HIGHWAYS AGENCY

Safe roads, reliable journeys, informed travellers

M25 to Solent Route Strategy Evidence Report

April 2014

An executive agency of the Department for Transport

Document History

M25 to Solent route-based strategy evidence report

Highways Agency

This document has been issued and amended as follows:

Version	Date	Description	Author	Approved by
8	15/04/2014	Sixth Draft	Philip Sheppard	Simon Jones
7	19/03/2014	Fifth Draft	Philip Sheppard	Simon Jones
6	17/03/2014	Fourth Draft	Philip Sheppard	Simon Jones
5	31/01/2014	Third Draft	Philip Sheppard	Simon Jones
4	16/01/2014	Second Draft amended	Philip Sheppard	Simon Jones
3	14/01/2014	Second Draft	Philip Sheppard	Simon Jones
2	05/12/2013	First Draft amended	Philip Sheppard	Simon Jones
1	04/12/2013	First Draft	Philip Sheppard	Simon Jones

Table of Contents

Tables

Figures

1 Introduction

1.1 Background

1.1.1 The Highways Agency is responsible for planning the long term future and development of the strategic road network.

1.1.2 Route-based strategies (RBSs) represent a fresh approach to identifying investment needs on the strategic road network. Through adopting the RBS approach, we aim to identify network needs relating to operations, maintenance and where appropriate, improvements to proactively facilitate economic growth.

1.1.3 The development of RBSs is based on one of the recommendations included in Alan Cook's report *A Fresh Start for the Strategic Road Network*, published in November 2011. He recommended that the Highways Agency, working with local authorities (LA) and local enterprise partnerships (LEPs), should initiate and develop route-based strategies for the strategic road network.

1.1.4 The then Secretary of State's accepted the recommendation in the Government's response (May 2012), stating that it would enable a smarter approach to investment planning and support greater participation in planning for the strategic road network from local and regional stakeholders.

1.1.5 The Highways Agency completed the following three pilot strategies which have been published on the Agency website:

- A1 West of Newcastle
- A12 from the M25 to Harwich (including the A120 to Harwich)
- M62 between Leeds and Manchester.

1.1.6 Building on the learning from those pilot strategies, we have divided the strategic road network into 18 routes. A map illustrating the routes is provided in Appendix A. The M25 to Solent route is one of that number.

1.1.7 RBS are being delivered in two stages. Stage 1 establishes the necessary evidence base to help identify performance issues on routes and anticipated future challenges, takes account of asset condition and operational requirements, whilst gaining a better understanding of the local growth priorities.

1.1.8 In the second stage we will use the evidence to take forward a programme of work to identify possible solutions for a prioritised set of challenges and opportunities. It is only then that potential interventions are likely to come forward, covering operation, maintenance and if appropriate, road improvement schemes.

1.1.9 The RBS process will be used to bring together national and local priorities to inform what is needed for a route, while delivering the outcomes in the performance specification.

1.1.10 Using the evidence base and solutions identification studies, we will establish outline operational and investment priorities for all routes in the strategic road network for the period April 2015 – March 2021. This will in turn feed into the Roads Investment Strategy, announced by the Department for Transport in Action for Roads.

1.2 The scope of the stage 1 RBS evidence report

1.2.1 During the first stage of RBS, information from both within the Agency and from our partners and stakeholders outside the Agency has been collected to gain an understanding of the key operational, maintenance and capacity challenges for the route. These challenges take account of the possible changes that likely local growth aspirations, or wider transport network alterations will have on the routes.

1.2.2 The evidence reports:

- Describe the capability, condition and constraints along the route;
- Identify local growth aspirations
- Identify planned network improvements and operational changes
- Describe the key challenges and opportunities facing the route over the five year period
- Give a forward view to challenges and opportunities that might arise beyond the five year period.

1.2.3 The 18 evidence reports across the strategic road network will be used to:

- Inform the selection of priority challenges and opportunities for further investigation during stage 2 of route-based strategies
- Inform the development of future performance specifications for the Highways Agency.

1.2.4 A selection of the issues and opportunities identified across the route are contained within this report, with a more comprehensive list provided within the Technical Annex. This is for presentational reasons and is not intended to suggest a weighting or view on the priority of the issues.

1.2.5 The evidence reports do not suggest or promote solutions, or guarantee further investigation or future investment.

1.3 Route description

1.3.1 The M25 to Solent route connects London with Southampton and Portsmouth, running within the counties of Surrey and Hampshire. Appendix A shows the route location within the Strategic Road Network (SRN). As it indicates, the route consists of two separate sections:

- M3 between M25 and M27
- A3-A3(M) between M25 and A27

1.3.2 The M3 section is 53 miles long and runs near conurbations such as Camberley, Farnborough, Basingstoke, Winchester and Eastleigh. It intersects with four roads of the SRN: M25 (the London orbital), A303 (Basingstoke – Devonshire House), A34 (Popham – Winchester) and M27 (Cadnam – Portsmouth).

1.3.3 It has three lanes per direction for most of its alignment, with the exception of 11 miles between Junctions 8 and 9 (Popham and Winchester), where there are two lanes in each direction. There is also a short section of three lanes northbound from marker post 100/0 to 98/0, which is a climbing lane for northbound Heavy Goods Vehicles (HGVs).

1.3.4 The M3 is classified as a Motorway (see Figure A1 of the Technical Annex) and its southernmost section (between A34 and M27) is part of the E05 Trans-European route, a north-south corridor from Scotland to the south of Spain (see Figure A2 of the Technical Annex).

1.3.5 The A3-A3(M) section is 46 miles long and runs, north to south, near the conurbations of Guildford, Haslemere, Liphook, Petersfied, Waterlooville and Havant. It intersects with two other roads of the SRN: M25 (the London Orbital) and A27 (Eastbourne to Portsmouth).

1.3.6 The A3 is classified as a trunk road and covers the M25 to Horndean subsection, whereas the A3(M) is classified a motorway and covers the Horndean to A27 subsection (see Figure A1 of the Technical Annex). Ham Barn roundabout near Liss is the only at-grade roundabout of the route.

1.3.7 The A3 has challenging characteristics, in particular in and around the Enterprise M3 area. At this location the A3 primarily serves as a key strategic highway connection whilst also being used as a local arterial road for Guildford, resulting in a strong interaction between the A3 and local road traffic. To the south of Guildford, several properties and minor roads have direct access ion and off the A3 as identified in the 'A3 Surrey Corridor Study', 2009. These junctions do not have acceleration or deceleration tapers, causes safety concerns at this point on the network.

1.3.8 The M3 has higher traffic flows than the A3-A3(M). However, the highest level of congestion occurs on the A3 through Guildford. Other congested sections are the northbound approach of the A3 to M25 Junction 10, M3 between Junctions 2 and 4a and M3 between Winchester and Southampton (Junctions 10 and 14). Further analysis on traffic conditions along the route is made in section 2.1.

1.3.9 In terms of traffic composition, the M3 tends to show a higher proportion of heavy goods vehicles than the A3-A3(M). The M25 to Solent route is a gateway to two of the major ports in England: Southampton and Portsmouth. Southampton has strong freight activity and large cruise ship business, whereas Portsmouth is mainly cross channel ferry and roll-on roll-off freight.

1.3.10 The route is critical for the access to the Heathrow and Gatwick Airports from Hampshire and West Surrey. It is also the main gateway to the Southampton Airport.

1.3.11 In general, the route is especially popular during the summer months: the Average Daily Traffic for each month of the year shows that in most sections of road M3, the peak is reached in August (see Chart A1 of the Technical Annex). For the A3 – A3(M) this seasonal effect is similar in the sections to the south of Guildford (see Chart A3 of the Technical Annex). This highlights the importance of this route as a gateway to the southern coast of England.

1.3.12 This route connects with a number of other routes for which RBS are also being developed. These are:

- London Orbital and M23 to Gatwick
- Solent to Midlands
- South Coast Central

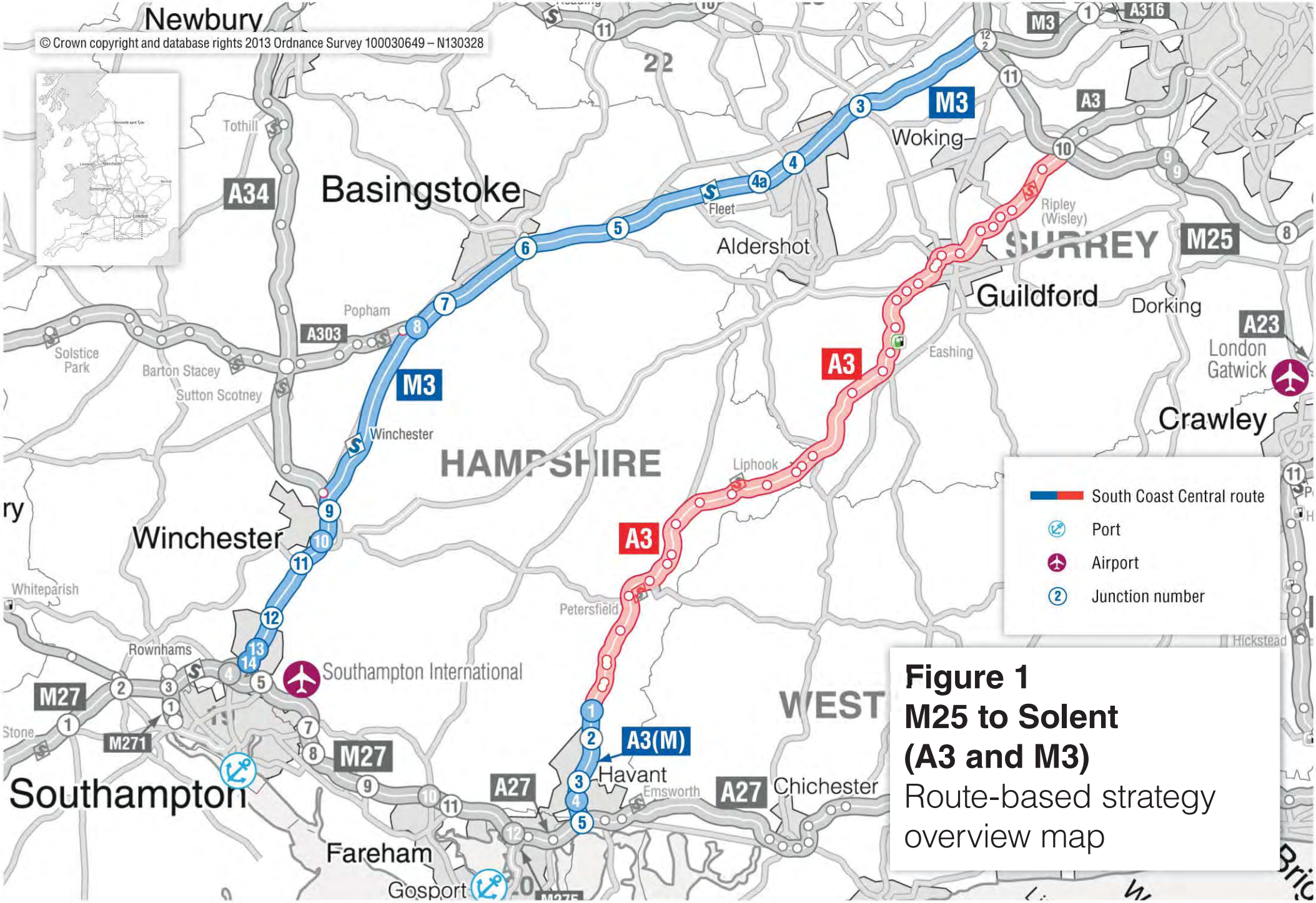


Figure 1
M25 to Solent
(A3 and M3)
Route-based strategy overview map

2 Route capability, condition and constraints

2.1 Route performance

2.1.1 We measure traffic 24 hours a day and 365 days a year. Our data enables us to identify the sections of road that experience lower speeds than the typical free flow speed we have measured for that section.

2.1.2 The Annual Average Daily Traffic (AADT) flow data is used to compare typical flows rather than a peak month, such as may be experienced in August on holiday routes or winter months where flows are reduced due to wintry weather. Unless otherwise stated, AADT is quoted on a directional flow basis between junctions.

2.1.3 Business travellers and logistics operators using our network like to plan their journeys to arrive on time and minimise unproductive time. To address this issue we assess, from historical journey times taken in 15 minute segments throughout the day, the typical time taken by vehicles to travel sections of road and in each direction. Those familiar with the route or those using journey planning websites will tend to use typical times. So it will be known which sections of road and in which direction may be typically slow and for most of the day, which may be slow only during peak periods and which may be typically close to uncongested conditions throughout.

2.1.4 We calculate the number of times during the last year period where the typical time is exceeded. So a 100% reliability measure would mean that travellers would experience the typical time a 100% of the time; a 50% measure means this time is exceeded on 50% of the time. We also rank this reliability measure nationally so we can compare the reliability of different sections of road.

2.1.5 The strategic road network comprises only three per cent of England's road network, but it carries one-third of all traffic. Around 80 per cent of all goods travel by road, with two-thirds of large goods vehicle traffic transported on our network.

2.1.6 On an average day, traffic flows in the M25 to Solent route range from around 14,000 to 63,000 vehicles in each direction.

2.1.7 The ten most trafficked sections of this route are presented in Table 2.1. This is for the reporting period 1st April 2012 to 31st March 2013.

Table 2.1 Ten busiest sections on route (1 April 2012 to 31 March 2013)

Rank	SRN section	Annual Average Daily Flow (AADT)	National Rank
1	M3 between J14 and J13	63,258 (NB)	124
2	M3 between J2 and J3	62,270 (SB)	134
3	M3 between J3 and J2	62,208 (NB)	135
4	M3 between J12 and J13	59,894 (SB)	173
5	M3 between J11 and J12	59,859 (SB)	175
6	M3 between J11 and J10	59,149 (NB)	186
7	M3 between J12 and J11	59,100 (NB)	189
8	M3 between J10 and J11	59,074 (SB)	190
9	M3 between J13 and J12	58,322 (NB)	200
10	M3 between J3 and J4	57,837 (SB)	208

2.1.8 Table 2.1 shows the ten busiest sections of the route with their AADT and national rank. These are all shown to be on the M3. The highest AADT is at the section between J14 and J13, in a northbound direction, with 63,258 vehicles per day.

2.1.9 For the A3-A3(M) corridor the section with the highest AADT is on the A3, between the junctions with the M25 and A247, in the southbound direction, with 50,763 vehicles per day.

2.1.10 To analyse seasonality on our roads we measure the Average Daily Traffic (ADT) of each month of the year. The route has the highest ADT in August and the minimum ADT in December-January. The main exceptions are the M3 between M25 and Junction 3 and the A3 between M25 and B3000 Compton, two sections which are heavily influenced by the commuter traffic of the London area. Section A1 of the Technical Annex provides a detailed analysis of traffic seasonality on the route.

2.1.11 The traffic composition of the M3 tends to show a higher proportion of goods vehicles than the A3-A3(M) (see Tables A1 and A2 of the Technical Annex). The highest percentage of freight traffic is 26.8% on the M3 between Junctions 9 and 10 (southbound). The highest in the A3-A3(M) corridor is 14.4% and appears between A247 and M25 (northbound). The A3 near Guildford, between the two junctions with A3100, has the lowest proportion of goods vehicles, with 8.2%.

2.1.12 The average percentage of goods vehicles on the M25 to Solent route is 12.2%. This is below the National average for the Strategic Road Network (14.7%).

2.1.13 However, busy roads in themselves don't necessarily represent an issue – our customers' experience of driving on the network is important to us. The *Strategic road network performance specification 2013-15*, sets us high level performance outcomes and outputs under the banner of an efficiently and effectively operated strategic road network. We currently

measure how reliable the network is based on whether the 'journey' time taken to travel between adjacent junctions is within a set reference time for that period, i.e. 'on time'.

2.1.14 The ten least reliable sections of the M25 to Solent route are provided in Table 2.2, along with their national rank. Five of them are on the A3 in the Guildford area. The other five appear on A3 around Petersfield, A3(M) around Horndean and Havant and M3 around Winchester.

Table 2.2 Ten least reliable journey-time locations on the route (1 April to 31 March 2013)

Rank	Location	On-time reliability measure	National Rank
1	A3 between A320 and A322	55.1%	24
2	A3 between A322 and A320	60.5%	89
3	A3 between A272 and A272	66.7%	371
4	A3 between A3100 and A320	67.4%	437
5	A3 between A322 and A31	67.9%	483
6	A3 between A3100 and A3100	69.1%	601
7	A3(M) between J2 and J1	69.2%	605
8	M3 between J11 and J10	69.5%	642
9	A3 between A272 and A272	69.6%	657
10	A3(M) between J3 and J4	69.7%	676

2.1.15 A section that is performing particularly well is the M3 between Junctions 4a and 7, with over 85% of the journeys being completed 'on time'.

