HIGHWAYS AGENCY

Safe roads, reliable journeys, informed travellers

M25 to Solent Route Strategy Evidence Report Technical Annex

April 2014

An executive agency of the Department for Transport

Document History

Technical annex to 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
4	17/03/2014	Fourth Draft	Philip Sheppard	Simon Jones
3	31/01/2014	Third Draft	Philip Sheppard	Simon Jones
2	16/01/2014	Second Draft	Philip Sheppard	Simon Jones
1	17/12/2013	First Draft	Philip Sheppard	Simon Jones

Table of Contents

Tables

Charts

Figures

Part A Supporting evidence

A1 Introduction

A1.3 Background

This section is intentionally blank

A1.2 The scope of the stage 1 RBS evidence report

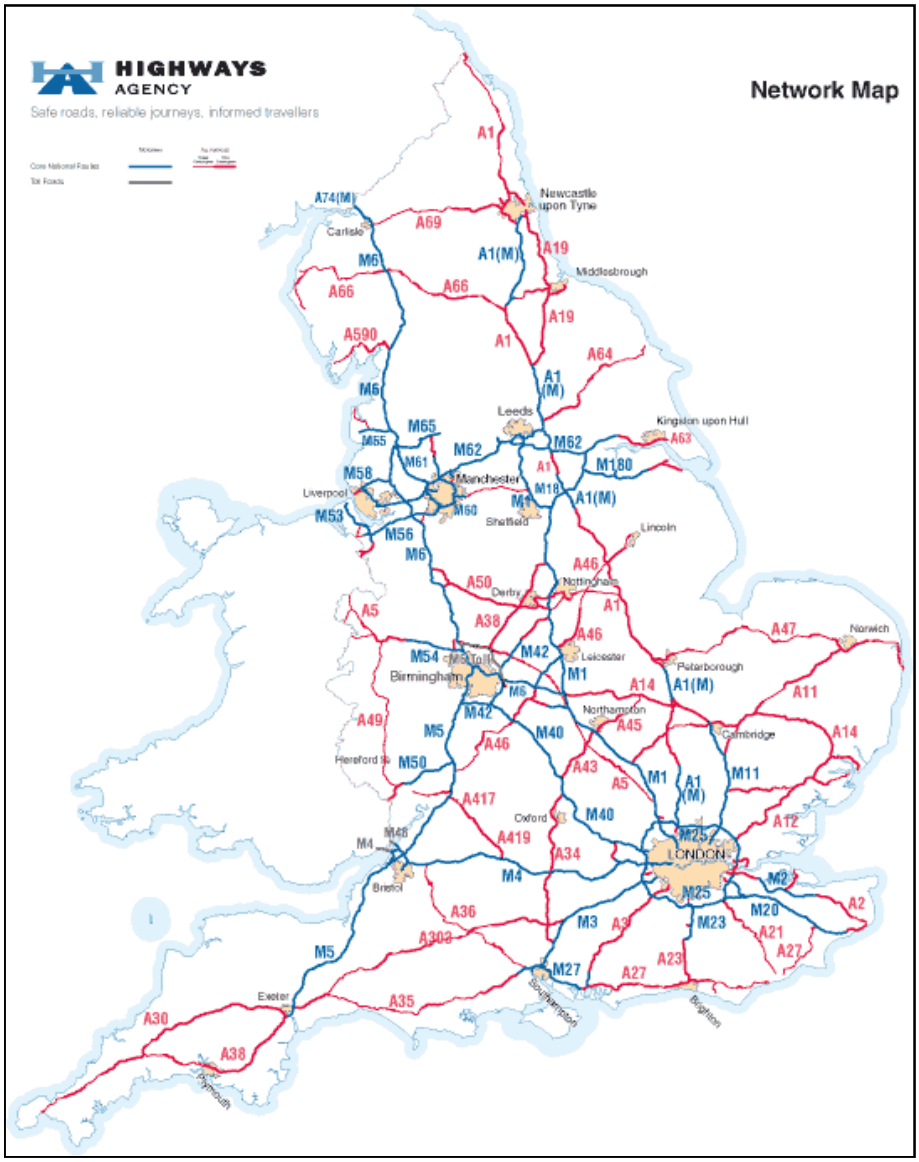
This section is intentionally blank

A1.3 Route description

1.3.4 – 1.3.6: Road classification

The following map shows the Strategic Road Network (SRN), which is formed by motorways (coloured blue) and trunk roads (coloured red). As it indicates, the M3 and A3(M) are classified as motorways, whereas the A3 is a trunk road.

Figure A1: Strategic Road Network map



The European Agreement on Main International Traffic Arteries defined the so-called E-roads, forming a network of corridors across Europe considered to have an international importance [C1.3a]. On the M25 to Solent route, the M3 between A34 and M27 is the only section belonging to the International European Road Network. This section of the M3 is part of the E05 route, which goes from Scotland the South of Spain, running across the West of England and France.

Figure A2: European routes in Great Britain

Sourced from Roads UK on the 12th of December 2013 [C1.3b]

1.3.9: Traffic composition

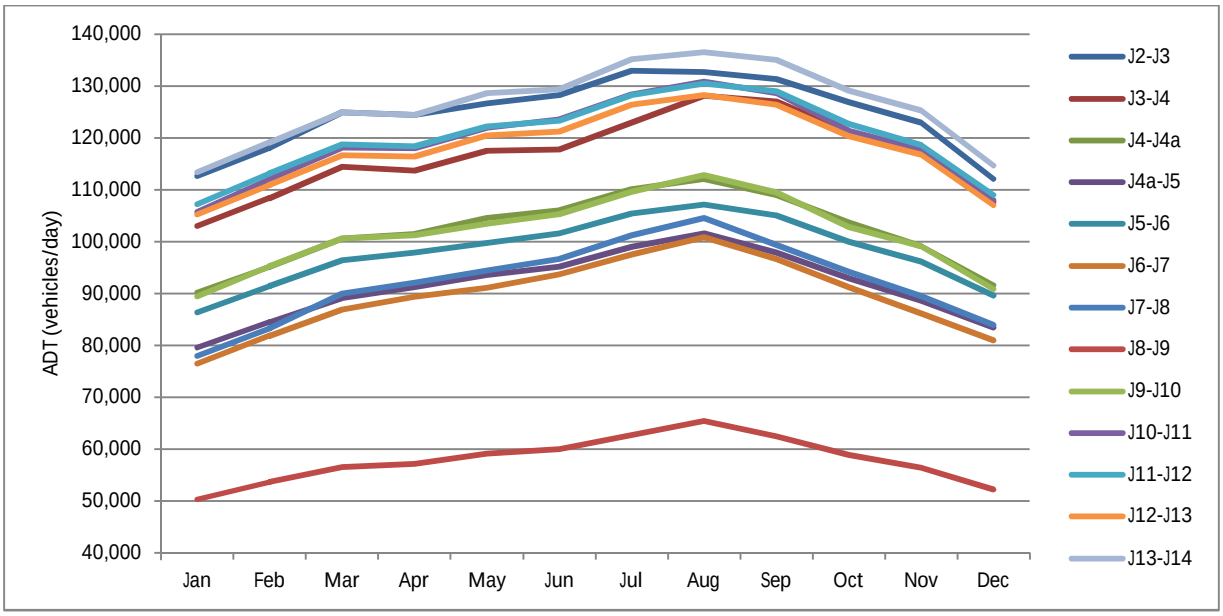
Supporting evidence is provided in section A2.1 of this Technical Annex.

