elevated Section**.
- **Safety issues particularly at junction 4b**.
- **Air-quality issues along the M4 and spur to Heathrow**.
- **Air-quality issues in Spelthorne and Hillingdon along A30, A3113, M25 near Heathrow, M5 and Runnymede**.
- **Noise issues where M25 passes Egham and Staines**.
- **Occasional flooding issues**.
- **Noise issues M25 between Ashiaud and Leatherhead**.
- **Safety issues along the A30**.
- **Safety and accidents issue A23 and M23 north of M25**.
- **Air quality issues near Hooley**.
- **NMU severance restricts opportunity for mode shift**.
- **Safety hotspot**.
- **Flooding on occasion**.
- **Safety and accidents issue A23 and M23 north of M25 restricts growth in Croydon**.
- **Congestion on A23 and M23 north of M25 restricts growth in Croydon**.
- **Tailbacks onto the route when Reigate Hill is affected by snow**.
- **Difficult to access M25 DBFO contractors depot**.
- **Congestion impacts on potential development sites (East Surrey Corridor)**.
- **Congestion impacts on Gatwick growth**.
- **Congestion M25**.
- **Air quality issues near Hooley**.

**KEY**

- Supporting economic growth
- Free-flowing network
- Safe and serviceable network
- Improved environment
- Accessible and integrated network
Figure 3.3 - Key challenges for the route

- Congestion into London and junction 4 affects Lower Lee Valley Growth
- Congestion along A13 restricts Thames Gateway growth
- Air-quality issues near Sevenoaks
- High rate of accidents on the Dartford Crossing approaches and junctions 30, 1a and 1b
- Major maintenance works to QEII bridge to 2017
- Dartford vulnerable to disruption from vehicles and hazardous loads
- Lack of diversionary route for Dartford Crossing has a severe impact on local traffic
- Air-quality issues in north Redbridge
- Congestion and poorly signed
- Accident issue at North Stifford
- Congested and poorly signed
- Shortage of HGV parking in vicinity of A1089
- Air-quality issues junctions 27-30, particularly east of Havering
- Air-quality issues near Sevenoaks, particularly east of Havering
- Limited technology to control traffic from junctions 3-5, despite congestion towards junction 5
- Poor journey time reliability, high merging flow from M26
- Congested junction suffering from merging goods vehicles and no eastbound movements from the A21
- Bell Common Tunnel
- Holmesdale Tunnel
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An essential facet of a resilient road network is the ability to effectively divert traffic away from closed carriageways in the event of an unplanned incident. The map indicates the diversionary routes that currently exist on this route and that have been agreed with the local road network operator. However, it should be noted that the provision of these routes is dependent upon the nature of the incident and the suitability and availability of the surrounding network. In some instances, the diversion route may not be suitable for HGV traffic or might not be available due to events on the local road network. A review is currently underway to improve the quality and coverage of these routes, and to improve the traffic management procedures that are relied upon to implement these routes in the event of a carriageway closure.

**Diversionary Routes**

Figure 3.4 - London Orbital & M23 to Gatwick 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 for the majority in very good or good condition. However, just over 20% of structures on this route fall within the fair category. According to an analysis of current data, fewer than 20% 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 very good overall condition for both linear and non-linear assets. Of those assets inspected, just over 70% of linear assets have no defects, whilst 60% of the non-linear assets have only superficial defects.

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

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

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

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

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

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

By better understanding our current operational performance, we can create a baseline from which we can identify opportunities for improvement.
4. Current investment plans and growth potential

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

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

Economic context

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

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

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

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

Innovation

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

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

Investment plans

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

The figures also show strategic studies which have been progressed during RIS1, innovation projects and economic opportunity areas.
London Orbital & M23 to Gatwick - Route Strategy: Map 1 of 3

**KEY**
- Highways England major improvement project
- Innovation
- Strategic study

**Economic opportunity areas**
- Housing and mixed use
- Mixed employment cluster
- Urban centre
- International gateway
- Industrial
- Research and technology
- Energy
- Intermodal transport hub
- Logistics

Figure 4.1 - Investment plans and economic opportunity areas
KEY

- Highways England major improvement project
- Innovation
- Strategic study

Economic opportunity areas
- Housing and mixed use
- Mixed employment cluster
- Urban centre
- International gateway
- Industrial
- Research and technology
- Energy
- Intermodal transport hub
- Logistics

Figure 4.2 - Investment plans and economic opportunity areas
London Orbital & M23 to Gatwick - Route Strategy: Map 3 of 3

Figure 4.3 - 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.

Note: The map presents the extent of study areas within the route. Colours/shading are for presentational purposes only and no prioritisation has been considered at this stage.

Figure 5.1 - Map of all study areas
• RIS1 smart motorways and the M25 junction 10 scheme will help deliver benefits by addressing existing congestion and safety issues.
• For airport expansion the Government’s preferred alternative is a new north-west runway at Heathrow.
• Opportunities exist for investigating the integration of the SRN with cross-London rail investment to improve access to Heathrow.
• There are congestion and safety issues in the study area.
• NMU severance is an issue.
• There is a lack of service areas.
There are several Noise Important Areas in the study.

In comparison with other parts of the M1, there is a relative lack of driver information on this section.

There are several Noise Important Areas in the study area including at junctions 5-6.

Junctions 1-4 are wholly within an AQMA while some locations experience nitrogen oxide levels that already exceed EU limits.

Flooding during heavy rainfall occurs between junctions 4 and 5.
Despite RiS1 and existing M23 and M25 smart motorways, increased traffic flows from economic growth could worsen congestion and safety in this area.

Opportunities exist for investigating the integration of the SRN with cross-London rail investment for example, Crossrail 2 near M25 junction 9.

More technology-led collaborative and partnership schemes with local authorities could address the impact of local road pinch points and unplanned events.

Designated AQMAs cover much of the study area.
A Lower Thames Crossing and the M25 junction 30/A13 (opened for traffic in November 2016) will help address some identified resilience, congestion and safety issues.

The implications of a Lower Thames Crossing (and any Transport for London river crossings) on the SRN and local roads will need consideration.

Opportunities to widen the scope of the Collaborative Traffic Management Programme.

NMUs suffer from severance (for example, A282 corridor).

There is a shortage of suitable HGV parking areas.
- There is evidence that most junctions experience congestion and several are among the worst performing motorway junctions for safety issues (junctions 16, 21a, 23 and 25).
- Opportunities exist for investigating the integration of the SRN with cross-London rail investment for example, Crossrail 2 near M25 junction 25.
**M11 Junction 4 to Junction 10**

- There is congestion at the M11 junctions 4-6, particularly southbound.
- Plans for significant residential development, including at the Lower Lee Valley, could result in further congestion.
- There is an opportunity to improve technology provision.
- Increasing traffic and congestion could exacerbate issues of air pollution, particularly around Redbridge where there is an AQMA.

**A1/A1(M) junctions 1-14**

- The A1 junction 1 is already functioning above capacity and growth could be affected by reduced journey times.
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.