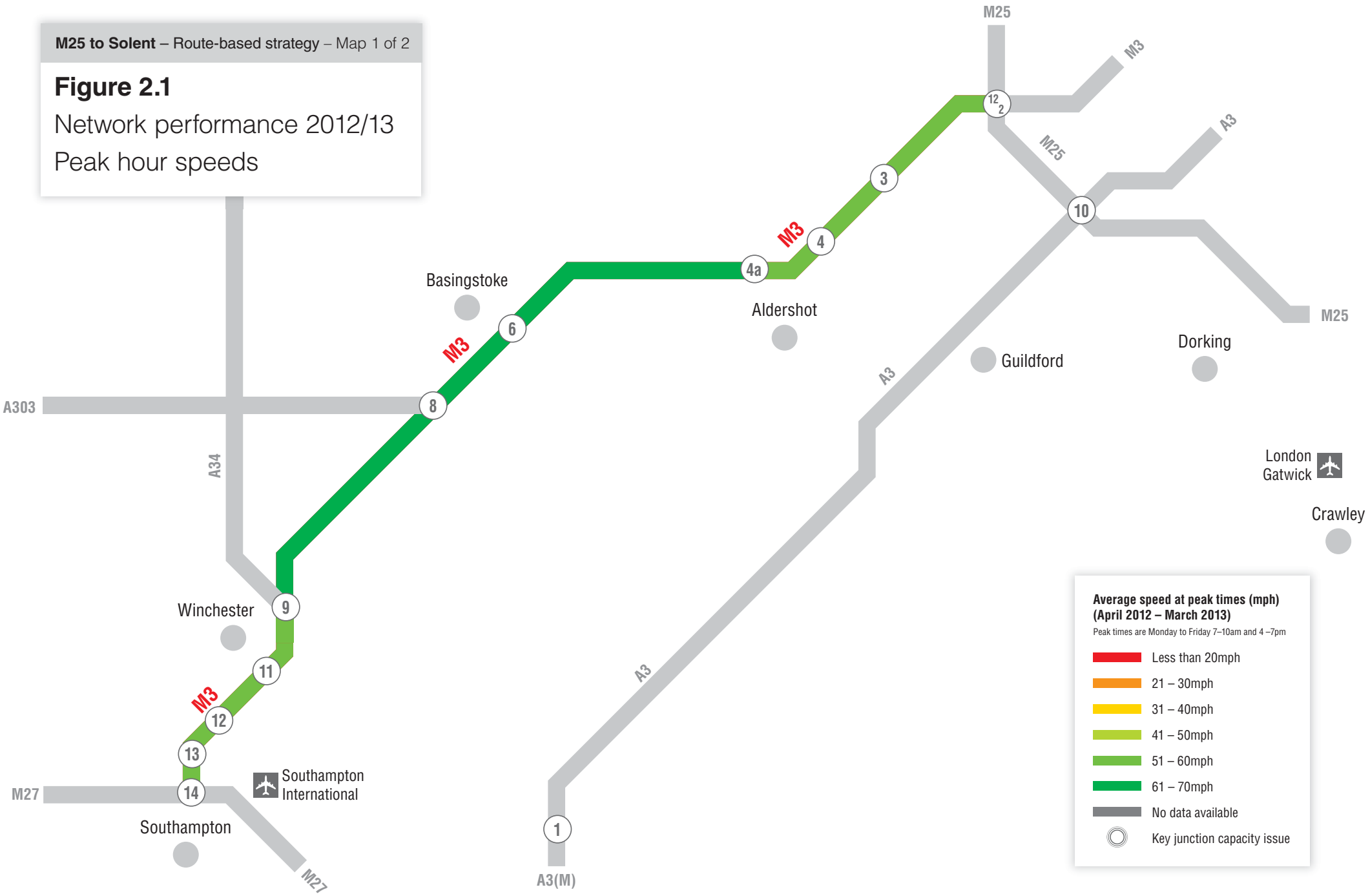
2.1.16 Figure 2.1 illustrates the average speeds during weekday peak periods between 1st April 2012 and 31st March 2013. The peak periods are generally the busiest periods on the network and help us to understand the impact of the worst congestion on customers' journey times. Figure 2.1 also shows any known performance or capacity issues where the local road network interfaces with the route.

M25 to Solent – Route-based strategy – Map 1 of 2

Figure 2.1

Network performance 2012/13

Peak hour speeds

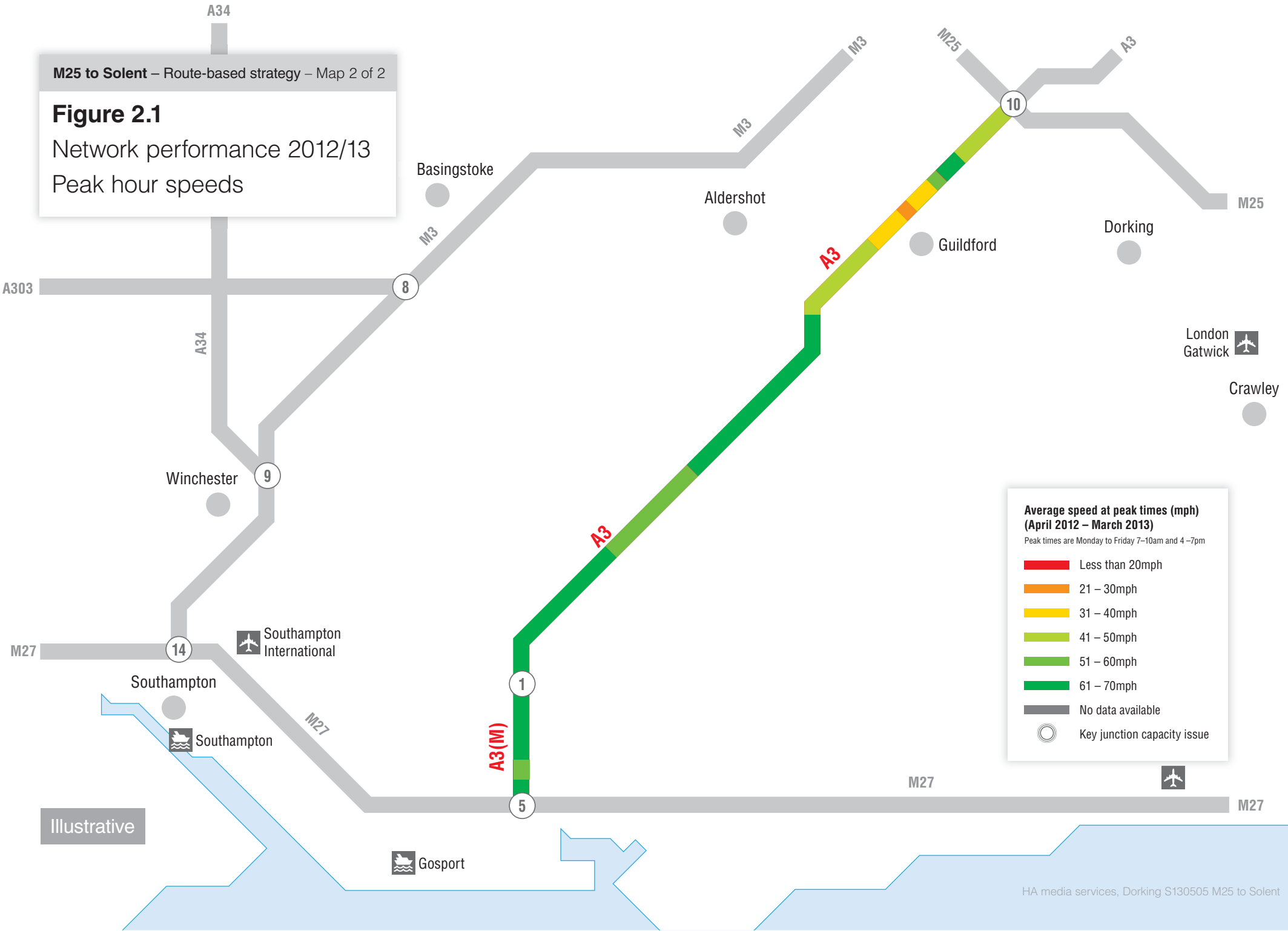


M25 to Solent – Route-based strategy – Map 2 of 2

Figure 2.1

Network performance 2012/13

Peak hour speeds



HA media services, Dorking S130505 M25 to Solent

2.1.17 The lowest speeds of the route are on the A3 around Guildford, in particular between the junctions with A320 and A322 in the southbound direction. This section is also the least reliable of the route, as it is highlighted in Table 2.2. During a typical day, only 55% of journeys are completed 'on-time' and, at peak times, average speeds are below 20 miles per hour. This indicates capacity issues in this section, which is the 24th least reliable within the Strategic Road Network (SRN).

2.1.18 The A3 also experienced low speeds in the northbound direction when approaching the junction with M25, where typically speeds during peak times range between 41 and 50 mph. This is a result of high traffic flows moving between the M25 and A3 impacting on the connecting links.

2.1.19 Other route sections with low speeds are the A3 between A325 and Petersfield, M3 between Winchester and Southampton (Junctions 9-14) and M3 between M25 and Farnborough (Junctions 2-4a). On these sections, speeds during peak times range between 51 and 60 mph.

2.1.20 The section of the route with the most reliable journey is the A3 between Milford (A283) and Greatham (A235) where peak hour speeds typically range between 61 and 70 mph and a low level of delay is experienced.

2.1.21 The strategic road network is key in promoting growth of the UK economy, and alleviating congestion can realise economic benefits.

2.1.22 Figure 2.2 shows the delay on our network compared with a theoretical free-flowing network. It highlights three sections of the with the highest delays which are:

- M3 between Junctions 2 and 3 (both directions)
- M3 between Junctions 4 and 3 (northbound)
- A3 between A247 Send and M25 Junction 10 (northbound)

2.1.23 All three sections are near the M25. The London orbital has congestion issues in its south-eastern section.

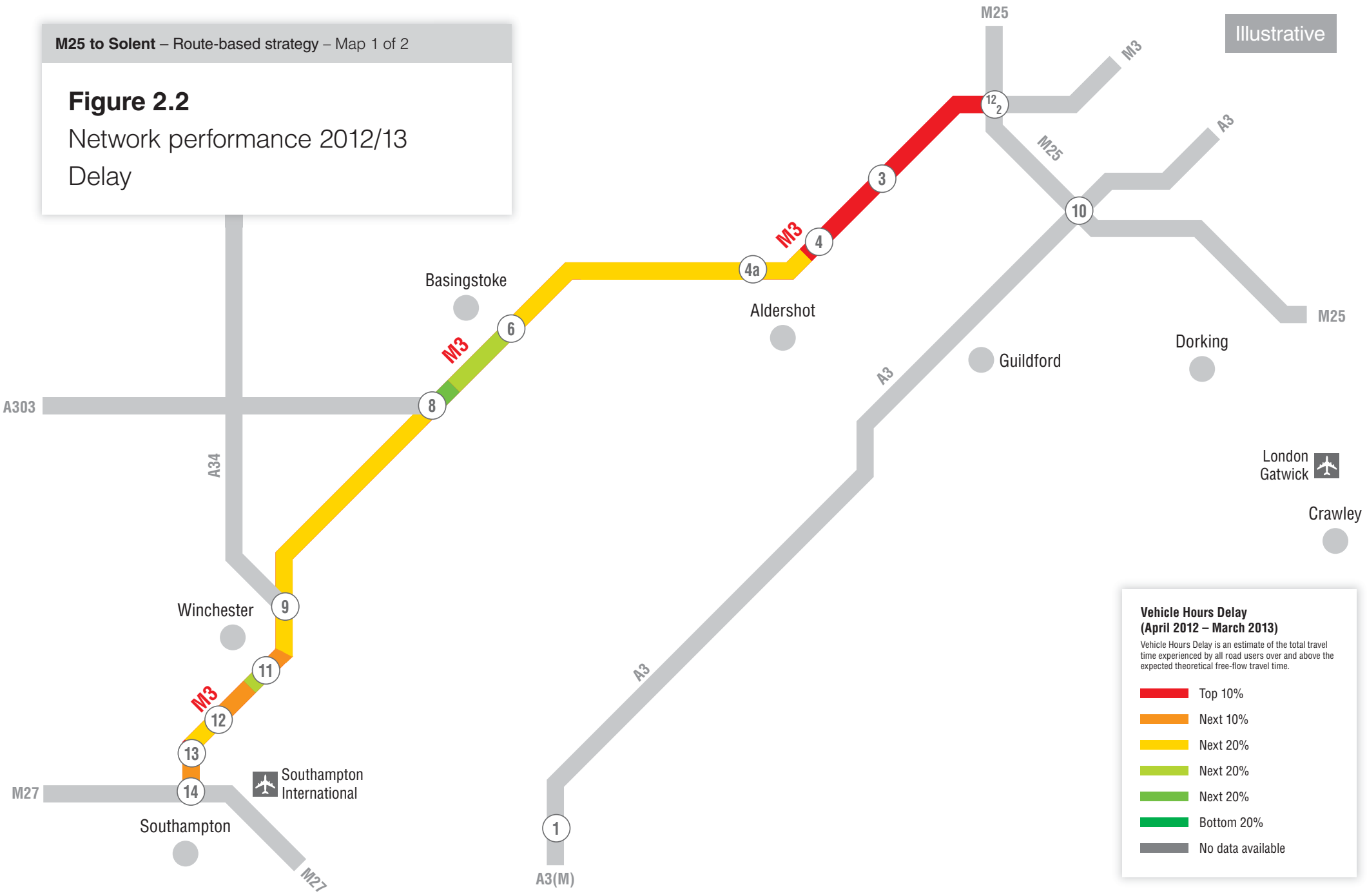
M25 to Solent – Route-based strategy – Map 1 of 2

Figure 2.2

Network performance 2012/13

Delay

Illustrative



M25 to Solent – Route-based strategy – Map 2 of 2

Figure 2.2

Network performance 2012/13

Delay

HA media services, Dorking S130505 M25 to Solent

2.1.24 It is believed that reasons for delays on the M3 sections are the large volumes of traffic joining the M3 between Junctions 6 (Basingstoke) and 4a (Farnborough) heading northbound. Combined with traffic unable to freely leave the M3 at the M25, this causes delay to the northern section of the M3.

2.1.25 Other sections to be highlighted for delays are:

- M3 between Junctions 14 and 11 (northbound)
- M3 between Junctions 10 and J11 (southbound)
- A3 between A283 and A31 (northbound)
- A3 between Burpham access and A322 (southbound)

2.1.26 The two sections on the M3 are between Southampton and Winchester, while the two on A3 are around Guildford. The M3 between Southampton and Winchester has steep gradients that slow heavy vehicles when going uphill. This together with the high traffic loads contribute to causing delays. The A3 around Guildford shows the lowest journey time reliability and peak hour speed of the route.

2.1.27 The least problematic link is the A3 between Milford (A283) and Greatham (A235) where peak average speeds are between 61-70 mph and a low level of delay is experienced.

2.1.28 Many of the locations above reflect the perceptions of the stakeholders at the Basingstoke workshop regarding the points of congestion and delay within the corridor. The record of discussion at the event included the following links and junctions:

- A3 Guildford Bypass
- M3 from Fleet services to M25
- M3 Junction 9 (Junction with A34, Winchester)
- A3 Junction with M25 (M25 Junction 10)
- M3 Junction 2 (Junction with M25)

2.2 Road safety

2.2.1 As a responsible network operator and through the *Strategic road network performance specification 2013-15*, the Highways Agency works to ensure the safe operation of the network.

2.2.2 By 2020, *The strategic framework for road safety 2011* forecasts the potential for a 40% reduction of the numbers killed or seriously injured on the roads compared with 2005-2009. We are working toward this aspirational goal.

2.2.3 Figure 2.3 illustrates the rates of injury accidents and the top 250 casualty locations on the strategic road network between 2009 and 2011. Injury accidents are collisions where people were injured and their injuries were slight, serious or fatal. Damage only incidents have not been included. The top 250 casualty locations have been calculated nationally, and are based on the number of casualties which occurred

within a distance of 100m. Locations with the same number of casualties have been given a "joint" ranking and therefore, there may be some locations with the same rank number.

Overview

2.2.4 Between 2009 and 2011 there were 943 Personal Injury Collisions (PIC) on the Route. The annual number of PIC is shown in Chart A4 of the Technical Annex. The annual average number of PIC during this period was down 11% from the 2005-2009 baseline.

2.2.5 Table 2.3 indicates the composition of the recorded PIC:

Table 2.3 Collision and casualty severity

	Total Injury Collisions 2009-2011 943 Collisions Involving 1,470 Casualties 1.56 casualties per collision		
Collision type	Fatal (F)	Serious (Se)	Slight (Sl)
	10 (1%)	147 (15%)	786 (84%)
	Collision Severity Ratio =(F+Se)/total collisions 0.17		
Casualty type	10 (1%)	161 (11%)	1299 (88%)
	Casualty Severity Ratio = (F+Se)/total casualties 0.12		

2.2.6 The number of PIC per 100 million vehicle miles travelled is indicated on Chart A5 in the Technical Annex. Although the 2009-2011 average is higher than the 2005-2009 baseline, Chart A6 within the Technical Annex indicates that the number of people Killed or Seriously Injured (KSI) per 100 million vehicle miles remained below the baseline between 2006 and 2010.

Vehicle type

2.2.7 There were 1,985 vehicles involved in PIC during 2009-2011:

- 81% were cars (including taxis)
- 13% were goods vehicles (51% being vans less than 3.5T heavy)
- 5% were motorcycles (75% being 500cc or above)
- 0.6% were pedal cycles
- 0.6% were buses (included minibuses)

2.2.8 This is shown on Chart A7 of the Technical Annex.

2.2.9 Chart A8 of the Technical Annex indicates the number of vehicles involved in PIC. As it shows, 25% of the PIC involved multiple vehicles

(more than two), whilst 44% involved two vehicles and 31% involved only one vehicle.

2.2.10 38 vehicles (2%) involved in PIC were registered outside the United Kingdom.

Casualty involvement

2.2.11 Of the 1,470 casualties injured in collisions, 849 (58%) were male and 621 (42%) were female. However, 67% of those killed or seriously injured were male, and 33% were female.

2.2.12 The following table shows the average number of casualties per year of age:

Table 2.4 Age of casualty

Age	Av. Casualties per year of age	Av. KSIs per year of age
0-16	5	0.3
17-19	39	4.3
20-24	46	4.0
25-64	24	2.9
65+	6	1.1

2.2.13 Only 1% of casualties were either 16 and under, or 65 and over. The highest rate of casualties is among 20-24 year olds. However, the highest rate of Killed and Seriously Injured casualties is among 17-19 year olds.

2.2.14 The makeup of casualty class is shown in Chart A9 of the Technical Annex. Vulnerable road users, including pedestrians, equestrians, and cyclists, account for 21 casualties, or 1.5% of the total. There were no equestrians included in this number.

Environmental conditions

2.2.15 67% of the PIC occurred during hours of daylight. The remaining 33% occurred in darkness and 22% were of these were on unlit roads.

2.2.16 The causes of these PIC is varied, the following identifies the key causation characteristics across the route:

- 25% occurred when the road surface was wet, and a further 5% occurred when there was snow or ice present
- 7% of collisions cited severe weather conditions, such as high winds, heavy rain, snow and fog
- 3% involved objects or animals on the carriageway

Causation factors

2.2.17 Up to six causation factors can be recorded for each collision. These are banded into nine series, with up to ten sub codes within each series. The nine series are listed below:

Table 2.5 Causation factors

100 – Road Environment Contributed	
200 – Vehicle Defects	Driver or Rider only (includes pedal cycles and horse riders)
300 – Injudicious Action	
400 – Rider / Driver Error or Reaction	
500 – Impairment or Distraction	
600 – Behaviour or Inexperience	
700 – Vision Affected by	
800 – Pedestrian only	Pedestrian only (casualty or uninjured)
900 – Special codes	(e.g. Stolen vehicle)

2.2.18 Chart A10 on the Technical Annex illustrates the range of factors considered to have contributed to the recorded PIC along this route. It can be seen from the chart that Rider or Driver Error is by far the most frequently attributed cause of PIC along this route. Second to this is Injudicious Action. These two groups of causation factors combined make up 82% of all recorded factors contributing to PIC on this route.