1.3.11: Traffic evolution throughout the year

The following charts provide the monthly Average Daily Traffic (ADT) for different sections of the M25 to Solent route during 2012. The data supporting these figures are the automatic vehicle counts made by the Highways Agency (HA) on different sites along the M3, A3 and A3(M).

As it can be seen in the chart below, in 2012 almost all the sections of the M3 registered the highest ADT in August, with the only exception of the section between Junctions 2 and 3, where the peak was produced in July. Nevertheless ADT is clearly higher during the summer months than during winter.

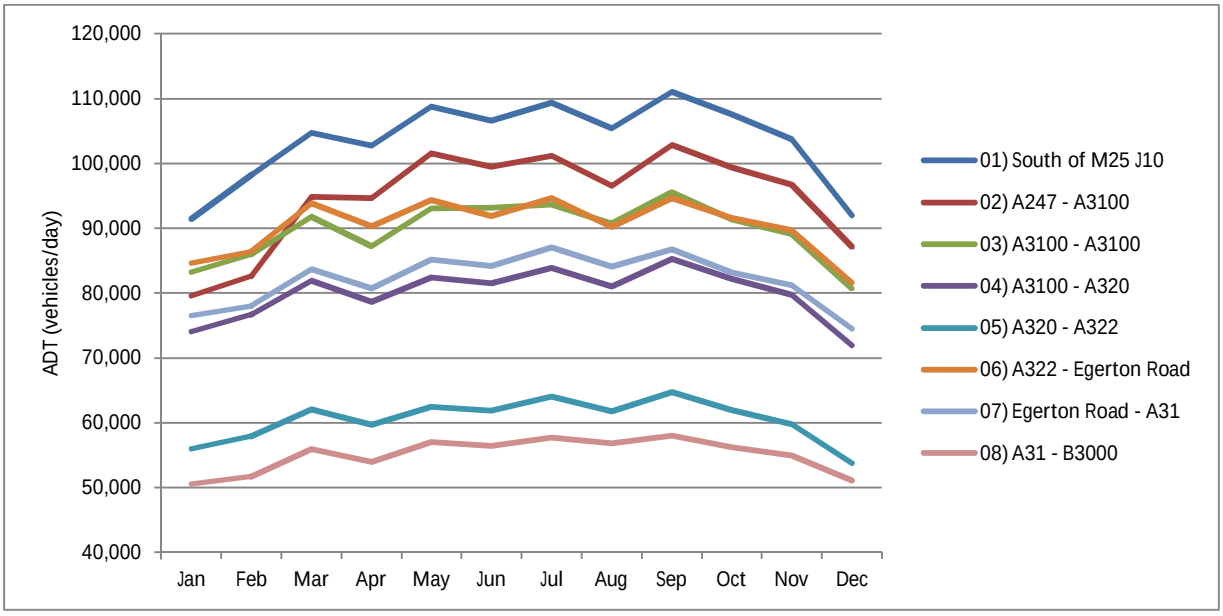
Chart A1: Monthly ADT on the M3 (2013)



Regarding the A3-A3(M), ADT data is displayed in two charts to indicate how seasonality is clearly different between the northern sections and southern sections of this corridor:

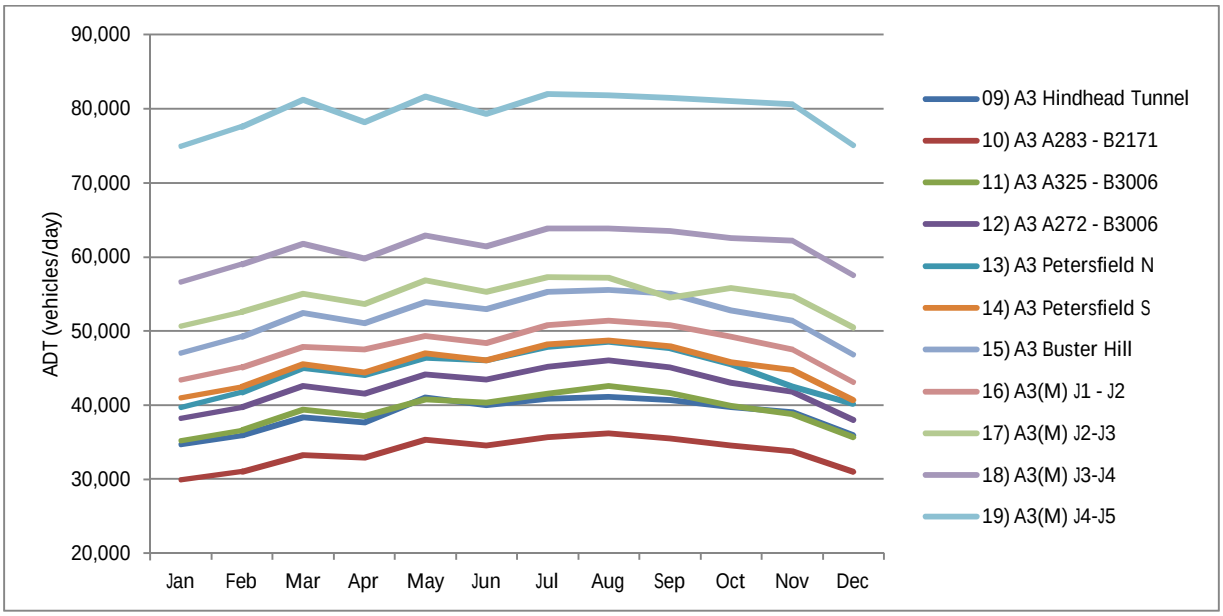
- On the northern sections of the corridor, between the M25 and B3000 (Compton), the highest ADTs were measured in the months of July and September, with a low during August.

Chart A2: Monthly ADT on the A3-A3(M) (northern sections, 2013)



- The sections between the Hindhead Tunnel and A3(M) Junction 2 had the highest ADTs in August, with a similar profile to the M3 sections. The southernmost sections of the A3(M), between Junction 2 and the M27, had their highest ADTs in July, but remained practically the same in August.