2.2.19 As discussed earlier, the overall trend for this route is an 11% reduction in 2009-11 compared to the baseline. However, looking at individual sections there is a rising trend in the KSI rate on the A3 and in overall collision numbers on the A3 (M). The Draft South East Regional Safety Report 2013 comments as follows:

Table 2.6 Comments on rising trends

A3	Whilst the collision rate and the number of collisions have both decreased, and similarly the slight casualty rate has fallen accordingly, the KSI casualty rate has actually increased. This finding is supported by the network cluster analysis. It is recommended that this is a route for further investigation to understand whether this can be explained by random variation or whether there is something inherent of the route that required remediation.
A3(M)	The average annual number of collisions on the A3(M) between 2005 and 2009 was 5.8. In 2011 this figure increased by 262% to 21. There were two serious incidents and 19 slights in 2011. Most collisions between 2005 and 2010 occurred between Junctions 3 and 5.

Location

2.2.20 Figure A3 of the Technical Annex shows the locations of KSI collision clusters, within the context of the South East Region, using 2007 to 2011 data. There are no KSI collision clusters with more than 3 collisions on this route.

2.2.21 Table A4 in the Technical Annex indicates that there are 20 links on this route within to top 50 KSI Collision Cluster Sites in Area 3. Three of these sections are in the top 10:

- A3 between A3100 and A3100 (southbound)
- M3 between Junctions 7 and 8
- A3(M) between Junctions 1 and 2

2.2.22 Figure A4 of the Technical Annex shows the locations of all PIC clusters, within the context of the South East Region, using 2007 to 2011 data.

2.2.23 Table A5 of the Technical Annex indicates that there are 21 links on this route within the top 50 PIC Clusters in Area 3, only one of which is in the top 10: A3 between A3100 and A3100 (southbound).

Cluster analysis of accident hotspots

2.2.24 From the data within Tables A4 and A5 of the Technical Annex, five accident cluster locations have been identified that illustrate the high proportion of collisions that can be attributed to driver and rider errors or injudicious actions.

2.2.25 Table 2.7 lists the location of these accidents clusters as well as a brief analysis overview. This table consists of four of the top five KSI cluster sites and the site with the highest collision rate per km for all collisions severities (A3 between A31 and A322).

Table 2.7 Main accident cluster analysis

Link	Direction	Length (m)	Cluster Analysis
A3 between A3100 and A3100	S	1,161	All 8 collisions indicate high speeds, 4 in the dark misreading the junction markings, misjudging speed of overtaking vehicle, or single vehicle loss of controls
M3 between Junctions 7 and 8	W	1,777	6 collisions indicate high speeds and/or failure to understand the signs and react quickly enough to obtain the correct destination
A3(M) between Junctions 1 and 2	S	1,910	The analysis is inconclusive, the collisions being disparate and anomalous. For example one of the KSI collisions involved a drunk pedestrian standing in lane 1.

Link	Direction	Length (m)	Cluster Analysis
A3 between A31 and A322	N	3,230	The main contributory factors appear to be related to inappropriately high speeds or congestion. The type of speed related collisions are single vehicle loss of controls, and tailgating at speed. The congestion related collisions are typically on the on-slips (rear shunts) and are related to poor lane discipline/weaving close to exits (side swipes and rear shunts)
A3 between A3100 and A247	N	2,310	The main contributory factors relate to inappropriate speed (single vehicle loss of controls, misjudging the speed of overtaking vehicles, being unable to react in time to unusual occurrences) and to congestion (misjudging gaps to overtake and be unable to overtake on the offside).

2.2.26 The conclusions from this table are that for the top four KSI collision clusters and site with the highest all severities collision rate, inappropriate speed and congestion are the two main factors contributing to the collisions. Although this is not entirely unexpected for motorways and dual carriageways, it does illustrate that roads designed to older standards incur higher risks of injury collisions.

2.2.27 Of particular concern to stakeholders is the effect of closely spaced junctions and safety on the A3 at Guildford and at Wisley (as it was raised at the Basingstoke workshop event).

2.2.28 While we aim to reduce the numbers killed or seriously injured using and working on the SRN, we will always identify more safety interventions than our budget allows us to implement. We use a prioritisation process to help us and we review this regularly to ensure we are targeting the locations with the greatest opportunity to save lives and reduce the severity of injury.

M25 to Solent – Route-based strategy – Map 1 of 2

Figure 2.3
Safety on the network

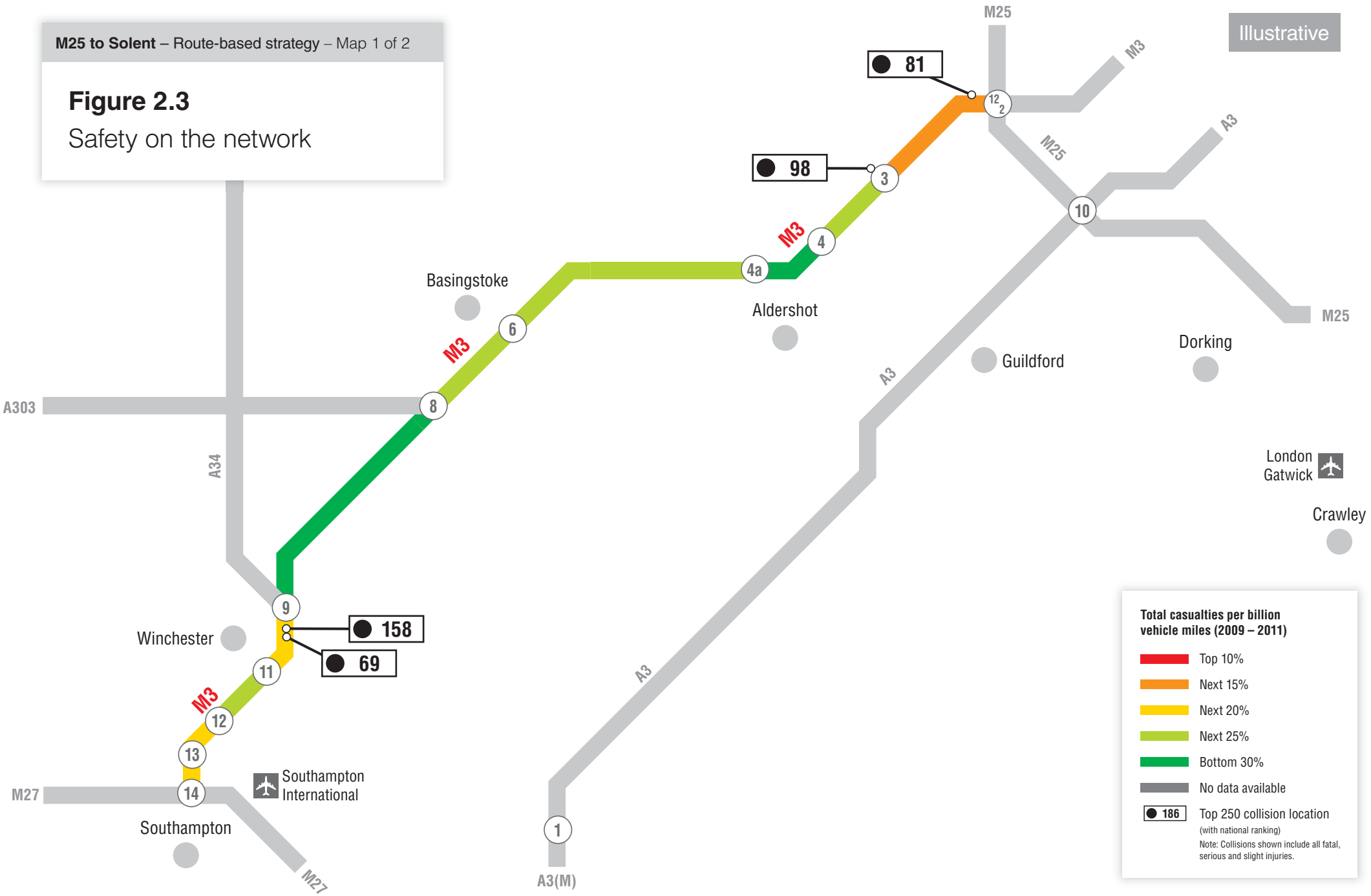
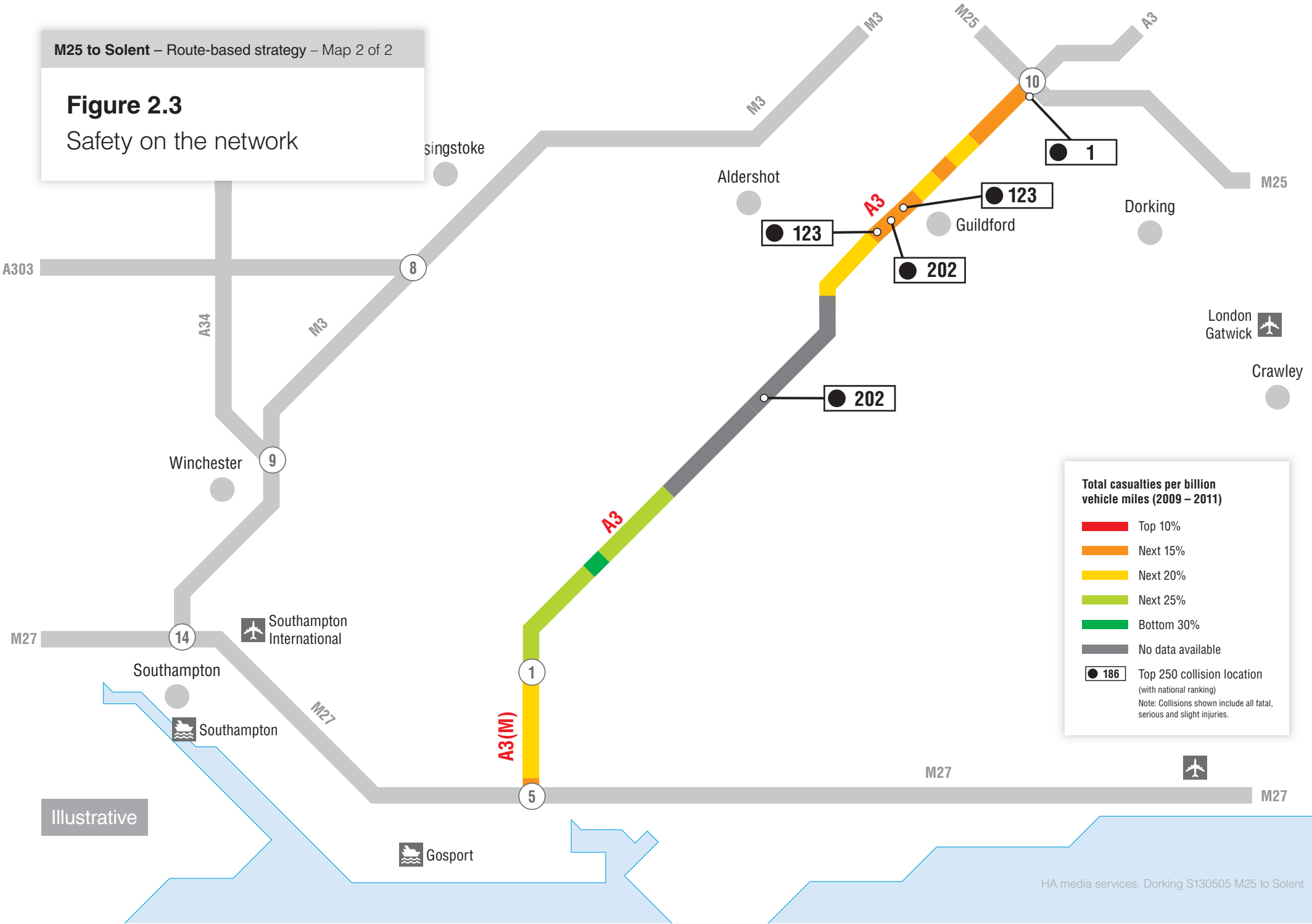


Figure 2.3
Safety on the network



2.3 Asset condition

2.3.1 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 strategic road network to support operational performance and the long-term integrity of the asset.

2.3.2 From new, assets have an operational 'life' within 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 on the basis that 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.

2.3.3 We maintain a National Asset Management Plan as an annual summary of the Agency's network asset inventory and condition. It is aimed at ensuring there is sight of future issues affecting the asset and enabling strategic decision making.

2.3.4 The M25 to Solent route is part of Area 3, which has its own Asset Management and Maintenance Plans. These plans provide the current asset condition, programmed renewal and maintenance works and the expected results. This information is normally available on an area-wide basis. As a result, in the cases where no further breakdown is available, the asset condition of the route has been assumed to be the same as for the whole of Area 3.

Carriageway Surface

2.3.5 The road surface on the strategic road network is primarily surfaced with two types of flexible bituminous materials, namely Hot Rolled Asphalt (HRA) which has an approximate design life of 25 years and Thin Surface Course System (TSCS) with a lower construction cost and shorter design life of 10-15 years. Large tranches of HRA were laid in the 1990s and TSCS tranches laid in the 2000s resulting in a significant proportion of the network reaching the end of its design life by 2020.

2.3.6 It should be noted that, although carriageway surfacing may be identified as reaching or exceeding its design life, the surfacing will not necessarily require treatment at this point. Carriageway surfacing that is beyond its design life is at a higher risk of failure, with such risk increasing the further that the surfacing exceeds its design life. The increasing age of the surfacing could manifest in an increased frequency of maintenance interventions which, if a renewals scheme is not funded, may result in a higher cost both financially and in terms of disruption to road users to maintain the asset in a safe and serviceable condition.

2.3.7 The surfacing of the M25 to Solent route is mostly flexible pavement (either HRA or TSCS). A majority of this flexible pavement is reaching the end of its design life by 2020 (see Figure A5 of the Technical Annex). Amongst the affected sections, the following could be especially sensitive to pavement renewal works, as they already experience low speeds and/or long delays:

- M3 between Junctions 2 and 4
- M3 between Junctions 9 and 10
- M3 between Junctions 12 and 14
- A3 between the M25 and A247
- A3 between Burpham access and A322
- A3 between the A31 and A283

2.3.8 These are not the only sections of the route where the flexible pavement is reaching the end of its design life by 2020, but are considered to be 'strategically key' due to the greater impact that the renewal works could have.

2.3.9 We also have concrete road surface material but this is only a very small proportion when compared to the length of flexible road surfaces. The amount of concrete road surface is also reducing as it is replaced by flexible material at the end of its serviceable life. Concrete is not a material we now use in new carriageway construction on any of the motorway and trunk road network.

2.3.10 Along the route there is only one section with concrete pavement. This is a five-miles-long section of the M3 between Junction 8 and Winchester Services. The replacement of this surface by flexible pavement is planned to take place in 2016-2017.

Structures

2.3.11 The structural asset on the route includes bridges, large culverts, masts, retaining walls, tunnels, service crossings, sign/signal gantries and small span structures.

2.3.12 26% of the structural asset on the route is over 40 years old, and 30% is between 30 and 40 years old. The sections included in these categories are the following:

- Over 40 years ago:
  - M3 between Junctions 2 and 6
- 30 to 40 years ago:
  - M3 between Junctions 6 and 8
  - A3 between M25 and Hurtmore Road (Hurtmore)
  - A3-A3(M) between B2070 (Petersfield) and A27

2.3.13 Structures from that time had different design standards, with features that are more susceptible to deterioration and difficult to maintain than those built to current standards.

2.3.14 The latest results for different structural condition indicators show that there is room for improvement in the future based on the following measures:

- The Structure Condition Index (SCI) is used for assessing the bridge stock condition. It indicates that 63% of bridges are in good condition, which is below the national average (74%)
- The Critical Element Condition (PIcrit) indicator reveals that 52% of the "Bridge and Large Culvert" structure types are in Poor or Very Poor condition. The same applies to 18% of the retaining walls

2.3.15 The main programmed renewal works involve the strengthening of piers and cross heads to M3 Blackwater Valley and Hawley Rail.

Other key asset issues for routes

Geotechnical assets

2.3.16 The geotechnical asset is mainly formed by the cuttings and embankments along our roads. Preserving it in good condition is crucial to ensure slope stability as well as suitable road drainage.

2.3.17 The condition of the geotechnical asset for the route is currently good, with no critical or high risk to the asset. Only 0.2% of the geotechnical assets are in high or severe defect status, while the national average is 0.5%.The geotechnical asset management plan for the next four years is expected to maintain the currently good condition at a similar level.

Drainage assets

2.3.18 Our drainage asset includes pipes, ditches, channels, filter drains, chambers, inlets, outlets and ponds. It is aimed to preventing flooding whilst ensuring the stability of the structures and slopes along the road.

2.3.19 A majority of the drainage asset was built in the sixties and seventies and as in many areas of the network, the drainage asset does not necessarily meet current standards, especially in terms of road worker safety and the provision of handrails, screens, access steps, etc.

2.3.20 The current number of reported flooding events is higher than the national average. Due to changing weather patterns, the expectation is that the number of flooding events will increase.

2.3.21 The forward plan for the next four years is expected to halt the deterioration of the overall drainage asset condition. It includes the following measures:

- Handrails at unprotected drops over 1.5 metres to reduce risks during inspection, maintenance and emergency response
- Local Network Management Schemes (LNMS) to improve the safety of culverts, outfalls and soakaways

- Edge pavement schemes to reduce risk of embankment failure due to inadequate drainage
- Over the edge remediation schemes to reduce risk of flooding where verges have built up with debris
- Small works schemes to repair defects identified at culverts, interceptors, outfalls and soakaways
- Sag points and flat sections will be targeted for filter drain remediation
- Pond management plans have been established to determine and bid for necessary maintenance

Lighting assets

2.3.22 12% of the length of the M3 and 10% of the length of the A3-A3(M) are currently lit, while there are 91 and 173 lit signs in each of these corridors respectively.

2.3.23 It is estimated that only 5% of the columns are in good condition, 91% are in fair condition, 4% are in poor condition and 0% are in very poor condition. Nationwide these figures are 62%, 26%, 6% and 6% respectively, indicating that this route needs greater attention. Nevertheless, the M3 columns have been structurally tested and no issues have been found.