Chart A3: Monthly ADT on the A3-A3(M) (southern sections, 2013)



A2 Route capability, condition and constraints

A2.1 Route performance

2.1.11 – 2.1.12: Traffic composition

The two following tables indicate the percentage of goods vehicles in the different sections of the M3 and A3-A3(M) respectively.

Table A1: Percentage of goods vehicles on the M3 (1 April to 31 March 2013)

Rank	Location	% Goods Vehicles	National Rank
1	Between J9 and J10	26.8%	214
2	Between J10 and J9	15.9%	939
3	Between J11 and J10	15.1%	1067
4	Between J10 and J11	14.5%	1147
5	Between J12 and J13	14.4%	1154
6	Between J11 and J12	14.2%	1182
7	Between J13 and J12	14.2%	1193
8	Between J7 and J6	14.1%	1198
9	Between J6 and J5	14.0%	1234
10	Between J14 and J13	13.9%	1247
11	Between J12 and J11	13.9%	1260
12	Between J4A and J5	13.6%	1299
13	Between J5 and J4A	13.3%	1348
14	Between J9 and J8	13.1%	1378
15	Between J8 and J9	12.8%	1426
16	Between J4 and J3	12.4%	1502
17	Between J6 and J7	12.3%	1512
18	Between J2 and J3	12.3%	1513
19	Between J7 and J8	12.3%	1523
20	Between J3 and J4	12.0%	1575
21	Between J8 and J7	12.0%	1579
22	Between J4 and J4A	11.9%	1595
23	Between J5 and J6	11.8%	1606
24	Between J3 and J2	11.6%	1644
25	Between J4A and J4	10.6%	1736
26	Between J13 and J14	10.2%	1778

Table A2: Percentage of goods vehicles on the A3-A3(M) (1 April to 31 March 2013)

Rank	Location	% Goods Vehicles	National Rank
1	A3 between A247 and M25 J10	14.4%	1153
2	A3 between A333 and A325	12.8%	1427
3	A3 between A325 and A333	12.7%	1450
4	A3 between A272 and A272	11.8%	1605
5	A3 between A272 and A325	11.7%	1627
6	A3(M) between J1 and J2	11.7%	1629
7	A3 between A333 and A283	11.7%	1632
8	A3 between A272 and A272	11.6%	1643
9	A3 between A325 and A272	11.5%	1657
10	A3 between A283 and A333	11.1%	1701
11	A3 between A3(M) J1 and A272	10.9%	1716
12	A3 between M25 J10 and A247	10.6%	1742
13	A3 between A3100 and A320	10.5%	1751
14	A3(M) between J3 and A3(M)	10.4%	1752
15	A3 between A320 and A3100	10.4%	1758
16	A3 between A3100 and A3100	10.4%	1759
17	A3 between A320 and A322	10.3%	1764
18	A3(M) between J2 and J1	10.2%	1776
19	A3(M) between J2 and J3	10.2%	1777
20	A3 between A272 and A3(M) J1	10.1%	1783
21	A3 between A31 and A322	10.1%	1785
22	A3 between A283 and A31	10.0%	1788
23	A3 between A322 and A31	10.0%	1792
24	A3(M) between J3 and J4	9.9%	1808
25	A3 between A322 and A320	9.8%	1810
26	A3(M) between J5 and J4	9.5%	1849
27	A3(M) between J4 and J5	9.2%	1874
28	A3 between A247 and A3100	9.1%	1890
29	A3 between A31 and A283	8.5%	1927
30	A3 between A3100 and A247	8.2%	1940
31	A3 between A3100 and A3100	8.2%	1940

2.13-2.14, Table 2.2: Journey time reliability

The following table lists the ten worst sections of the route in terms of journey time reliability, which is measured by the On-Time Reliability Measure (ORTM). This is provided alongside the Average Anual Daily Traffic (AADT) and the percentage of Goods Vehicles using these sections. The purpose is to provide additional information to the OTRM data already provided in Table 2.2 of the Evidence Report.

Table A3: Ten least reliable journey-time locations on the route (1 April to 31 March 2013)

Rank	Location	OTRM	AADT (vehicles per day)	% Goods vehicles
1	A3 between A320 and A322	55.10%	29,779	10.31%
2	A3 between A322 and A320	60.54%	30,334	9.83%
3	A3 between A272 and A272	66.68%	22,275	11.85%
4	A3 between A3100 and A320	67.38%	39,425	10.45%
5	A3 between A322 and A31	67.86%	40,853	9.99%
6	A3 between A3100 and A3100	69.12%	49,930	8.21%
7	A3(M) between J2 and J1	69.17%	24,402	10.20%
8	M3 between J11 and J10	69.45%	59,149	15.09%
9	A3 between A272 and A272	69.56%	22,448	11.60%
10	A3(M) between J3 and J4	69.70%	30,111	9.85%

2.1.16 – 2.1.20, Figure 2.1: Peak hour speeds

The source of data for Figure 2.1 of the Evidence report and the series of comments on peak-hour speed has been the map prepared by the HA for the Stakeholder Engagement Events [C2.1a].

2.1.22 – 2.1.27, Figure 2.2: Potential benefits of congestion delay

Figure 2.2 and the comments about delay on the route make reference to the Vehicle Hours Delay map prepared by the HA for the Stakeholder Engagement event [C2.2b].

2.1.24: High levels of traffic joining the M3 northbound between Junctions 6 and 4a

The Asset Manager for Area 3 mentioned that it is believed that one of the 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.

A2.2 Road Safety

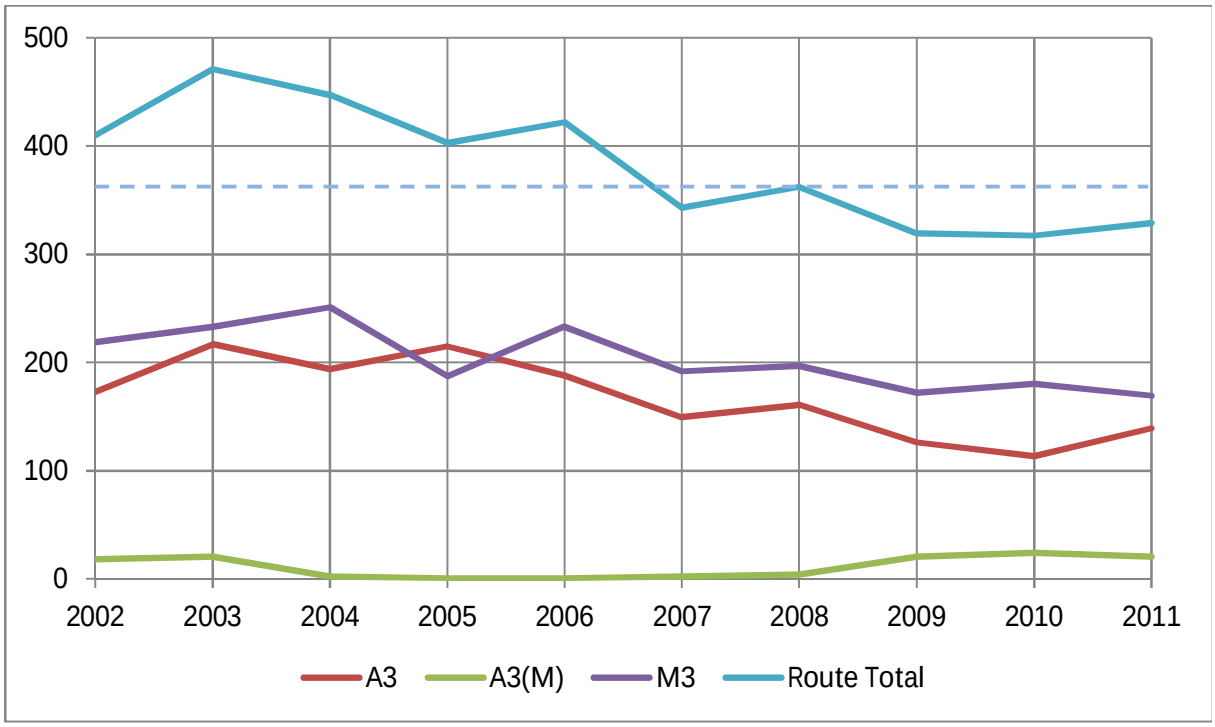
2.2.4: Total number of personal Injury Collisions (PICs) on the route (2009-2011)