2.3.24 Large sections of the private cable network are at or below minimum standards and require replacement. The expectance of adverse weather will have a high impact on the cable network and will lead to a higher number of faults. As stated in the Asset Management Plan, a majority of the lanterns are at the end of their design life and the adverse weather expected means that more outages are likely to occur.

2.3.25 In the latest Asset Management Plan (2012-2013) full funding was allocated to all bid schemes for year 1 (2012-2013). However, for year 2 (2013-2014) only 50% of the category 2 defect schemes (as defined in the Highways Agency Asset Maintenance and Operation Requirement document, and also DMRB TD26) were funded. This could result in more outages resulting in more dark spots on the network, with the consequent safety issues for road users.

2.3.26 The Agency's suppliers had views on the asset condition which have been fed into the Asset Management Plan. However, stakeholders at the Basingstoke workshop event gave no comments on the state of the asset other than it was important to recognise that reliability of journey times was relevant and in particular for travel to Heathrow Airport.

2.4 Route operation

Incident Management

2.4.1 We work hard to deliver a reliable service to customers and to reduce the number and impacts of incidents on road users.

2.4.2 Across the whole network, the Highways Agency Traffic Officer Service responds to around 20,000 incidents each month. We measure how effective we are at managing incidents by looking at the time incidents affect the running lanes.

2.4.3 The Traffic Officer Service (TOS) along the M25 to Solent route is coordinated by the South East Regional Control Centre (RCC). There are 4 outstations in the South East, with 40 vehicles and 293 Traffic Officers and support staff (see Table A6 of the Technical Annex). The Easton Lane outstation is the nearest to the route and it is located in the junction of M3 with A34 (M3 Junction 9).

2.4.4 The TOS provides three levels of service on the Strategic Road Network: A, B or C, with A being the maximum and C the minimum (Table A7 of the Technical Annex indicates the properties of the TOS provided for each level of service).

2.4.5 Along the route, the TOS is currently providing a level of service A on the M3 and A3(M), whereas the A3 has a level of service C (see Table A8 of the Technical Annex). The reason is that A3 has a limited TOS on-road response capability, whereas M3 and A3(M) have full TOS on-road response capability.

2.4.6 We have a good understanding of the types of incidents which are quick to clear up and those which take longer. In general, there are far more incidents which don't affect the running lanes for very long, and mostly these are caused by breakdowns in the live lanes, debris or damage only collisions. The longest duration incidents are mostly caused by infrastructure issues, such as road surface repairs, bridge strikes, barrier collisions and spillages.

2.4.7 We continue to work with our partners in the emergency services to reduce the impacts on our network from serious collisions and long-duration incidents.

2.4.8 Figure A6 of the Technical Annex indicates the average lane impact duration of traffic accidents on the SRN. On the M3, the locations with the highest incident durations are between Junctions 2 and 5 and between Junctions 8 and 9. In these two sections incidents have an average lane impact duration of between 30 and 60 minutes.

2.4.9 The M3 Junction 2 to 5 section also has congestion issues and is over 20 miles away from the Easton Lane outstation. However, for Junctions 8 to 9 the proximity of the outstation and lower congestion do not explain these durations.

2.4.10 On the A3(M) the worst section is between Junctions 2 and 3, with the average lane impact duration being also in the 30-60 minutes range. The A3 has a limited TOS on-road response capability (only for

exceptional circumstances), so the average lane impact duration of incidents is not available for this road.

2.4.11 Stakeholders at the Basingstoke workshop event raised points of congestion as listed in paragraph 2.1.28 and in discussion raised points relating to both capacity and management. In addition the M3 between Junction 9 and the M27 was considered operationally poor and there was reference to poor lane discipline on the A3 at Guildford and at Wisley.

2.4.12 Stakeholders were also concerned that some of the information the Agency presented in VMS and in other communication channels was not real time information.

Flooding

2.4.13 We have a responsibility to reduce flooding. Flooding of the Highways Agency network impacts upon network performance and the safety of road users. Flooding off the network has an impact on third parties living adjacent to the network.

2.4.14 Based on recorded flooding incidents, we have identified those parts of the network that are at risk of repeated flooding.

2.4.15 There are 44 sections along the route that fall within areas with a risk of flooding (due to river flooding and/or heavy rain). These are listed in Table A9 of the Technical Annex. The 23 sections with a higher risk are distributed as follows:

- M3: 9 road sections and 1 underpass
- A3-A3(M): 11 road sections and 2 underpasses

2.4.16 The lowest flood risk is 1 time every 100 years for these sections. The A3 around Guildford is one of the sections with more concentration of locations with high flooding risk.

2.4.17 There are other reasons for flooding around the route. For instance, there are locations where flooding can be produced due to a lack of capacity of road drainage during a rain event. In this sense, the A335 (Leigh Road) underpass in Junction 13 has had repeated flooding events due to this.

Severe Weather

2.4.18 The Highways Agency aims to minimise where possible the impacts of severe weather, ie strong winds and snow, on network performance and the safety of road users.

2.4.19 The A3 has a number of known vulnerable locations which are sensitive to severe weather conditions where we have mitigation plans in place. These include:

- A3 Liphook Bypass – Exposed and subject to lower than average temperatures.
- A3 Liphook and Petersfield Bypass – Sand subsoil with increased risk of low temperature / low humidity conditions

- A3 Buster Hill – Incline on high ground may cause difficulty for HGVs in snow conditions

2.4.20 Stakeholders also highlighted than disruptions due to weather and other causes such as terrorism have a knock on effect onto the local road network.

2.5 Technology

2.5.1 The Highways Agency works hard to deliver a reliable service to customers through effective traffic management and the provision of accurate and timely information. We provide information to our customers before and during their journeys.

2.5.2 We monitor key parts of our network using CCTV and use sensors in the road to monitor traffic conditions. These are used by our National Traffic Operations Centre and seven Regional Control Centres to provide information to customers before their journeys, eg on the Traffic England website or through the hands-free traffic app for smartphones. Whilst on the network, we also inform our customers using variable message signs (VMS).

2.5.3 Technologies such as overhead gantries, lane specific signals and driver information signs also forms part of how we can operate our network efficiently. In some locations we have controlled motorways, which is where we can use variable mandatory speed limits to help keep traffic moving. Smart Motorways use both variable mandatory speed limits and the hard shoulder as an additional live traffic lane during periods of congestion. Ramp metering manages traffic accessing the network via slip roads during busy periods to help avoid merging and mainline traffic from bunching together and disrupting mainline traffic flow.

Smart Motorways

2.5.4 There is a committed plan for Smart Motorways on the M3 between Junctions 2-4a. Within the pipelines schemes there are also plans for Smart Motorways between Junction 9 to 14 of the M3. Smart Motorways schemes will include parts of / all of the following elements:

- Queue protection technology (MIDAS)
- CCTV coverage
- VMS
- Lane specific speed signals at certain locations
- Variable speed limits
- Speed enforcement
- Permanent hard shoulder usage as a running lane
- Emergency refuge areas with emergency telephones

Motorway Incident Detection and Automated Signalling (MIDAS)

2.5.5 The MIDAS system detects traffic incidents or congestion from inductive loops placed in the road. These loops automatically set appropriate messages on variable message signs to warn drivers of conditions of the road ahead, including the advised maximum speed.

2.5.6 MIDAS is currently operational on the route at the locations:

- A3 (Hindhead Tunnel)
- A3(M) Junctions 2-5
- M3 Junctions 3-4a
- M3 Junctions 9-14

2.5.7 Traffic monitoring technology will be deployed as part of the M3 J2 to J4a major project, and is planned to be a side fire radar except where constraints prevent this for example at Chobham Common or at slip roads, where MIDAS may be more appropriate.

2.5.8 To protect the back of queues at Winchester and Fleet, and to provide intelligence to inform road users, the section of the M3 between Winchester and Fleet would also benefit from electronic traffic monitoring technology.

CCTV coverage

2.5.9 The Agency owns over 1,500 Traffic Cameras and has been using them to assist with the management of traffic on the trunk road and motorway network in England for nearly 30 years.

2.5.10 CCTV is currently in use at the following locations:

- A3 (Hindhead Tunnel)
- A3(M) Junctions 2-5
- M3 Junctions 9-14

VMS provision

2.5.11 VMS is currently in use at the following locations:

- A3 between A247 and M25 (northbound)
- A3 (Hindhead Tunnel)
- A3(M) Junctions 2-5
- M3 northbound leading up to M25 Junction 12
- M3 Junction 7
- M3 Junctions 9-14

Ramp metering

2.5.12 Ramp Metering is currently operational at the following locations:

- M3 Junction 4 northbound on-slip
- M3 Junction 4a northbound on-slip

Summary

2.5.13 Table 2.8 provides a summary of the sections where technology currently exists and if any is proposed in the near future. It also identifies key sections where traffic issues exist but there is no technology provision in place or planned.

Table 2.8 Technology provision along the most problematic sections

	Smart Motorway		Controlled Motorways		MIDAS		CCTV		VMS		Ramp Metering	
Sections with significant delay	Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned
M3 between J2 and J3 (both directions)	✗	✓	✗	✗	✗	✓	✗	✓	✓	-	✗	✗
M3 between J4 and J3 (northbound)	✗	✓	✗	✗	✓	-	✗	✓	✗	✓	✓	-
A3 between A247 and M25 (northbound)	✗	✗	✗	✗	✗	✗	✗	✗	✓	-	✗	✗
M3 between M27 and J11 (northbound)	✗	✓	✗	✗	✓	-	✓	-	✓	-	✗	✗
M3 between J10 and J11 (southbound)	✗	✓	✗	✗	✓	-	✓	-	✓	-	✗	✗
A3 between A283 and A31 (northbound)	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
A3 between Burpham access and A322 (southbound)	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

Technology asset condition

2.5.14 84% of the technology asset is in good condition, 1% is in fair condition and 15% is in poor condition. The routine maintenance plan for the next four years is programmed to deliver a higher standard of asset condition.

2.6 Vulnerable road users

2.6.1 Apart from comments from Sustrans who were represented at the Basingstoke workshop event there were two comments made relating to vulnerable road users. The first related to the problems crossing the A34 and A36 and the second related to the M3 causing a barrier to movement for non motorised users and particularly with reference to J3 of the M3 at Odiham and Hook. More general points have been taken from other workshop events where other interest groups were represented and in addition the Agency and its suppliers were able to input their knowledge of issues and locations that should be recorded within this section and they are included below.

2.6.2 The A3 bisects Guildford, causing a disjoint between key areas. The town centre, train stations, main University Campus and various

residential areas are south and east of the A3, whilst the Royal Surrey Hospital, Surrey Research Park, Surrey Sports Park, industrial estates and other residential areas to the north and west. There are few crossing points, particularly for pedestrians and cyclists.

2.6.3 Within the M25 to Solent route there are sections where cycling and walking is permitted, sometimes in parallel paths and other times along the hard shoulder. These sections are all located on the A3, as the M3 and A3(M) are both classified as motorways.

2.6.4 Between 2008 and 2012 there have been 12 cyclist and 15 pedestrian casualties on the A3. There are three especially problematic sections where these have concentrated:

- A3 Wisley-Ockham. There was a pedestrian injured at the Old Lane access road, where cyclists and pedestrians need to cross at grade. Another pedestrian was killed near Ripley in a section of the A3 where there is no segregated path for cyclists or pedestrians. At the roundabout connecting the A3 with B2039 and B2215 two cyclists were injured. Cyclists and pedestrians need to cross the arms of this roundabout at grade.
- A3 Guildford-Godalming. In Guildford two pedestrians were injured when crossing the A3 and one was killed when walking along the carriageway. Contributory factors may have included a lack of lighting although there is no evidence to support this. There was one cyclist casualty at the A3/A31 junction and another on the Godalming Bypass. There is not a cycle path along the road in these two locations.
- A3 Liphook-Petersfield. Especially relevant is the Ham Barn roundabout, where two cyclists were injured. There is no segregated path for them to cross the arms of this roundabout.

2.6.5 Safety issues also exist for cyclists and pedestrians travelling between Hindhead and Liphook. The cycle path going along the southbound carriageway is diverted 1 mile after the Bramshott Common, where cyclists need to leave the A3 and enter the country park to the left, follow the road around and then travel through an underpass to the northbound carriageway, where the route then emerges onto footpath. This route needs to be signed and joined up.

2.6.6 Further issue along the A3-A3(M) corridor is the need for a suitable cycle route linking Petersfield with the Portsmouth-Havant conurbation. In order to address this, the Hampshire County Council is planning a shared cycle and pedestrian route between Petersfield and Queen Elizabeth Country Park (in Horndean). This route will use part of the old A3 alignment.

2.6.7 The M25 to Solent route does also accommodate overpass or underpass for different cycle routes. This is the case of routes 22, 23, 24 and 223 of the National Cycle Network (NCN):

- M3 Basingstoke (J6-7): Route 23 (Reading – Southampton) underpasses the motorway following Woods Lane

- M3 Winchester (J9): Route 23 flies over the M3 through Junction 9, through a shared footpath that is segregated from traffic
- M3 Winchester (J11-12). Route 23 crosses below the M3 following Otterbourne Road
- M3 Eastleigh (J13-14): Route 24 (Bath – Eastleigh) underpasses the M3 through a segregated path
- A3 Guildford (A3100-A320): Route 223 (Chertsey – Guildford) crosses below the A3 through a segregated path
- A3 Guildford (A31-B3000): Route 22 (Banstead – Brockenhurst) underpasses the A3 following a rural road

2.6.8 As the previous list indicates, some of these NCN routes use roads to underpass the M3/A3, with no segregation from the motorised traffic. In other cases, even if they use a segregated path, design standards are not up to date. This is the case of the shared cycle/footpath across M3 Junction 9, which links NCN route 23.

2.6.9 Outside the NCN, the roundabout over the M3 at Junction 5 is also used by cyclists and pedestrians travelling between Odiham and Hook. The current shared path is not fully segregated, making them cross the road in different points. There are plans to create an alternative fully segregated cycle and pedestrian route, but since it is less direct different stakeholders have shown scepticism regarding its capacity to attract users.

2.7 Environment

2.7.1 As a responsible network operator and through the *Strategic road network performance specification 2013-15*, the Highways Agency works to enhance the road user experience whilst minimising the impacts of the strategic road network on local communities and both the natural and built environment.

Air quality

2.7.2 We recognise that vehicles using our road network are a source of air pollution which can have an effect on human health and the environment. We also appreciate that construction activities on our road network can lead to short-term air quality effects which we also need to manage.

2.7.3 The Highways Agency is committed to delivering the most effective solutions to minimise the air quality impacts resulting from traffic using our network. We will operate and develop our network in a way that works toward compliance with statutory air quality limits as part of our broader Environmental Strategy.

2.7.4 Local Authorities are required by law to designate Air Quality Management Areas (AQMAs) in locations where air pollution exceeds the UK air objectives. Then these authorities need to create an Air Quality Action Plan for each AQMA.

2.7.5 Within Eastleigh Borough, the M3 between Junctions 12 and 14 forms parts of an AQMA. At this location the annual average concentration of nitrogen dioxide (NO_2) exceeds the UK air quality objective for this pollutant. Eastleigh Borough Council has developed an Air Quality Action Plan to address this, which aims to reduce congestion levels in this road section through local measures.

2.7.6 There is a AQMA on the M3 at Camberley between Frimley Road and Ravenswood Roundabout. For the A3 there is an AQMA at Hindhead which pre-dates the opening of the Hindhead tunnel.

2.7.7 Winchester City Council has declared an AQMA in Winchester Town Centre, as levels of nitrogen dioxide and particulate matter exceed air quality objectives at this location.

Cultural heritage

2.7.8 Wherever possible, balanced against other factors, Agency schemes are designed to avoid impacts on cultural heritage assets.

2.7.9 Within a 500-metre radius of the route there is a total of 372 cultural heritage sites, which include Listed Buildings, Scheduled Monuments and Registered Parks and Gardens. Table 2.9 provides the breakdown by corridor and type of heritage asset.

Table 2.9 Relevant cultural heritage sites around the route

Corridor	Listed buildings	World heritage sites	Scheduled monuments	Registered Parks and Gardens	Registered Battlefields
A3 - A3(M)	175		18	2	
M3	152		17	8	

2.7.10 The list includes the Wisley Gardens Registered Park and Garden, owned by the Royal Horticultural Society and located next to the A3. The gardens extend for 2.4 hectares and are especially famous for their modern Glasshouse and historic Laboratory building (Grade II Listed Building). Painshill Park is also adjacent to the A3 and is a Registered Park and Garden.

2.7.11 Although they are a bit further away, the route also runs near three properties of English Heritage that are worth highlighting:

- The Grange at Northington (between Junctions 8 and 9 of the M3) (Grade I listed building): a Greek revival styled house from the 19th century in the middle surrounded by a landscape park
- Flowerdown Barrows (North of Winchester): a site with three prehistoric burial mounds constructed in the early Bronze Age
- Wolvesey Castle (or Old Bishop's Palace, Winchester) (Grade I Listed Building): the ruins of a 12th century castle that used to be the residence of bishops and the wealthy

2.7.12 The Churches Conservation Trust also has one site 5 kilometres to the north of the M3: Saint Mary's Church in Hartley Wintney (Grade II Listed Building), which was originally built in the 13th century and still preserves wall paintings from that age.

2.7.13 The National Trust also has several properties near the route, which include listed buildings. An area of particular density is A3 between Guildford and Hindhead.

Ecology

2.7.14 The Agency's activities, including road construction projects and maintenance schemes, have the potential to impact on protected sites, habitats and species. We aim to minimise the impact of our activities on the surrounding ecology and wherever possible contribute to the creation of coherent and resilient ecological networks by maximising opportunities for protecting, promoting, conserving and enhancing our diverse natural environment.