Enterprise Mouchel is the Area 3 Managing Agent Contractor (MAC). It is the source of this road safety data [C2.2a].

2.2.4 – 2.2.6: Annual number of PICs (2002-2011)

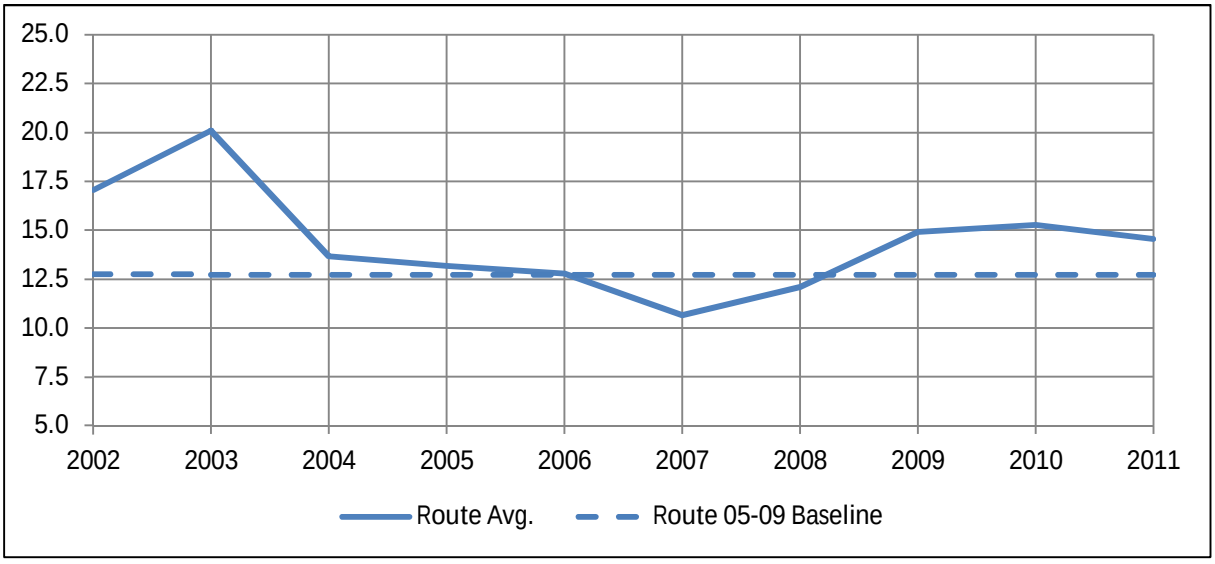
The following chart indicates the evolution of the annual number of PICs on the route, broken down by road (M3, A3 and A3(M)), as well as the 2005-2009 baseline (dashed).

Chart A4: Number of PICs



The chart below shows the annual number of PICs per 100 million vehicle miles for 2002-2011.

Chart A5: Number of PICs per 100 vehicle miles



The figures supporting the two previous charts can be found in the HA's 2013 South East Regional Safety Report [C2.2b].

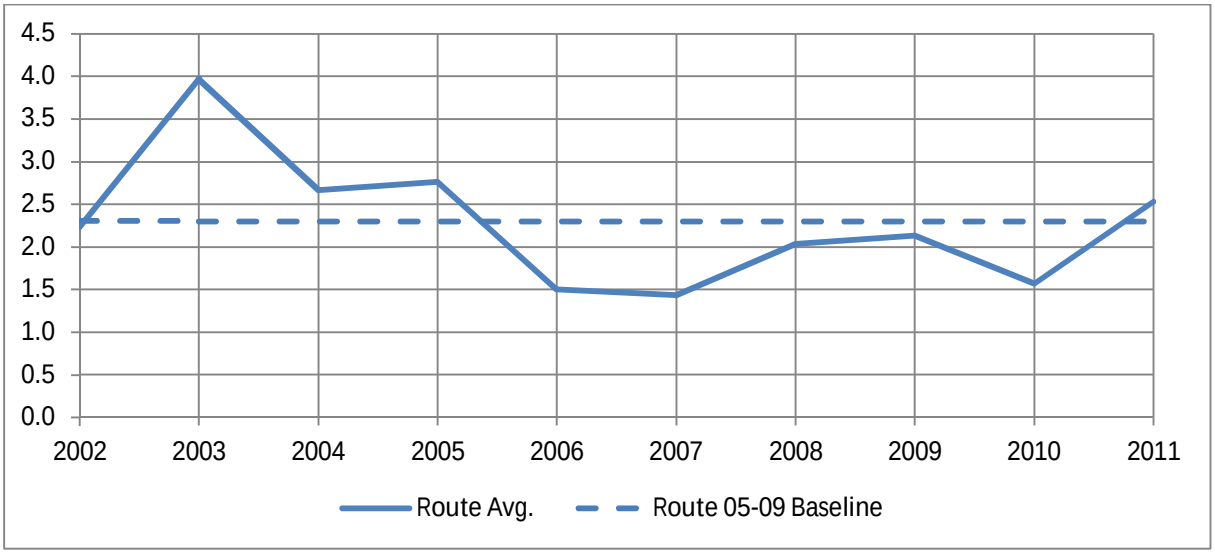
Table 2.3: Collision and casualty severity

The data within this table was provided by Enterprise Mouchel [C2.2a].

2.2.6: Number of Killed or Seriously Injured (KSI)

The following chart provides the annual number of KSI for the 2002-2011 period. It is also based on the HA's 2013 South East Regional Safety Report [C2.2b].