2.7.15 Table 2.10 lists the sections where there are statutory designated nature conservation sites adjacent to the route (next to the road). These sites include:

- 3 Wetlands of International Importance (RAMSAR)
- 5 Special Areas of Conservation (SAC)
- 5 Special Protection Areas (SPA)
- 16 Sites of Specific Scientific Interest (SSSI)
- 3 National Nature Reserves (NNR)
- 8 Local Nature Reserves (LNR)

Table 2.10 Statutory designated nature conservation sites

Location	RAMSAR	SAC	SPA	SSI	NNR	LNR
M3 Junction 2	■		■	■		
M3 between Junctions 2 and 3		■	■	■	■	
M3 Junction 3		■	■	■		
M3 Junction 4a				■		
M3 between Junctions 4a and 5				■		■
M3 Junction 5				■		
M3 Junction 9				■		
M3 between Junctions 10 and 11		■		■		
M3 between Junctions 11 and 12						■
A3 Junction with M25			■	■		■
A3 Guildford						■
A3 Godalming				■		
A3 Milford						■
A3 Thursley		■	■	■	■	
A3 North of Hindhead			■	■		
A3 South of Hindhead			■	■		
A3 East of Longmoor		■	■	■		
A3 South of Petersfield		■		■	■	■
A3(M) Junction 1						■
A3(M) Junction 2						■
A3(M) Junction with A27	■	■	■	■		

2.7.16 As the previous table indicates, sites with a high ecologic value are widespread all around the route. Further detail on these sites is provided in Section A2.7 of the Technical Annex.

Landscape

2.7.17 Roads and other transport routes have been an integral part of the English landscape for centuries. However, due to large increases in traffic, combined with modern highway requirements, they can be in conflict with their surroundings. We are committed, wherever possible, to minimise the effect of our road network on the landscape.

2.7.18 The M25 to Solent route crosses the tenth and newest National Park in England, the South Downs National Park. It extends from east to west between Eastbourne and Winchester, covering an area of 160,000 hectares, and it is home to over 110,400 people. Green grasslands, dense forests and the cliffs in Beachy Head are some of its most iconic landscapes. The M3 runs across the park for 5.2 miles around Winchester, while the A3 crosses it for 14.5 miles. National Parks contribute to the national economy through tourism, farming and other related businesses. The English National Parks currently attract 90

million visitors a year (approximately half of which are for the South Down National Park), who spend more than £4 billion and support 68,000 full time equivalent tourism related jobs.

2.7.19 The Agency is proactively working with the South Downs National Park to minimise the impact of pollution such as from light and noise.

2.7.20 The A3 also crosses the Surrey Hills Area of Outstanding Natural Beauty (AONB) between the south of Guildford and Grayshott (about 12 miles). This AONB covers 419 hectares and is characteristic for its hills that show a combination of grasslands and deciduous woodlands. It includes showpiece villages such as Shere and Abinger and it has the highest point of South East England: Leith's Hill (294 m).

Noise

2.7.21 Traffic noise arising from the Highways Agency's network has been recognised as a major source of noise pollution.

2.7.22 We take practical steps to minimise noise and disturbance arising from the road network. This includes providing appropriate highway designs and making more use of noise reducing technologies.

2.7.23 In 2012, Defra completed the first round of noise mapping and action planning which identified the top one per cent of noisiest locations adjacent to major roads. These were based on the conditions in 2006. The locations in this top one per cent are known as Important Areas.

2.7.24 Fifty-seven sections of the route have been listed as Important Areas. Amongst these, 33 contain First Priority Locations, i.e. sites with the highest registered levels of noise.

2.7.25 Seven stretches of the route have an especially high concentration of Important Areas. Excessive highway noise represents a problem for almost the whole length of the following sections:

- M3 around Camberley, Firmley and Farnborough (between Junctions 3 and 4a)
- M3 around Basingstoke (between Old Basing and Beggarwood)
- M3 around Winchester (between A31 and A272)
- M3 around Compton and Shawford (between Junctions 11 and 12)
- M3 around Eastleigh (between Junctions 12 and 14)
- A3 around Guildford (between A3100 and A31)
- A3 southern Hindhead (between Hazel Grove and Upper Hammer Lane)
- A3-A3(M) around Catherington and Horndean (between Chalton Lane and A3(M) Junction 2)

2.7.26 A especially sensitive case is the section of the M3 near Compton, where noise is a particular issue for a Special Needs School.

Water pollution risk

2.7.27 We have a duty not to pollute water courses and ground water. We have identified those highway discharge locations across our network where there is an existing potential water pollution risk. On the M3 a concentration of sites with water pollution risks can be found around the following sections:

- Chobham Common, between Kitsmead Lane and Broadway Road (J2-J3)
- One stakeholder also raised the issue of watercourse problems west of J3 of the M3 in Rushmore Borough
- Farnborough, between Junction 4 and A323 (J4-J5)
- Between Hook and Basingstoke, between Totters Lane and Huish Lane (J4-J6)
- Kings Worthy, between B3047 and Junction 9 (J8-J9)
- South of Winchester, around Junction 11
- Otterbourne (J11-J12)
- Eastleigh urban area (J12-J14)

2.7.28 For the A3-A3(M) corridor, the areas with more concentration of sites with water pollution risks are the following:

- Southwest of Milford (Lower Moushill Lane – Portsmouth Road)
- Bramshott Common (to the west of Haslemere)
- Between Liphook and Liss (Longmoor Road – B3006)
- Horndean (A3(M) J1-J2)

3 Future considerations

3.1 Overview

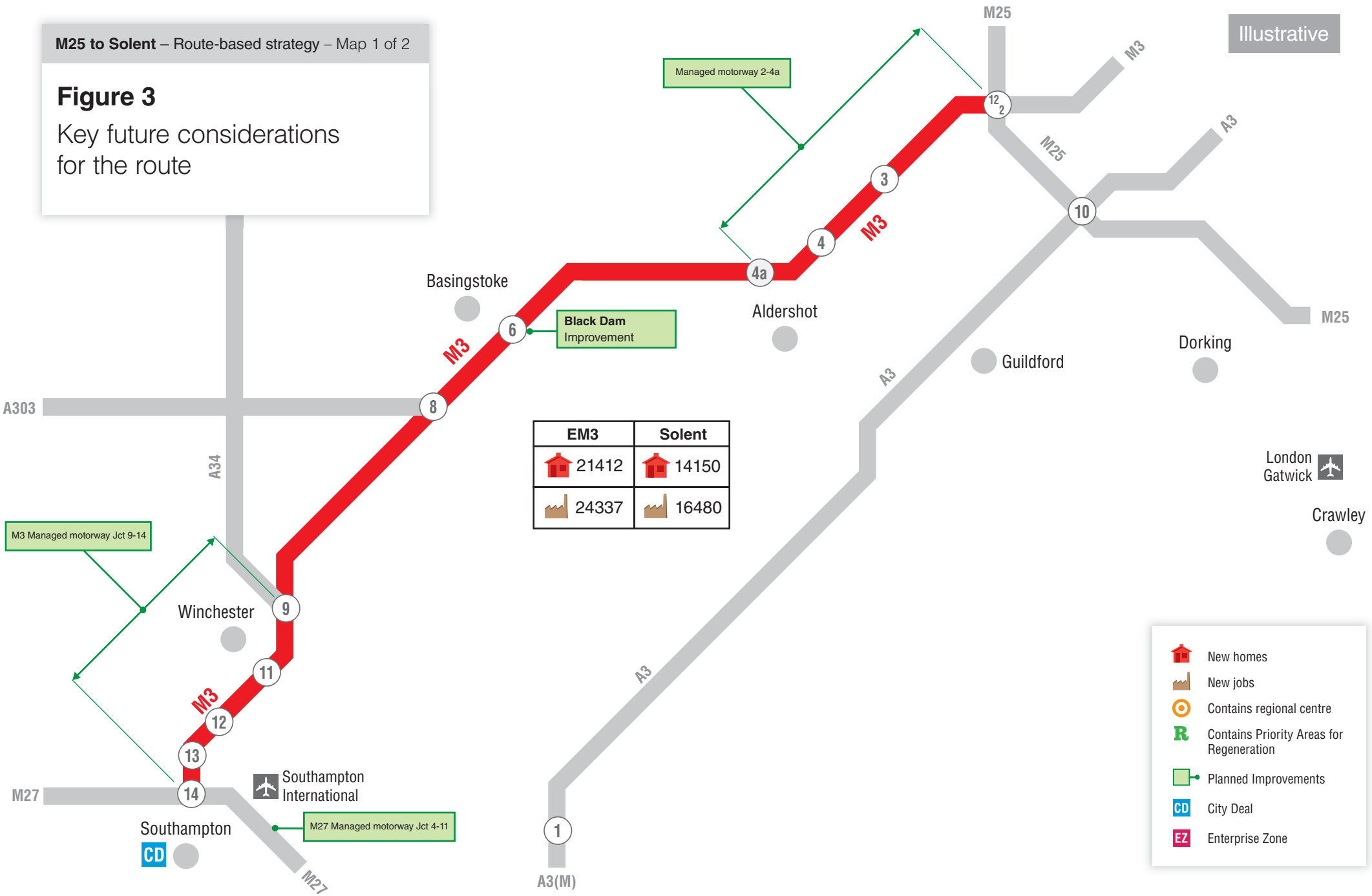
3.1.1 There is already a lot known about the planned changes to and around the route. Local authorities and the development community are already pushing forward the delivery of their housing and economic growth aspirations, as set out in their local plans. The Highways Agency has a large programme of schemes it has to deliver, plus an even larger programme of pipeline measures that could come forward after the general election. Local authorities, together with port and airport operators, are progressing measures to improve the operation and performance of their transport networks and facilities. The Local Economic Partnerships (LEP's) have also produced draft Strategic Economic Plans (SEP's) which set out their vision, objectives and proposed interventions for the period 2015/16 – 2021. The two relevant plans for this area have been produced by the Solent and Enterprise M3 LEP's. Discussions are on-going with Government regarding these plans and in particular the Growth Funding element. The Plans with be finalised by the end of March 2014.

3.1.2 All of these issues have the potential to directly influence the ongoing performance and operation of the route. Figure 3 summarises the anticipated key future issues and the following sections summarise those issues in more detail.

M25 to Solent – Route-based strategy – Map 1 of 2

Figure 3

Key future considerations for the route



HA media services, Dorking S130505 M25 to Solent

M25 to Solent – Route-based strategy – Map 2 of 2

Figure 3

Key future considerations for the route

3.2 Economic development and surrounding environment

3.2.1 A key aspect of managing the route effectively will be ensuring that it is capable of supporting future local housing and economic growth aspirations. This will involve preparing the route through effective management and public investment to be in the best possible position to cater for the planned demands placed upon it, whilst ensuring that the developments themselves effectively mitigate their local impacts.

3.2.2 Figure 3 summarises the potential key housing and economic growth that would impact on the route, with Table 3.1 below providing more context about some of those key developments the nature, scale and timing of the proposals.

3.2.3 It should be noted that the developments provided are not an exhaustive list, but does highlight where the likely pressures on the network will occur as a result of future planned local development. The status of these is far from certain as the situation with planning policy in each authority is at a different state and not all are necessarily adopted in the relevant Local Plan. The actual timescales for many of the larger developments is also unclear at this time.

3.2.4 It should be borne in mind that the cumulative impact of smaller scale development in areas adjacent to the route will also likely have an impact that will need to be considered, as well as the potential cumulative impacts from development planned through the LEP's aspirations in addition to that planned by the Local Planning Authority.

Table 3.1 Key housing and economic growth proposals

Location of Development	Development Type	Anticipated growth			Anticipated Location of Impact on Route
		2011 – 2015	To 2021	To 2031	
Basingstoke	Residential	598 units	1905 units	2880 units	M3 J6 - J7
East Hampshire	Residential Commercial	950 units 1570 jobs	2375 units 3925 jobs	4750 units 7850 jobs	A3 Hazel Grove - A3(M) J2
Eastleigh	Residential Commercial	740 units 1800 jobs	1850 units 4500 jobs	3700 units 9000 jobs	M3 J13 - J14
Guildford	Residential Commercial	441 units 1670 jobs	1765 units 6670 jobs	6712 units 8075 jobs	A3 A247 - A31 M3 J3 - J4a
Hart	Residential	274 units	685 units	1370 units	M3 J4a - J5
Havant	Residential Commercial	188 units 406 jobs	470 units 1015 jobs	940 units 2030 jobs	A3(M) J2 - J4
New Forest	Residential Commercial	192 units 242 jobs	480 units 605 jobs	960 units 1210 jobs	M3 J14
Portsmouth	Residential Commercial	770 units 344 jobs	1925 units 860 jobs	3850 units 1720 jobs	A3(M) J5
Runnymede	Residential Commercial	563 units 925 jobs	2412 units 4660 jobs	4227 units 6825 jobs	M3 J2 - J3 A3 M25 - A247

Location of Development	Development Type	Anticipated growth			Anticipated Location of Impact on Route
		2011 – 2015	To 2021	To 2031	
Rushmoor	Residential Commercial	900 units 680 jobs	2250 units 1700 jobs	4500 units 3400 jobs	M3 J3 - J5
Southampton	Residential Commercial	900 units 1400 jobs	2250 units 3500 jobs	4500 units 7000 jobs	M3 J14
Spelthorne	Residential Commercial	26 units 379 jobs	65 units 947 jobs	65 units 947 jobs	M3 J2 - J3
Surrey Heath	Residential	480 units	1200 units	1200 units	M3 J3 - J4
Test Valley	Residential	320 units	800 units	1600 units	M3 J2 - J3
Waverley	Residential Commercial	1016 units 2380 jobs	3341 units 5950 jobs	7991 units 11900 jobs	A3 between B3001 and A333
Winchester	Residential Commercial	1600 units 830 jobs	4000 units 2075 jobs	5500 units 4150 jobs	M3 J9 - J11 A3(M) J2 - J3
Woking	Residential Commercial	1390 units 1502 jobs	3475 units 3775 jobs	5180 units 5806 jobs	M3 J2 - J3 A3 around Woking
* Additional development around the M27	Residential Commercial	Residential Commercial	4688 units 1465 jobs	9375 units 2930 jobs	16350 units 7610 jobs

3.2.5 In total, around 60,000 dwellings and 70,000 jobs have been identified around the route for 2031 (for 2021 these figures should be 31,000 and 40,000 respectively). As Table 3.1 indicates, the largest amount of development is expected to take place in boroughs such as Waverley, Guildford, Eastleigh, Winchester and Woking. The criteria for identifying the development sites and their expected growth are explained in detail in section A3.2 of the Technical Annex.

3.2.6 The developments listed in Table 3.1 are within two Local Enterprise Partnerships (LEPs): Enterprise M3 and Solent. The growth by LEP in 2021 is provided in Figure 3. As it indicates, growth around the route in Enterprise M3 LEP will be about 1.8 times greater than the Solent LEP in terms of housing and employment. However it needs to be noted that there is an overlap between this two LEP areas, so the real growth expected is lower than the sum of the growths by LEP indicated in Figure 3 (20% lower for housing and 14% for jobs).

3.2.7 In 2012 the Solent LEP, Southampton City Council, Portsmouth City Council, Hampshire County Council and local authorities (who are members of the Partnership for Urban South Hampshire) submitted a joint bid for the Southampton and Portsmouth City Deal. This deal was signed in November 2013 providing £953 million of investment into the Southampton and Portsmouth areas, creating more than 17,000 jobs.

3.2.8 A City Deal provides more powers to cities to foster economic growth in their area. In this case, the main objective of the City Deal is to support further growth in the marine, maritime and advanced manufacturing sectors. This will be accomplished by:

- Unlocking two development sites (Watermark West Quay in Southampton and Tipner-Horsea in Portsmouth), providing new employment, housing and private sector investment
- Implementing programmes to align skills provision to employer needs, tackle unemployment; and effective business support to small and medium enterprises of effective business support

3.2.9 Some of the main benefits that the cities expect from the deal are that it is expected to provide over 4,700 permanent jobs in the marine, maritime and advanced manufacturing sectors, as well as over 13,000 construction jobs during the lifetime of the deal. Over 2,300 dwellings should also be created as a result of unlocking the Tipner-Horsea development site.

3.2.10 Further information of the Southampton and Portsmouth ports growth aspirations is given in section 3.4. That section also provides information on the airports closer to the route: Heathrow, Gatwick and Southampton.

3.2.11 The major developments indicated in Table 3.1 and the outcomes from the City Deal are likely to create additional traffic flows on the route. Furthermore, some of the most relevant developments are located near sections of the route which already suffer congestion, in particular:

- M3 between J3 and M25, which can be affected by the developments in Runnymede
- M3 between A34 and M27: developments in Winchester, Eastleigh and Southampton
- A3 between M25 and Witley: developments in Guildford and Woking

3.2.12 M3 J4 and the A3 south of Guildford (A31) affected by developments such as the Aldershot urban extension Key stakeholders on the route were invited to a series of stakeholder events prior to the writing of this Evidence Report. They also indicated concerns over the route capacity to cope with the additional pressure from these developments, with a majority mentioning the three sections above as key bottlenecks that can threaten the economic growth of the area.

3.3 Network improvements and operational changes

3.3.1 The Agency is already delivering a large capital programme of enhancement schemes nationally. This includes Major Schemes greater than £10m in value, plus smaller enhancement schemes including the current Pinch Point Programme.

3.3.2 Table 3.2 below summarises the current committed enhancement schemes proposed along the route, which have also been represented on Figure 3.

Table 3.2 Committed SRN enhancement schemes

Location	Scheme Type	Completion Year	Anticipated Benefits
A3 Ham Barn Roundabout	Pinch Point scheme. Roundabout improvements	2014	Safety benefits. Increased capacity and reduced congestion
M3 J2 - J4a	Major Scheme. Smart Motorway	2015	Increased capacity and reduced congestion
M3 J6 (Black Dam)	Pinch Point scheme. Roundabout improvements	2015	Increased capacity and reduced congestion

3.3.3 The Smart Motorway scheme for M3 J2-4a is addressing the current capacity issues in the most congested section of that road. Delays are also common around Junction 6 of the M3. This situation should improve when the Pinch Point Scheme for improving the Black Dam roundabout is implemented. Everyone entering/exiting the motorway at that point goes through this roundabout.

3.3.4 There are frequent delays in the A3 to the north of Petersfield, between A325 and A272. The Ham Barn roundabout is the only at-grade junction in that section, the capacity improvements projected under the Pinch Point Programme should alleviated parts of the issue although the junction will remain the only at-grade junction on the route.

3.3.5 In addition to these schemes, the Agency also has maintenance commitments up until 2017. For instance, on the M3 bespoke deck joints will be installed between Junctions 4a and 5 by 2015, and on the A3 the Deerbarn Railway Bridge will be refurbished and waterproofed by 2016. There are, however, impending maintenance requirements for which funding has still not been secured, such as the piers repairs of the Woodlands Lane bridge over the M3 (between Junctions 2 and 3), which should desirably be complete by 2019.