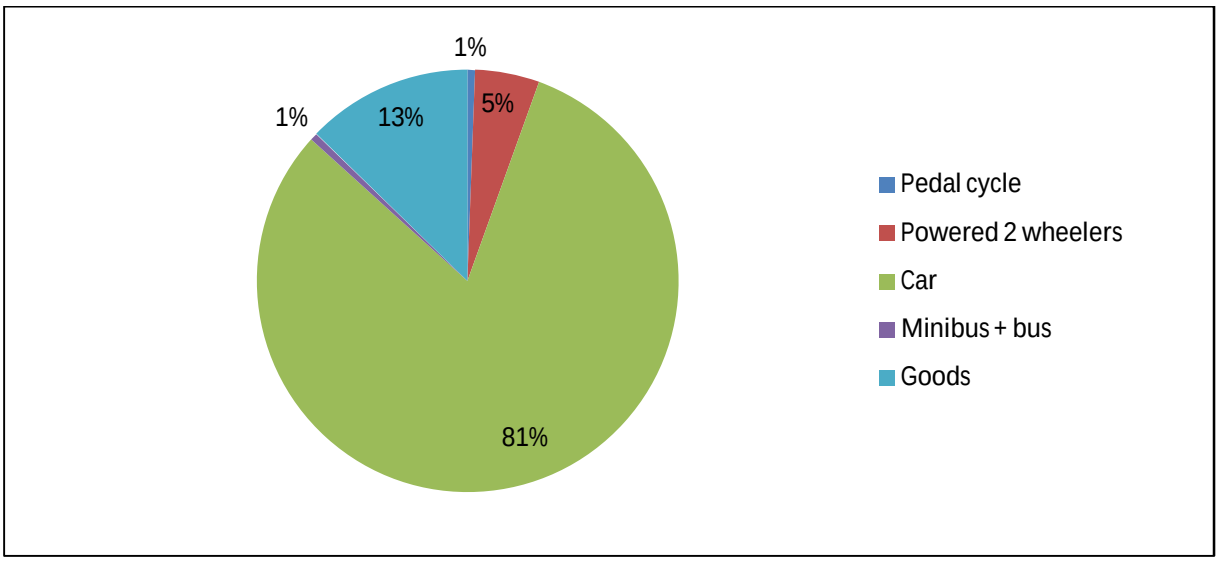
Chart A6: Number of KSI per 100 million vehicle miles



2.2.7-2.2.10: Vehicle type

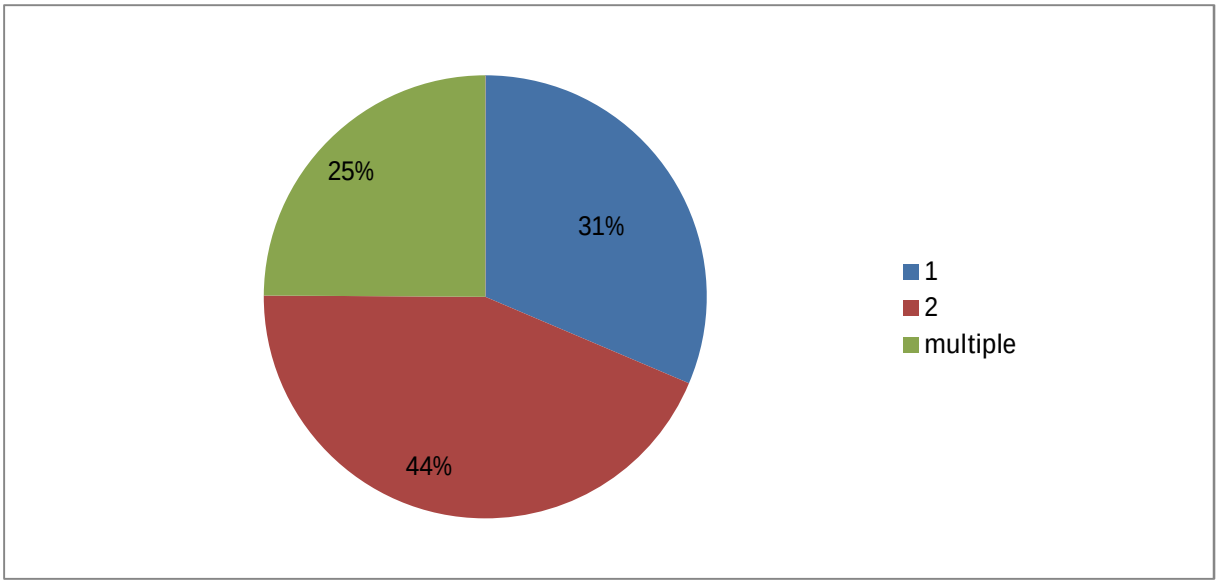
The chart below indicates the types of vehicles involved in PICs (by percentage), during the 2009-2011 period.

Chart A7: Vehicle involvement in PICs (2009-2011)



The next chart shows the breakdown of PICs occurring on the route during that same period by the number of vehicles involved.

Chart A8: Percentage of PICs by number of vehicles involved (2009-2011)



The data behind both previous charts was provided by Enterprise Mouchel [C2.2a].

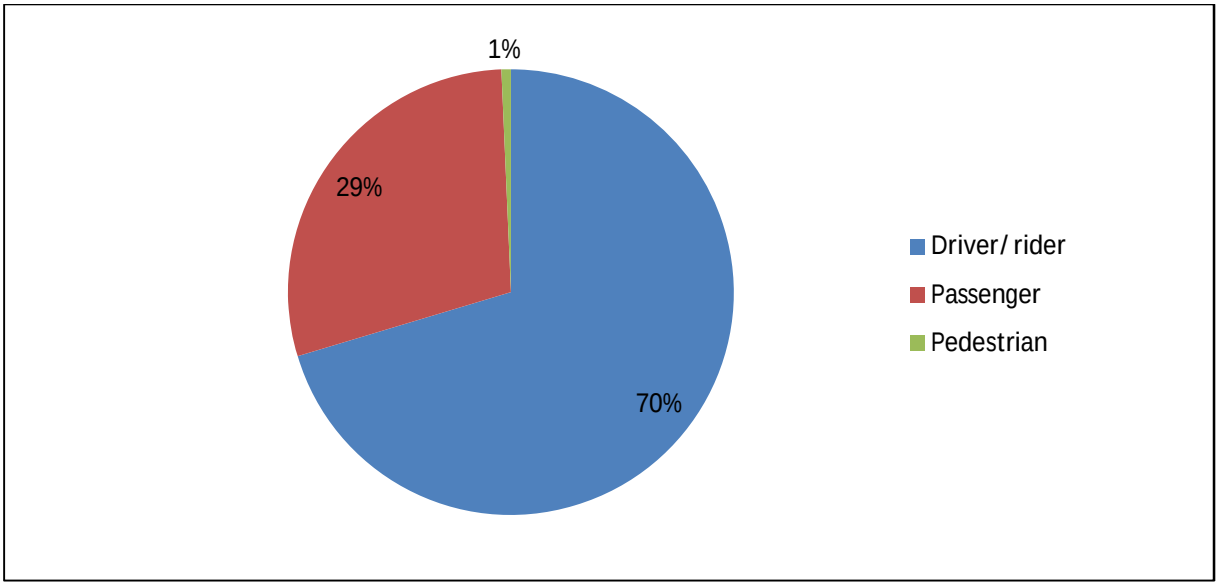
Table 2.4: Age of casualty

The age of casualty data behind Table 2.4 of the Evidence Report was provided by Enterprise Mouchel [C2.2a]. It corresponds to the 2009-2011 period.

2.2.14: Makeup of casualty class

The following chart indicates the makeup of all the casualties occurred between 2009 and 2011 on the route, according to the type of road user affected. The data behind it was provided by Enterprise Mouchel [C2.2a].

Chart A9: Makeup of casualty class (2009-2011)



2.2.15-2.2.16: Environmental conditions

Enterprise Mouchel provided the data of the environmental conditions during the PICs that occurred in the 2009-2011 period [C2.2a].

2.2.17-2.2.18, Table 2.5: Causation factors

The Causation Factors for the PICs occurring on 2011 can be found on “STATS 19” on the Department for Transport website [C2.2c]. The chart below breaks down the PICs according to their causation factor/s. Table 2.5 on the Evidence report indicates what each series represents.

Chart A10: Percentage of PICs by causation factor

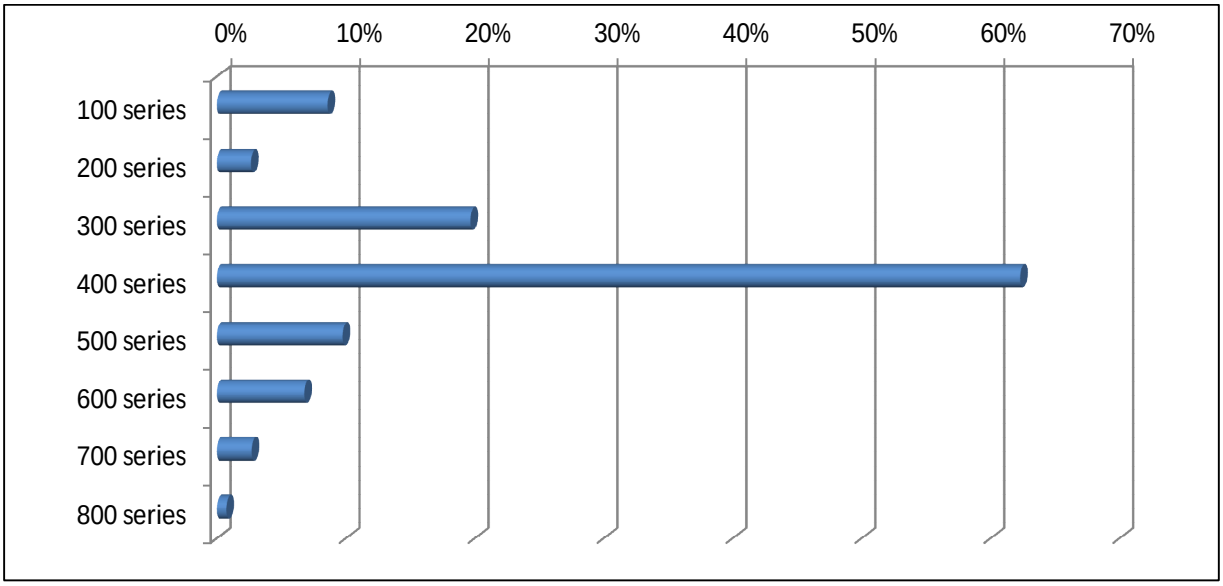


Table 2.6: Comments on rising trends

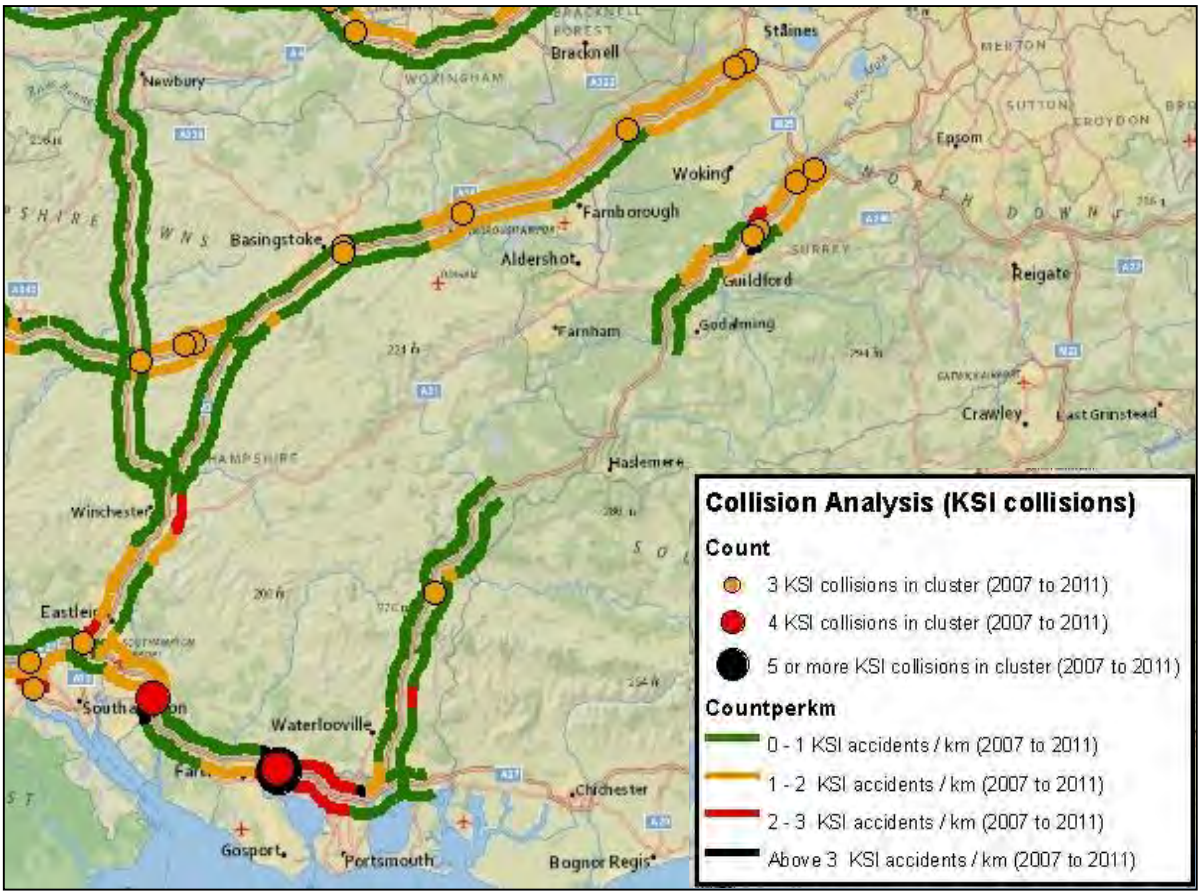
The contents of Table 2.6 of the Evidence Report have been extracted from the Draft South East Regional Safety Report 2013 [C2.2b].