3.3.6 The 2013 Spending Review and subsequent report from HM Treasury Investing in Britain's Future referenced a series of potential new pipeline schemes for the strategic road network. Table 3.3 below provides a summary of the pipeline improvement schemes that would impact this route, subject to value for money and deliverability.

Table 3.3 Declared pipeline schemes

Location	Scheme Description
M3 J9 to J14	Smart Motorway. Subject to finalisation of options and consideration of their business case and deliverability
M27 J4 to J11	Smart Motorway. Subject to finalisation of options and consideration of their business case and deliverability

3.3.7 As Table 3.3 indicates, the only pipeline scheme for the route in the report is for M3 J9-J14, which is planned to become a Smart Motorway. It is expected that this will improve the capacity and operation of this section, which is currently one of the most congested in the M3.

3.3.8 The M27 is also projected to become a Smart Motorway between Junctions 4 and 11. This could also have a positive impact on the route, alleviating traffic in the M27 at its junction with the M3.

3.4 Wider transport networks

3.4.1 The June 2013 report from HM Treasury Investing in Britain's Future also listed the local transport schemes either completed, under construction or due to start before May 2015. Table 3.4 below lists the schemes from that report that will influence the ongoing operation of this route, plus any other funded local network commitments that will be delivered before 2021.

Table 3.4 Committed local transport network enhancement schemes

Project	Scheme Type	Completion Year	Anticipated Impacts on the Route
Electric Spine, Southampton-Reading	Rail	2014-2019	Reduction of demand on M3
Access roundabout from Chobham Lane to former DERA site (Longcross)	Road (s278)	2014	Increased traffic entering the M3 at Junction 3
A30 Hartford Bridge Flats and Blackbushe Junction Improvements	Road (Local Pinch Point)	2014-2015	Reduced congestion on A30 can create traffic growth on M3 Junction 4a
A325 Queens Roundabout Improvements, Farnborough	Road (Local Pinch Point)	2015	Reduced congestion in A325 can create traffic growth on M3 Junction 4
ASDA Roundabout and access improvements along Purbrook Way to A3(M) Junction 4, Havant	Road (Local Pinch Point)	2015	Congestion reduction on Purbrook Way can have impacts around A3(M) J4: - Reduced congestion northbound (exit only) - Increased congestion southbound (entry only)
A327 Capacity Improvements on approach to M3 Junction 4a	Road (s278)	2015-16	Increased traffic entering the M3 at Junction 4a
Toshiba Roundabout (A325/B3411, Frimley), Junction improvements	Road	2016-2019	Reduced congestion next to M3 J4 could improve traffic on M3

3.4.2 In addition to the committed schemes listed in the previous table, there are aspirations for local transport network enhancements that could have an impact on the route if they are realised:

- Widening of the carriageway width of the A322 on M3 Junction 3, which could have positive effects on traffic conditions on the M3
- Slip roads on A331 at Aldershot Urban Extension. This would improve the access to the new development site, which could

increase traffic levels on the M3 at Junction 4 and the A3 at Hogs Back

- Junction improvements around Basingstoke on the A30, A33, A340 and A3010. These could create more traffic entering M3 at Junction 6, but also reduce congestion on the motorway off-slips
- A325/A327 Pinehurst Roundabout improvements in Farnborough. This could alleviate congestion on M3 Junction 4
- Construction of the Whitehill-Bordon Inner Relief Road. This would provide better access to/from the planned developments, which could increase the number of vehicles entering/leaving the A3 at its junction with the A325 and at the Black Dam Roundabout
- Improvements on M3 J9, which currently has capacity issues and is crucial for the access from London and the Midlands to Southampton Port

3.4.3 The Electric Spine project (indicated in Table 3.4) is included in the HM Treasury Investing in Britain's Future report. It will create a new electrified rail corridor for passengers and freight linking core centres of population and businesses in Yorkshire and the Midlands with the ports in the South.

3.4.4 In the Southampton – Basingstoke – Reading section of the electric spine, overhead electricity will be provided. In a first stage, freight trains will be using this, whilst passenger trains will keep using the existing third rail. This is expected to increase capacity and reduce travel times.

3.4.5 The Port of Southampton's latest traffic forecasts are noted in its 2009-2010 Master Plan. The port is expecting the number of cruise passengers and the number of containers to double by 2020 when compared to the 2005 figure. All the other types of cargo are going to experience a significant growth, with the only exception of the motor vehicles, which will slightly decrease. There is also an economic aspiration to increase growth beyond these figures, recognising that it is the UK's most productive Port. The Port of Southampton plays a major role in export, imports and is the leading cruise passenger Port. This all contributes to the UK economy by also providing directly and indirectly 15,000 jobs in the Solent area and contributes to £1.2bn of output per annum.

3.4.6 The Port of Southampton already has rail freight services and the Electric Spine project has the potential to further alleviate the effects of this demand growth on the M3. This is important, since the M3 is already experiencing capacity issues between Southampton and Junction 9, which leads to London (M3) as well as the Midlands (A34). If these are not addressed the Port's growth expectations could be hampered. There are other ports competing with Southampton which could capture part of its trade in the future, such as the recently opened London Gateway.

3.4.7 The Portsmouth International Port forecasted a growth in freight of about 2.5% per annum between 2010 and 2026. In addition, the annual

number of cruise passengers was forecasted to double between 2010 and 2020, reaching about 2.4 million.

3.4.8 This can have negative effects on the operation of the route. The Port is connected to the rail network. However, its renewed Intermodal Goods Yard is not in use, so no rail freight services exist currently.

3.4.9 Regarding airports, the route is influenced by Heathrow, Gatwick and Southampton. The Department for Transport (DfT) has forecasted a growth on the number of terminal passengers for all three airports, as Table 3.5 indicates.

Table 3.5 Terminal passenger forecast (in million passengers per year)

Airport	2011	2020	Average annual growth rate
Heathrow	69.4	75.5	0.9%
Gatwick	33.6	37.3	1.2%
Southampton	1.8	2.3	2.8%

3.4.10 These forecasts mean that both Heathrow and Gatwick should reach their capacity before 2020, with runway capacity being the limiting factor.

3.4.11 The Airports Commission is currently analysing the different alternatives to increase airport capacity in the South East. In December 2013 it submitted its Interim Report with recommendations to the ministers, where it shortlisted two alternatives: providing a third runway at Heathrow or a second runway at Gatwick. Nevertheless, none of these schemes should be delivered before the mid to late 2020s.

3.4.12 As a result of the Interim Report recommendations, DfT has instructed Network Rail to initiate a study into a Southern Rail Access to Heathrow. Currently rail connections to Heathrow from Surrey and Hampshire are poor, with travel times by road being generally much shorter. For instance, reaching the airport from Guildford takes between 30 and 60 minutes (depending on the traffic conditions), but almost 2 hours by train.

3.4.13 There are proposals to address this issue, such as the Airtrack-Lite project, which proposed a line connecting Heathrow with Clapham Junction (see Figure A8 of the Technical Annex). However, the reduction in travel times expected for Surrey and Hampshire passengers would not be significant when compared to road.

3.4.14 Regarding access to Gatwick, motorists tend to use the A3 and M3 due to the lack of cross-country links. In terms of public transport, the North Downs Line connects Reading to Gatwick, going across Farnborough and Guildford. The DfT has approved the construction of a new platform in Redhill before 2020. This could increase the line capacity up to two fast trains per hour, instead of the current one fast train per hour.

3.4.15 However, this fast train takes 40 minutes between Guildford and Gatwick, which is about the same trip time as by car with good traffic conditions. For the rest of the route area, road travel times tend to be shorter than rail travel times. Hence, the passenger demand growth in Gatwick is also likely to create additional traffic loads along the route.

3.4.16 Southampton Airport has no major capacity issues. Its annual traffic is expected to grow in 0.5 million passengers by 2020, which can increase traffic within the M25 to Solent route. Nevertheless, its rail connection to London is generally good, with travel times that are competitive with the road, offering a good alternative to road M3.

4 Key challenges and opportunities

4.1 Introduction

4.1.1 It is not possible to show all the challenges and opportunities identified in this evidence report. This chapter shows a selection based on those where our internal and external stakeholders viewed these as a priority and these are supported by evidence. A full list of all the identified challenges and opportunities are provided in the Technical Annex.

4.1.2 Figure 4 summarises some of the key issues and challenges that the route will experience during the 5 years from 2015, with the following sections and Table 4.1 explaining these issues and challenges in more detail.

Timescales

4.1.3 To understand the timescales of when the key challenges identified become critical and when opportunities on the route could be realised, the following definitions have been made in Table 4.1:

- **Short Term:** current
- **Medium Term:** before March 2021
- **Long Term:** not before 2021

4.1.4 These timescale categories provide a guide for informing when a future intervention may be required to meet the anticipated future operational performance needs, or when interventions may be needed to help facilitate local housing and economic growth aspirations.

Local Stakeholder Priorities

4.1.5 Input from stakeholder and road user groups linked to the route have been used to inform the development of this evidence report. This included getting their views on what they deemed to be the priorities within their area and identifying their “top priorities” locally. This has been collated according to the route to which those views related.

4.1.6 Table 4.1 presents a summary of whether the challenges and opportunities identified were a priority for our stakeholders in their particular area. This exercise does not seek to prioritise the challenges and opportunities along length of the route by trying to compare one issue against another, but reports the feedback from local discussions.

4.1.7 This picture of stakeholder priorities is subjective and has been informed by discussions regarding the top priorities locally at the stakeholder events, and in conversations with stakeholders who couldn’t attend the events.

4.1.8 We recognise that the picture we build through this categorisation will be influenced by the representatives and organisations we have engaged with, and that consequently we may not have achieved a statistically balanced view and certain priorities may not have been identified as a

"top priority". We will be conscious of the limitations of the reporting of stakeholder priorities as we move into the second stage of RBS.

4.1.9 From those stakeholders that have contributed to workshop events and others who have submitted evidence we have a general picture of the overall key challenges as well as some detailed challenges.

4.1.10 At the Basingstoke workshop, stakeholders identified number of existing capacity and safety challenges, many of which are supported by the evidence shown in Figure 4. Stakeholders highest priority is the A3 around Guildford, where speed and reliability levels are the lowest across the route. The M3 Junction 9 at Winchester was also reported as high priority, Stakeholders noted that local routes were being used by those people trying to avoid the junction. Capacity challenges are discussed further in section 4.4 of this report.

4.1.11 Stakeholders also confirmed the significant growth pressures and economic potential of the Enterprise M3 and the Solent LEP areas through which the M25 to Solent Strategy Route passes. The point was made that the area is a significant contributor to the UK economy and has the potential to deliver growth in this regard. It was also clear from discussions with stakeholders that the area benefitted significantly from existing national and international transport links but against this traffic congestion and the lack of infrastructure to meet new development may also impede growth in the future. Since the stakeholder events, the LEPs have submitted their draft Strategic Economic Plans (SEPs) to government, setting out their challenges and priorities and investment plans.

4.1.12 The SEPs also set out some additional evidence which will be taken into the evidence base for Stage 2 of the RBS. For example, the Solent LEP Strategic Economic Plan (Initial submission) has confirmed the following outputs in addition to those agreed in the Southampton- Portsmouth City deal and these include (subject to certain caveats) for the period to 2020:

- Creating an additional 15,500 new jobs.
- Unlocking an additional 550,000 sq metres of new employment floor space with a focus on supporting growth in the marine, maritime and advanced manufacturing sectors.
- Delivering an additional 24,000 new homes

4.1.13 The Initial Solent Strategic Economic Plan also refers to recent CBI/KPMG research that emphasises how vital transport infrastructure is to business. In the recent Survey they conducted 98% of companies stated that infrastructure has a significant impact on their investment decision-making. Also 85% of businesses identified the quality and reliability of transport as having a very significant or significant influence on their investment decision-making, higher than for any other type of infrastructure.

4.1.14 The Enterprise M3 LEP also carried out a survey across their area to which 300 businesses and stakeholders responded. This listed local

authority programmes, major infrastructure (within the M3 area), maintenance of existing infrastructure and sustainable transport schemes as the top 4 priorities for business. The respondents' support for these issues as a high or highest priority was 76%, 68%, 66%, and 44% respectively.

4.1.15 Enterprise M3 LEP vision includes:

- Increasing GVA 25% above the national average by 2020
- The creation of 52,000 new jobs
- Adding 1,400 businesses annually
- Increase GVA per head from 18% to 25% above the national average
- Create 1,740 new enterprises

4.1.16 The delivery of interventions on the Strategic Road Network identified by both Strategic Economic Plans will require support from the Agency in enabling such schemes.

4.1.17 The scale of overall development in this corridor was considered by the stakeholders at the meeting. Many of the points made by stakeholders in respect of needing to ensure that new infrastructure came forward to meet growth pressures have an echo in the Strategic Economic Plans. Stakeholders did not address, however, the detail of the asset renewal challenge. They seemed to regard this as a technical challenge and not one on which a layman's view could be given. Notwithstanding this there was a general concern expressed about the congestion impact of any road or lane closures and a wish to see the Agency complete as quickly as possible all maintenance work that gives rise to congestion.

4.1.18 It was also recognised by some stakeholders that, despite the urgent need for network enhancements, management of demand though travel planning, better information to travellers, and improved operational management had a significant role to play in many parts of the network which are already overloaded.

4.2 Operational challenges and opportunities

4.2.1 The main operational challenges facing this corridor stem from the following.

4.2.2 Volumes of traffic movements in and around Guildford on the A3, results in delays to journey and unreliable journey times as highlighted in Figure 2.2. Closely positioned junctions along this part of the A3 are also a contribution to the challenges faced. As a result of these factors, it is an aspiration of the Agency to provide Traffic Officer Service (TOS) on the whole of the A3, which would be subject to an evidence based review. Technology plays a large part in supporting Traffic Officers who are patrolling, so if expanding the area in which Traffic Officer operate, and then investment in Technology will need to be considered. This was backed by liaison with Area 3 service provider that also identified that

the A3 would benefit from technology such as MIDAS, messaging, CCTV and phones.

4.2.3 The need for databases within the Agency to be consolidated is an opportunity in order to support greater evidence driven approach across the route. This could be extended to include the Local Authorities to provide a wider understanding of the network and how it operates holistically.

4.2.4 On a wider scale, stakeholders identified that there is also an opportunity to co-ordinate ITS solutions and signage around local, national and European systems. There are currently a number of specifications and would be more efficient to have a common standard between the Agency and Local Authorities. Whilst the M3 north of Junction 9 currently have phones positioned, liaison with the Area 3 service provider identified that it may benefit from better technology such as MIDAS, messaging and CCTV.

4.2.5 Chapter 3 identifies a number of areas where there is potential economic growth up until 2021 which may cause further operation challenges. Areas such as Guildford, Farnborough and Basingstoke have a large number of mixed use and residential development identified. The combined impact of development will need to be managed carefully to ensure traffic pressure on the SRN are mitigated. In particular the A3 around Guildford where congestion and delay is currently observed (as shown in figures 2.1 and 2.2) and limited committed or pipeline schemes exist. There are also aspirations to increase container traffic, in particular at Southampton Port. Southampton and Portsmouth City Deal status is also anticipated to generate in the region of 17,700 new jobs in the area by 2023.

4.2.6 Opportunities for improvement of operations along certain sections of the route are the Smart Motorways Schemes: the committed scheme for M3 between Junction 2 and 4a (to be completed in 2015) and the pipeline schemes for M3 between Junctions 9 and 14 and M27 between Junctions 4 and 11.

4.3 Asset condition challenges and opportunities

The challenges and opportunities for the route asset condition have been identified from the Area 3 Asset Management Plan 2012-2013 and through liaison with the Asset Manager for Area 3.

Carriageway surface

4.3.1 As shown in Figure A5 of the Technical Annex, by 2021 the carriageway surface is beyond its design life in the majority of the route, hence requiring resurfacing works. This includes some of the most congested sections, such as A3 between M25 and Guildford, M3 between Junctions 2 and 4 or M3 between Junctions 9 and 14. Resurfacing works along these sections will be particularly challenging.

4.3.2 For the M3 J9-J14 section, full depth pavement reconstruction is planned. Excessive noise levels exist in different locations of this section and pavement reconstruction is an opportunity to reduce them.

4.3.3 The five mile long section along the M3 currently paved with concrete is planned to be resurfaced with flexible pavement by 2016-2017.

4.3.4 Two types of flexible pavement is currently used: Thin Surface Course System (TSCS) and Hot Rolled Asphalt (HRA). TSCS has a shorter life expectancy and its rates of deterioration are more unpredictable. As a result, even if surfacing with TSCS takes less time and has a lower capital cost, it can require more frequent maintenance works and, overall, be more costly. For each road section it should be duly assessed what is the best type of flexible pavement to use for resurfacing.

Structures

4.3.5 A large proportion of the structures of the route was built in the seventies and would not meet current design standards, meaning that these structures are more susceptible to deterioration and difficult to maintain.

4.3.6 The percentage of bridges currently in good condition is below the national average. 52% of the Bridges and Large Culverts and 18% of the retaining walls are in poor or very poor condition. This is the result of low levels of funding for structure maintenance and renewal works over the last years.

4.3.7 Due to the level of funding for maintenance and renewal, it is expected asset conditions will worsen in the next four years. An increased number of reactive maintenance works will be required in the longer term.

Geotechnical

4.3.8 The geotechnical asset in Area 3 is in a good condition, with no critical or high risks registered, and the funding allocated for the next four years is expected to maintain this situation. The Smart Motorways scheme for part of the M3 will be an opportunity to address the voids issue below the carriageway in this location, as funding to address the problem will be included with the scheme.

Drainage

4.3.9 In proportion, Area 3 has more flooding events than the national average. A majority of the drainage asset was built in the sixties and seventies and, since maintenance has been more reactive than preventive, it has become substandard.

4.3.10 The planned maintenance and renewal works for the next four years are expected to hold this current condition, which means that overall the drainage asset will still require enhanced funding to restore a better balance of reactive and planned maintenance. Notwithstanding this, a more reliable way of measuring the drainage asset condition is required.

4.3.11 Another challenge is global warming, which is changing precipitation patterns and increasing the risk of more severe flooding events more. There is an opportunity to renew a good proportion of the asset to meet current standards and future levels of flooding, but only if more funding can be secured.

Lighting

4.3.12 The majority of the route length has no lighting. Of the sections with lighting, only 5.4% of the lighting columns in Area 3 are in good condition and large sections of the cabling are at or below minimum standards.