2.2.20-2.2.23: Location

The Draft South East Regional Safety Report 2013 [C2.2b] describes the location of PICs and KSI accidents within the route. It has been the source of information to write this section of the Evidence Report, including the two following pairs of figures and tables.

The next figure indicates the location of the main KSI clusters on the route for the 2007-2011 period.

Figure A3: KSI clusters (2007-2011)



Further information can be found in Table A4 below, providing accident and KSI statistics for the links with more KSI per km in the route in 2009-2011. Their rank considers all the links in Area 3.

Table A4: KSI Clusters (2009-2011)

Road link location description	Direction	Length (m)	Accident Statistics (all accidents 2009 - 2011)			KSI Statistics (2009 - 2011)		
			Number	Accidents per km	Rank	Number	KSIs per km	KSI Rank
A3 between A3100 and A3100	S	1,161	8	6.89	28	2	1.72	4
M3 between J7 and J8	W	1,777	6	3.38	80	3	1.69	5
A3(M) between J1 and J2	S	1,910	8	4.19	61	3	1.57	8
A3 between A3100 and A247	N	2,310	12	5.20	45	3	1.30	12
A3 between A247 and J10	N	6,444	34	5.28	43	8	1.24	13
M3 between J9 and J10	W	2,461	16	6.50	30	3	1.22	14
M3 between J13 and J12	E	2,832	21	7.42	19	3	1.06	19
M3 between J13 and J4	W	2,962	10	3.38	81	3	1.01	23
M3 between J4A and J4	E	3,112	10	3.21	87	3	0.96	27
M3 between J2 and J3	W	11,433	79	6.91	26	11	0.96	29
M3 between J3 and J2	E	11,445	81	7.08	24	11	0.96	30
M3 between J10 and M3 J11	W	2,138	17	7.95	16	2	0.94	32
A3 between A31 and A322	N	3,230	39	12.07	2	3	0.93	33
M3 between J4 and J3	E	7,042	38	5.40	41	6	0.85	36
M3 between J11 and J11	E	1,183	2	1.69	134	1	0.85	38
A3 between A3100 and A320	S	2,390	14	5.86	38	2	0.84	39
M3 between J4A and J5	W	12,026	37	3.08	90	10	0.83	40
A3 between M25 J10 and A247	S	6,462	43	6.65	29	5	0.77	45
A3(M) between J4 and J3	N	1,312	10	7.62	18	1	0.76	47
A3 between A31 and A283	S	6,774	27	3.99	68	5	0.74	49

The following figure indicates the PIC clusters within the route for the 2007-2011 period.

Figure A4: PICs Clusters (2007-2011)

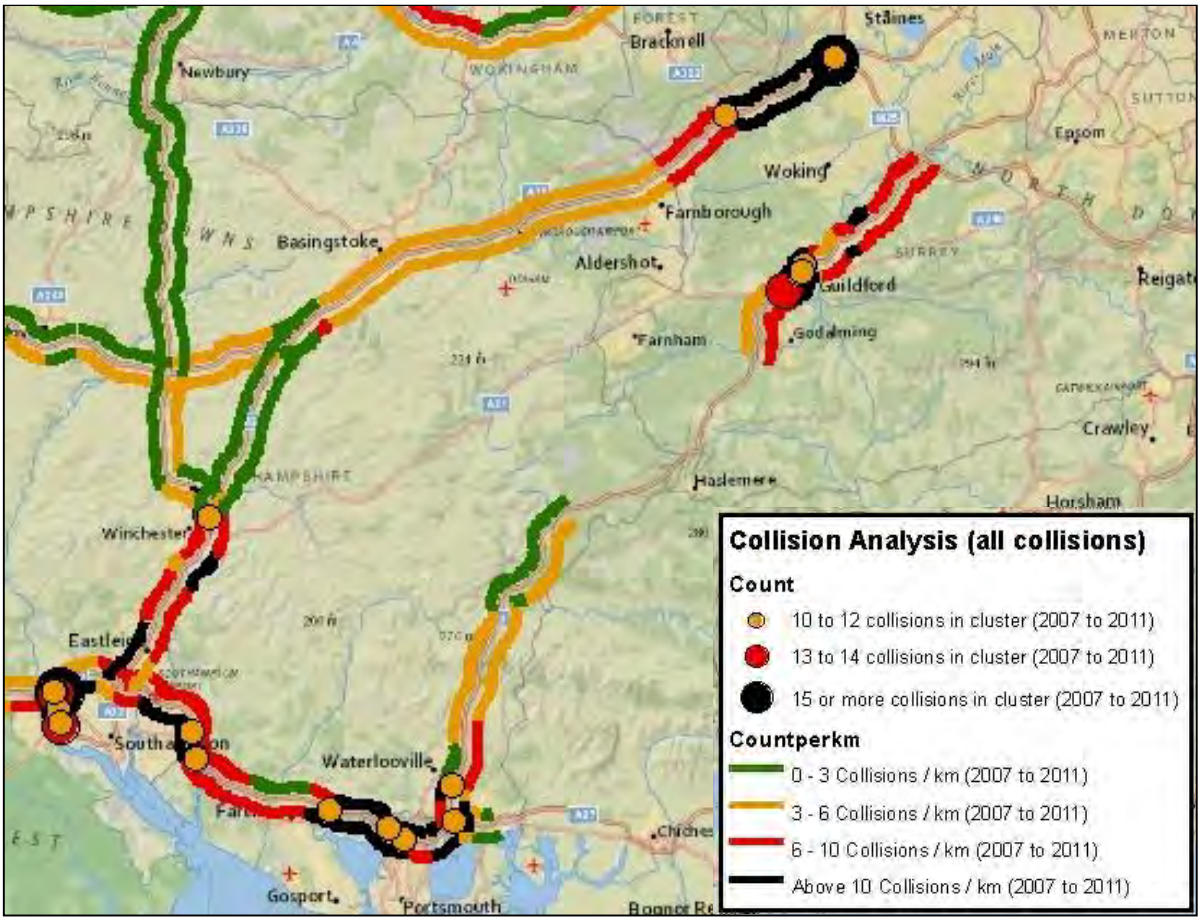


Table A5 below provides accident and KSI statistics for the route links that fall into the top 50 PIC locations in Area 3, for the 2009-2011 period.