Technology

4.3.13 Currently 15% of the technology asset is in poor condition. However, the routine maintenance programme for the next four years is expected to bring the asset back into a safe and serviceable condition. A future challenge is the completion of the Smart Motorway schemes on the M3, which will create additional needs for technology maintenance and renewal.

4.4 Capacity challenges and opportunities

4.4.1 There are a number of challenges and opportunities which from the preceding analysis and outputs from the stakeholder liaison have been identified as relevant to this Route. These are noted below:

A3/A3(M)

4.4.2 The A3 around Guildford (in particular through Guildford and at the Hogs Back) and Wisley currently experiences delay and congestion with high journey time unreliability. With development planned in and around Guildford being in the region of 6,700 dwellings and 8,000 jobs, careful consideration including demand management will need to be taken. This was identified as part of the Basingstoke Stakeholder workshop as is echoed by the evidence shown in Figures 2.1 and 2.2. There is also likely to be demand pressures from development further along the A3 which will add to these pressures including possible enhancements of Portsmouth Port.

4.4.3 The A3 has challenging characteristics, in particular in and around Guildford. At this location the A3 serves as a key strategic highway connection whilst also being used as a local arterial road for Guildford. This results in a strong interaction between the A3 and local road traffic, in particular there is significant interaction between the A3 and the parallel A25 between Stoke Road and Wooden Bridge interchanges, so that congestion along the route can adversely affect the operation of the other route (as reported in Report for the Highways Agency, Parsons Brinckerhoff, March 2009). Challenges are also presented by a number of properties and minor roads having direct access onto the A3 to the south of Guildford, where no acceleration or deceleration tapers are provided.

4.4.4 Although there not being any major committed or pipelines schemes (as identified in HM Treasury Investing in Britain's Future), there are a number of other schemes, which dependent on funding, would assist in alleviating congestion and delay experienced at these locations, assisting in bringing development forward.

4.4.5 Further south on the A3, the present layout of the A3/A31 Hog's Back junction is such that northbound A3 traffic travelling westbound along the A31 is required to exit the A3 at the A3/B3000 Compton junction and travel through Puttenham village before joining the A31. This causes congestion along the B3000 at peak times.

4.4.6 There is a capacity challenge along the A3 at Ham Barn roundabout. There is currently a committed scheme funded through the Pinch Point Programme (PPP) which should partially address this issue. The improvement work is intended to reduce congestion by addressing the significant queues formed at the A3/B3006 junction and are expected to be completed in the first quarter of 2014. However, the PPP enhancements do not address the issue of the junction being at-grade which is considered the main reason for the congestion and delay experienced at this location.

M3

4.4.7 As with the A3 and A3(M), the M3 has a number of challenges and opportunities which have been identified as part of the evidence gathering exercise which could be worsened by the planned level of development within the Enterprise M3 (EM3) and Solent LEP areas.

4.4.8 Firstly, delay and congestion is experienced on the M3 links between Junctions 2 to 4. As a result of this delay, there is a knock-on effect to the local roads at Junction 3 (Bagshot) and Junction 4 (Frimley). As part of the committed schemes, Smart Motorway is planned between Junctions 4a to 2 which will be completed December 2015. Although there will be no enhancements to Junctions 3 and 4, it is anticipated that through the Smart Motorway scheme, congestion and delay experienced at these locations should be reduced.

4.4.9 Moving south along the M3, the second focal point is at Junction 6 of the M3 (Black Dam). Through the PPP, there is a committed scheme to enhance capacity which should help to facilitate the planned development in and around Basingstoke.

4.4.10 Of particular concern to stakeholder was Junction 9 of the M3 (Winchester) which experiences a high level of congestion and delay and poor journey time reliability, partially caused by the high proportion of HGV's travelling between the M27, M3 and A34. With an aspiration for increased capacity at the Ports and Airports as well as development planned in and around the M3, this problem is likely to worsen. There are currently improvement works being made on this junction, but it is highly unlikely that this solution is sufficient to cope with the added pressures from the development growth forecasted (by 2021 and beyond), as well as the Southampton port expansion and airports traffic

growth. Hence, the Agency is considering improvements through the Super PPP.

4.4.11 At the southern part of the M3, delay is experience between Junctions 10 to 13. The level of interaction between local traffic also causes delay and congestion at Junction 11, 12 and 13. Within the Agency's pipeline schemes as noted in Investing for Britain, there is a Smart Motorway planned between Junction 9 to 14 (subject to value for money and deliverability). As with the M3 Junction 3 and 4, although there will be no enhancements to Junctions 11,12 and 13, it is anticipated that through the Smart Motorway scheme, congestion and delay experienced at these location should be reduced.

4.5 Safety challenges and opportunities

4.5.1 Figure 2.3 of this strategy shows the total casualties per billion vehicle miles as well as the top casualty locations at a national level. This shows that there are safety issues on the A3 around Guildford with some of the highest total causalities per billion vehicle miles in the route area. This section has closely spaced junctions with limited access. Stakeholders also expressed concern that future planned development pressures could acerbate current traffic conditions.

4.5.2 Northbound traffic heading into the M25 on the M3 and A3 also experiences some of the highest total causalities per billion vehicle miles along this route.

4.5.3 There are a number of committed Local Network Management Schemes (LNMS) Stage 4 Road Safety Audits along the A3 as well as committed safety enhancements along the A3, A3(M) and M3.

4.5.4 Through consultation with the Managing Agent Contractor (MAC), safety issues were highlighted at the M3 Junction 8. Late lane changing at this location has been observed where the M3 meets the A303 diverge. It is considered a priority for the Agency to assess how traffic travelling along the M3 interacts with the A303 diverges.

4.6 Social and environmental challenges and opportunities

4.6.1 There are several current and historical Air Quality Management Area (AQMA) on the route, located at the M3 between Junctions 12 and 14. The second is on the M3 at Camberley between Frimley Road and Ravenswood Roundabout. There is also an AQMA for the A3 at Hindhead which pre-dates the opening of the Hindhead tunnel. The Management Plan set by the Eastleigh Borough Council has the challenge to reduce the current levels of NO_2 to an acceptable value and we will work to help towards this goal. The Agency also has the challenge to ensure that air pollution levels in the rest of the route are kept at acceptable level and that no more AQMAs need to be set.

4.6.2 The route goes through multiple environmentally sensitive areas, several cultural heritage sites, the South Downs National Park and the Surrey Hills Area of Outstanding Natural Beauty (AONB). It is crucial that any new assets have a minimum effect in the landscape and the

environment and that the levels of pollution caused by the route (noise, air, water discharge) are kept to a minimum. We will keep analysing these effects, predicting future changes and assessing further opportunities of alleviating any issues detected.

4.6.3 In terms of noise, there are 57 Important Areas within the route, with 33 of them being classified as high priority. Stakeholders raised a particular concern on the M3 near Compton where noise is a particular issue for a Special Needs School. This noise level is likely to be resolved once the road surface is replaced by 2021. In the stakeholder events M3 J7-J9 was also raised as a section where the levels of noise need to be reduced. That section includes the five-mile long stretch with concrete pavement that is going to be replaced by flexible pavement, providing an opportunity to reduce noise in that area.

4.6.4 Stakeholders raised the opportunity for the Agency work towards minimising levels of noise in all locations and especially in the high priority areas, collaborating with the local authorities to ensure development is not located in noisy locations adjacent to the SRN and cooperating in initiatives that reduce noise levels

4.6.5 The climate change is shifting raining patterns as well as the frequency and severity of snowfalls and winds. This already poses an environmental challenge in the present and will do so in the future. Long term forecasts need to be reviewed in order to reduce the effects caused by the expected climate patterns.

4.6.6 There are 23 sections of the route with a high risk of river flooding. The highest concentration of these appears on the A3 around Guildford where delay and congestion are also prominent. On the M3, the A335 (Leigh Road) underpass in Junction 13 has had repeated flooding events in the past due to rainwater drainage issues.

4.6.7 Integration of the route into the local environment is equally as important as with the vulnerable road users. There are three sections on the A3 that have concentrated most of the cyclist/pedestrian accidents since 2008, so Vulnerable Road User (VRU) safety should be assessed in them: Wisley-Ockham, Guildford-Godalming and Liphook-Petersfield.

4.6.8 Some of the cycle routes crossing over or under the route need improvements as well, such as segregation from motorised traffic or update to current design standards. Two especially relevant cases are the NCN Route 23 on M3 Junction 9 and the shared cycle/pedestrian path between Odiham and Hook (M3 Junction 5), this was also identified as a challenge by stakeholders at the Basingstoke workshop.

Table 4.1 Schedule of challenges and opportunities

	Location	Description	Is there supporting evidence?	Timescales			Was this Identified through stakeholder engagement?	Stakeholder Priorities		
				Short-term	Medium-term	Long-term		Low	Medium	High
Network Operation	A3	CHALLENGE: To extend the Traffic Officer Service (TOS) to the A3. This is an aspiration of the Agency.	Yes	✓			✗			
	A3, M3 J4a – J9	CHALLENGE: Lack of technologies such as MIDAS, Messaging System, CCTV or Phones.	Yes	✓			✗			
	M3 J2 – J4a, J9 – J14	OPPORTUNITY: Smart Motorways schemes can improve the operation in these sections.	Partial	✓	✓		✓	✓		
	General	CHALLENGE: Need to harmonise ITS specifications around the whole network.	No	✓			✓			
Asset Condition	General	CHALLENGE: A majority of the pavement is reaching the end of its design life by 2021.	Yes		✓		✗			
	M3 J9 – J14	OPPORTUNITY: Planned full depth pavement reconstruction in this section is planned for 2020-2021.	Partial		✓		✗			
	General	CHALLENGE: Several Structure and Drainage assets are 30-40 years old and require upgrades to meet current standards. The overall Structure/Drainage condition is below the national average.	Yes	✓			✗			
	M3 J2 – J3: next to DERA site (Longcross)	CHALLENGE: Military Bridge over the M3 will be fully re-built in the short term.	Partial	✓			✗			

	Location	Description	Is there supporting evidence?	Timescales			Was this Identified through stakeholder engagement?	Stakeholder Priorities		
				Short-term	Medium-term	Long-term		Low	Medium	High
Capacity	A3 junction with M25	CHALLENGE: Current bottleneck of both the A3 and M25. Large developments in Runnymede, Woking and Guildford local authority areas would add pressure to this junction in the future.	Yes	✓			✓		✓	
	A3 Guildford	CHALLENGE: Section with lowest speed and reliability levels of the route. Closely spaced junctions exacerbate congestion. The local network is congested as well, partly due to the A3 congestion. Large developments around Guildford are expected to bring additional pressure to the section.	Yes	✓			✓			✓
	A3 Ham Barn roundabout	CHALLENGE: Only at-grade junction in the route, representing a bottleneck. Committed roundabout improvements (PPP) are expected to alleviate the issue but might be insufficient.	Partial	✓			✗			
	M3 J2 – 4a	CHALLENGE: High motorway congestion levels experienced, with knock-on effect in local roads in the junctions. Future developments pressures are expected in the future, especially from the DERA site and Aldershot.	Yes	✓			✓		✓	
	M3 J9 – 14	CHALLENGE: High motorway congestion levels experienced, with a high proportion of goods vehicles traffic and steep gradients worsening the problem. Growth of Southampton port and developments such as Eastleigh River Side.	Yes	✓			✓	✓		
	M3 J2 – J4a, J9 – J14	OPPORTUNITY: Smart Motorways schemes are expected to improve capacity in these sections.	Partial	✓	✓		✓	✓		

	Location	Description	Is there supporting evidence?	Timescales			Was this Identified through stakeholder engagement?	Stakeholder Priorities		
				Short-term	Medium-term	Long-term		Low	Medium	High
	M3 J9	CHALLENGE: Currently this junction has capacity issues. As a result local routes are used by traffic avoiding the junction. It is crucial for the access from London and the Midlands to Southampton Port.	No	✓			✓			✓
	M3 J9	OPPORTUNITY: Current junction improvement works can increase capacity, smooth interchanges with A34 and alleviate knock-on effects to the local network of Winchester.	No	✓			✗			
	M3 J6 (Black Dam)	OPPORTUNITY: Junction improvements can enhance capacity, absorbing future development pressures around Basingstoke.	No		✓		✗			
	General	CHALLENGE: Over 27,000 new dwellings and 34,000 new jobs are expected to be created around the route by 2021, and this could be even larger depending on the result of the negotiations for the Southampton and Portsmouth City Deal. Increased passenger and freight traffic in Southampton and Portsmouth is also expected. Traffic growth is forecasted for Heathrow, Gatwick and Southampton airports until 2020. All these factors are likely to add pressure to the route and additional capacity needs to be provided where required.	Partial		✓	✓	✓			✓
Safety	A3 Guildford	CHALLENGE: This section is one of the worst of the route in terms of safety. Closely spaced junctions create frequent entry/exits lane changes in the area which has high levels of traffic.	Yes	✓			✗			

	Location	Description	Is there supporting evidence?	Timescales			Was this Identified through stakeholder engagement?	Stakeholder Priorities		
				Short-term	Medium-term	Long-term		Low	Medium	High
	M3 J8	CHALLENGE: Late lane changing where the M3 meets the A303 diverge.	Partial	✓			✗			
	General	OPPORTUNITY: LNMS Stage 4 Road Safety Audits and safety enhancements committed for all the route.	Yes	✓			✗			
Social and environment	General	CHALLENGE: Several Noise Important Areas have been identified along the route, meaning that excessive levels of noise are reached.	Yes	✓			✗			
	M3 J7 – J9	CHALLENGE: Excessive levels of noise in this section were complained about by stakeholders.	No	✓			✓	✓		
	M3 J11 – J12	CHALLENGE: Excessive levels of noise. A School for Children with Special Needs in Compton is next to the road.	Yes	✓			✗			
	General	OPPORTUNITY: Road resurfacing is an opportunity to use materials that reduce the current levels of noise.	Yes		✓		✓	✓		
	M3 J3 - J4	CHALLENGE: Excessive levels of air pollution in Camberley, between Ravenswood Roundabout and Frimley Road	Yes	✓			✗			
	M3 J12 – J14	CHALLENGE: Excessive levels of air pollution	Yes	✓			✗			
	M3 J3 - J4	OPPORTUNITY: An Air Quality Management Area (AQMA) has been created in Camberley, between Ravenswood Roundabout and Frimley Road, to reduce levels of air pollution through local measures.	Yes	✓			✗			

	Location	Description	Is there supporting evidence?	Timescales			Was this Identified through stakeholder engagement?	Stakeholder Priorities		
				Short-term	Medium-term	Long-term		Low	Medium	High
	M3 J12 - 13	OPPORTUNITY: An Air Quality Management Area has been created to reduce levels of air pollution through local measures.	Yes	✓			✗			
	M3 J13	CHALLENGE: Repeated flooding in the A335 (Leigh Road) underpass.	Yes	✓			✗			
	General, A3 Guildford	CHALLENGE: Several sections of the route have a high risk of river flooding. The highest concentration of these appears on the A3 around Guildford.	Yes	✓			✗			
	General	CHALLENGE: The climate change is already shifting raining patterns as well as the frequency and severity of snowfalls and winds. Long term forecasts need to be reviewed in order to reduce the effects caused by the expected climate patterns	No	✓	✓	✓	✗			
	M3 J5	CHALLENGE: Safety issues for pedestrians and cyclists travelling between Odiham and Hook	No	✓			✓			
	M3 J9	CHALLENGE: Current shared pedestrian and cycle path does not meet standards for cyclists, considering that it is part of route 23 of the NCN.	No	✓			✗			
	A3 Wisley-Ockham, Guildford-Godalming and Liphook-Petersfield	CHALLENGE: Spots with concentration of accidents of pedestrians and cyclists	Yes	✓			✗			
Other	General	OPPORTUNITY: This is amongst the highest performing areas outside of London in economic terms and an International Gateway (airports, ports). It could provide higher returns.	No	✓			✓			✓

	Location	Description	Is there supporting evidence?	Timescales			Was this Identified through stakeholder engagement?	Stakeholder Priorities		
				Short-term	Medium-term	Long-term		Low	Medium	High
	General	CHALLENGE: Surface access (by road or public transport) to Heathrow and Gatwick from the South-East is very important for the economy and needs to be improved. No cross country road links exist to Gatwick.	Yes	✓			✓			✓

4.7 Conclusion

4.7.1 The evidence compiled about the route has shown that:

4.7.2 The M25 to Solent route connects London with Southampton and Portsmouth, running within the counties of Surrey and Hampshire. It consists of two separate sections:

- M3 between M25 and M27
- A3-A3(M) between M25 and A27

Growth/development

4.7.3 The M3 is a strategically important road linking a number of destinations. Settlements such as Camberley, Basingstoke, Winchester and Southampton rely upon this route in providing freight, businesses and residents with wider access to the SRN.

4.7.4 The A3 and A3(M) provides a link to and from Portsmouth Port and provides access for those accessing locations such as Guildford, Hindhead and Portsmouth.

4.7.5 The route as a whole is also subject to considerable development pressures both in terms of housing and future employment sites. On the M3, there is a large amount of development planned in and around Farnborough, Basingstoke and Winchester. There is also a large amount of development planned along the A3 at Guildford and the and A3(M) at Havant. As expressed by stakeholders, there was particular concern for the A3 around Guildford, M3 around Basingstoke and Winchester where delay and congestion has been experienced. Additional development could worsen performance at these locations if not managed effectively.

4.7.6 In addition to the development mentioned above and identified in Table 3.1, if successful the City Deal for Southampton and Portsmouth could create further economic growth, as well as the development set out by the LEP in their Strategic Economic Plan, there will be greater demand for travel and impact on the SRN.

Addressing capacity challenges before 2021

4.7.7 Current capacity issues have been identified within the route and some of them are being addressed. However, more evidence is required to assess the extent to which these improvements will mitigate the capacity challenges faced by 2021.

4.7.8 Our customers currently experience delays on the M3 north of Junction 4a. The committed Smart Motorway between M3 Junctions 4a to 2 will assist in alleviating this delay and congestion as well as assist in accommodating the planned development in and around Farnborough.

4.7.9 Congestion and delay is also experienced at Basingstoke M3 Junction 6 (Black Dam). There is a committed Pinch Point Programme scheme for this junction planned to begin construction in 2014 and conclude by

March 2015. It is expected that this scheme will relieve the current delay experienced and assist further development in coming forward.

4.7.10 There are also aspirations for Smart Motorways on the M3 between Junctions 9-14 and this is highlighted in the HM Treasury Investing in Britain's Future report. The Agency is aware that this will lead to a gap in Smart Motorways between M3 Junctions 4a-9, which could affect costumer experience.

4.7.11 Whilst the south of the A3 and A3(M) does not suffer from large delays compared to the rest of the route, the A3 around Guilford suffers from delay and the lowest speeds within the route. However, at present there are no planned improvements in the area. There are committed junction improvements to the A3 at Ham Barn, which is currently a pinch point of the route, but the junction will still remain at grade.

Other capacity challenges before 2021

4.7.12 As described above, there are a number of growth areas identified above which will place further pressure on the network as a result of increased demand for housing and jobs, and the issues concerned with trying to accommodate for this route. Whilst the Agency has a number of committed and pipeline schemes identified, the current programme is not likely to be sufficient to accommodate the planned levels of growth.

4.7.13 Key challenges to the route which will remain include the following. These were also identified as part of the stakeholder engagement events:

- Capacity on the A3 around Guildford
- Capacity and journey time reliability at the M3 Junction 9
- Capacity on the M3 Junction 9 (Winchester) to junction 14 (Southampton)
- Bottleneck at the A3, namely Ham Barn which will remain at grade following Pinch Point Programme improvement
- On-going interaction between SRN and local roads on M3 Junctions 3 (Bagshot), 11 (Winchester), 12 and 13 (Chandlers Ford)

Operational challenges before 2021

4.7.14 Traffic Officer Service (TOS) is not provided in the A3, increasing the time required to react to incidents on the road. As it has been identified this road currently suffers from reliability issues and TOS could have a positive impact in this sense.

Asset condition challenges before 2021

4.7.15 Limited funding for maintenance means that the Agency is working on a reactive rather than proactive basis. Most of the route was constructed over 30 years ago and it is facing increasing pressures from developments and the climate change. All these factors mean that

urgent repairs are likely to become more frequent if the same renewal and maintenance approach is used, raising overall costs.

Safety challenges before 2021

4.7.16 In section 2.2 key safety issues existing along the route have been identified. Especially sensitive sections are M3 and A3 in their approaches to M25 as well as A3 around Guildford.

Social and environment challenges before 2021

4.7.17 The route runs across a high quality area in terms of environment, including a National Park and an Area of Outstanding Natural Beauty. Any possible environmental impacts caused by traffic growths will need to be mitigated. Several noise issues and localised air quality issues are being experienced and will need to be addressed.

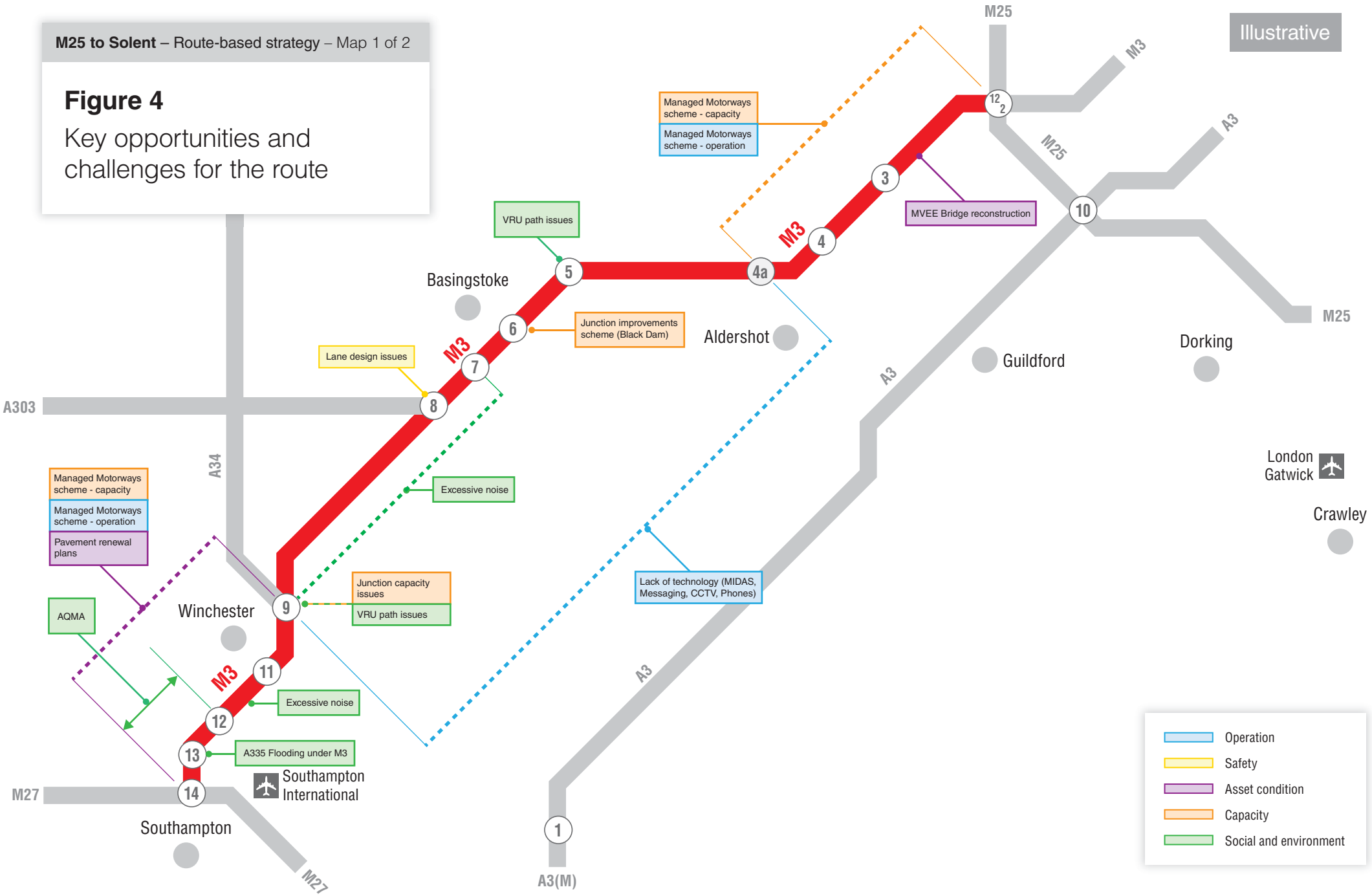
4.7.18 Regarding vulnerable road users, key challenges will be to improve the current cycling and pedestrian routes where issues have been detected and provide new safe routes to meet the main desire lines.

4.7.19 Between 2021 and 2030 further development growth is expected in the route area, together with increased port and airport activity. The amount of growth forecasted is unlikely to be coped with by the route without great capacity enhancements and we will need to seek opportunities to minimise the impact of additional demand or capacity on communities and the environment.

M25 to Solent – Route-based strategy – Map 1 of 2

Figure 4

Key opportunities and challenges for the route

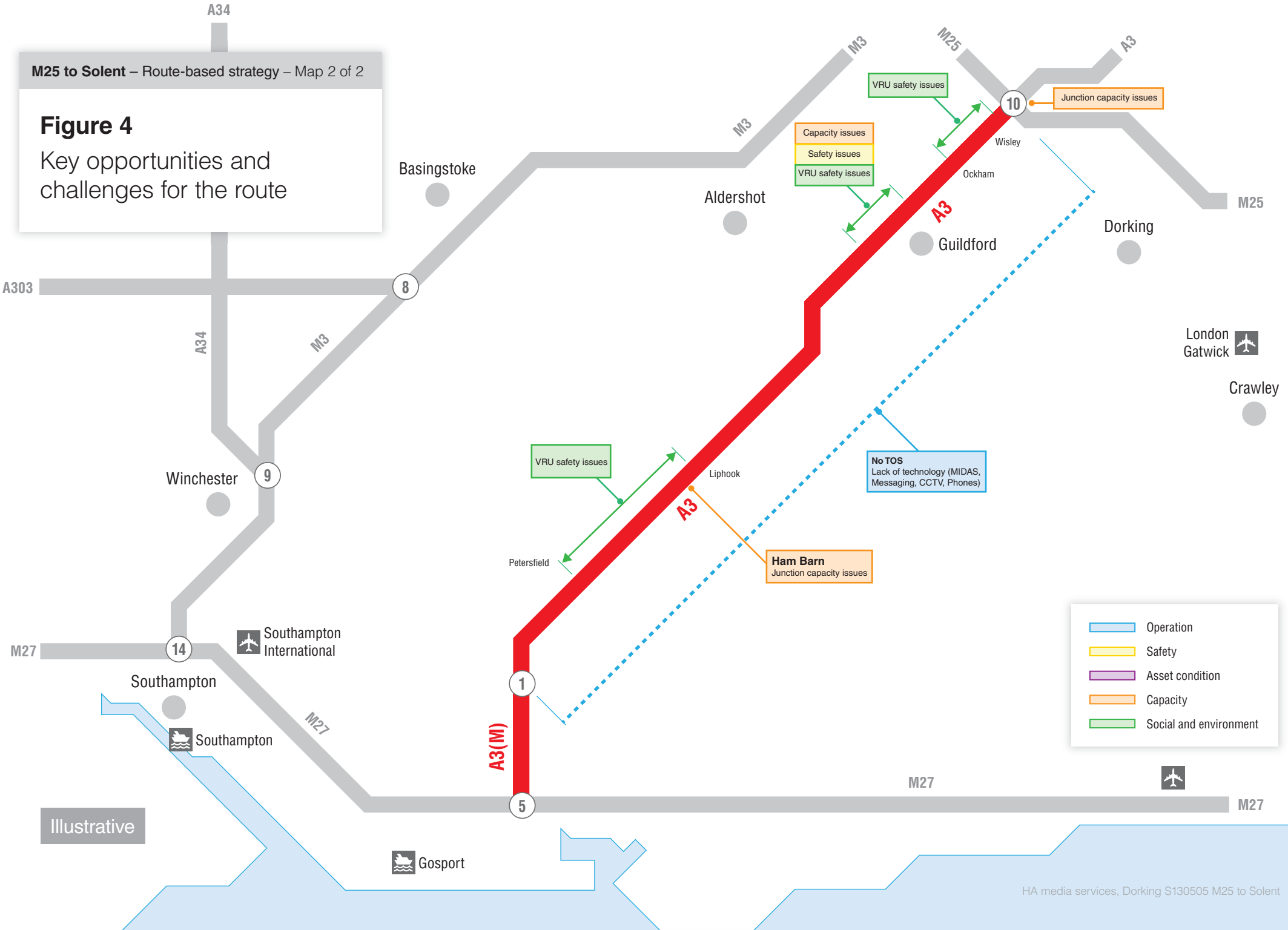


HA media services, Dorking S130505 M25 to Solent

M25 to Solent – Route-based strategy – Map 2 of 2

Figure 4

Key opportunities and challenges for the route



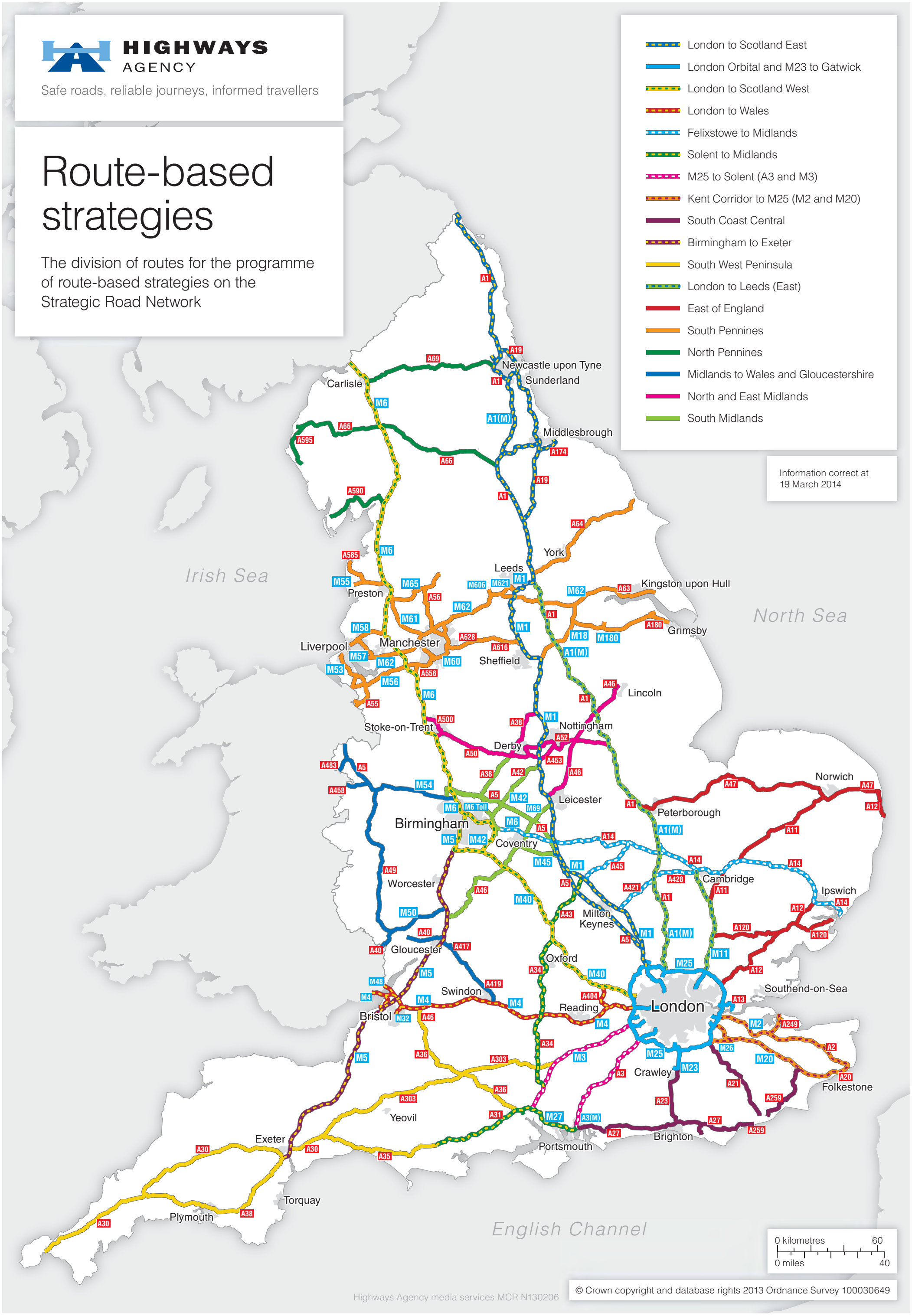
HA media services, Dorking S130505 M25 to Solent

HIGHWAYS AGENCY

Safe roads, reliable journeys, informed travellers

Route-based strategies

The division of routes for the programme of route-based strategies on the Strategic Road Network



Highways Agency media services MCR N130206

Appendix B Glossary

Abbreviation	Description
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
CCTV	Close Circuit Television
DEFRA	Department of the Environment, Food and Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EM3	Enterprise M3
HGV	Heavy Goods Vehicle
HRA	Hot Rolled Asphalt
KSI	Killed or Seriously Injured
LA	Local Authority
LEP	Local Enterprise Partnership
LNMS	Local Network Management Scheme
LNR	Local Nature Reserve
MAC	Managing Agent Contractor
MIDAS	Motorway Incident Detection and Automated Signalling
NCN	National Cycle Network
NNR	National Nature Reserve
NO_2	Nitrogen Dioxide
PIC	Personal Injury Collision
PIcrit	Critical Element Condition Index
PPP	Pinch Point Programme
RAMSAR	Wetland of International Importance
RBS	Route Based Strategy
RCC	Regional Control Centre
SAC	Special Area of Conservation
SCI	Structure Condition Index
SEP	Strategic Economic Plan
SPA	Special Protection Area
SRN	Strategic Road Network
SSI	Site of Scientific Interest
s278	Section 278 Agreement
TDM	Traffic Demand Management
TOS	Traffic Officer Service
TSCS	Thin Surface Course System
VMS	Variable Message Sign
VRU	Vulnerable Road User

Appendix C Stakeholder involvement

Organisation	Contact Name	Provided Input
Campaign for National Parks	Ruth Bradshaw	Yes
Department for Transport	Maureen Pullen	
Dorset County Council	Andy Shaw	
Eastleigh Borough Council	Ed Vokes	
Eastleigh Borough Council	Cllr David Airey	
Enterprise M3 LEP	Mike D'Alton (PB)	
Enterprise M3 Local Transport Body	Kevin Travers (Hants CC)	Yes
Gatwick Airport Ltd.	Richard Higgins	Yes
Guildford Borough Council	James Palmer	Yes
Guildford Borough Council	Donald Yell	Yes
Hampshire and Isle of Wight Local Nature Partnership	Cliver Chatters	
Hampshire County Council	Adrian Gray	
Hampshire County Council	Keith Wilcox	
Hampshire County Council	Dominic McGrath	Yes
Hampshire County Council	David Wilson	
Hampshire County Council	James Gagg	Yes
Hampshire County Council	Stephen Gee	Yes
Heathrow Airport Ltd.	Chris Joyce	Yes
Highways Agency	Antony Noble	Yes
Highways Agency	Andrew Rattan	Yes
Highways Agency	Lyn Salmon	Yes
Poole BC	Nigel Hutton	
Portsmouth City Council	Felicity Tidbury	
Runnymede District Council	Georgina Pacey	Yes
Rushmoor Borough Council	Jim Pettitt	
Rushmoor Borough Council	Roland Dibbs	
Solent LEP	Stuart Baker (Hants CC)	Yes
Solent LEP	Russell Kew	Yes
Southampton City Council	Frank Baxter	
Surrey County Council	Lyndon Mendes	Yes
Surrey County Council	Iain Reeve	
SUSTRANS	Nick Farthing	
Test Valley Borough Council	Annie Tomlinson	Yes
Waverley Borough Council	Paul Falconer	Yes
Woking Borough Council	Ernest Amoako	
Woking Borough Council	Terry De Sousa	Yes

If you need help using this or any other Highways Agency information, please call **0300 123 5000*** and we will assist you.

This document is also available on our website at www.highways.gov.uk

If you have any enquiries about this document email **ha_info@highways.gsi.gov.uk** or call **0300 123 5000***.
Please quote the Highways Agency publications code PR170/13
* Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls. These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.

Highways Agency media services Dorking Job number S130643

GOV.UK