Table A5: PICs Clusters (2009-2011)

Road Link Location Description	Direction	Link Length (m)	Accident Statistics (all accidents 2009 - 2011)			KSI Statistics (2009 - 2011)		
			Number	Accidents per km	Rank	Number	KSIs per km	KSI Rank
A3 between A31 and A322	N	3,230	39	12.07	2	3	0.93	33
A3 between A322 and A31	S	3,222	26	8.07	15	2	0.62	63
M3 between J10 and J11	W	2,138	17	7.95	16	2	0.94	32
A3(M) between J4 and J3	N	1,312	10	7.62	18	1	0.76	47
M3 between J13 and J12	E	2,832	21	7.42	19	3	1.06	19
M3 between J3 and J2	E	11,445	81	7.08	24	11	0.96	30
M3 between J2 and J3	W	11,433	79	6.91	26	11	0.96	29
A3 between A3100 and A3100	S	1,161	8	6.89	28	2	1.72	4
A3 between M25 J10 and A247	S	6,462	43	6.65	29	5	0.77	45
M3 between J9 and J10	W	2,461	16	6.50	30	3	1.22	14
M3 between M27 J4 and J13	E	2,932	19	6.48	31	1	0.34	107
A3 between A322 and A320	N	1,595	10	6.27	32	1	0.63	61
A3 between A3100 and A320	S	2,390	14	5.86	38	2	0.84	39
A3(M) between J4 and AJ5	S	2,109	12	5.69	39	1	0.47	86
M3 between J4 and J3	E	7,042	38	5.40	41	6	0.85	36
A3 between A3100 and A3100	N	1,118	6	5.37	42	0	0.00	141
A3 between A247 and M25 J10	N	6,444	34	5.28	43	8	1.24	13
M3 between J11 and J11	W	1,535	8	5.21	44	1	0.65	58
A3 between A3100 and A247	N	2,310	12	5.20	45	3	1.30	12
A3(M) between J2 and J1	N	1,928	10	5.19	46	0	0.00	171
A3(M) between J5 and J4	N	2,201	11	5.00	49	1	0.45	90

Figure 2.3: Safety on the network

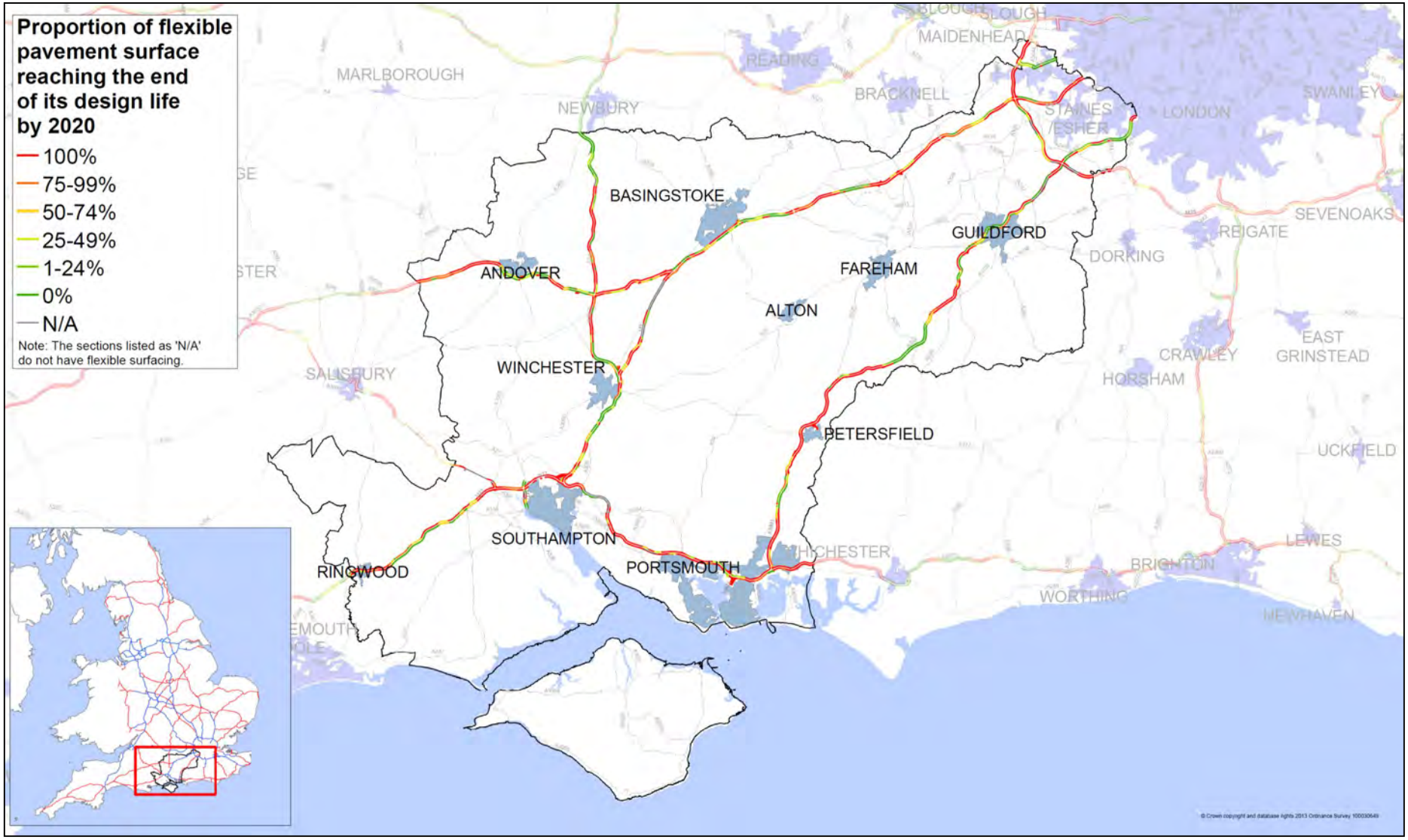
Figure 2.3 has been based on the Safety map prepared by the HA for the Stakeholder Engagement Events [C2.2d].

A2.3 Asset Condition

The Area 3 Asset Management Plan 2012-2013 [C2.3a] has been the main source for describing the current asset condition, programmed renewal and maintenance works and the expected results.

In the following map the different sections of the route have been coloured depending on the proportion of flexible pavement surface reaching the end of its design life by 2020. This map was produced by the HA for the Stakeholder Engagement Events [C2.3b].

Figure A5: Proportion of flexible pavement surface reaching the end of its design life by 2020



A2.4 Route Operation

2.4.3: Traffic Officer Service resources

The following table indicates that the Traffic Officer Service (TOS) has 293 employees, 40 vehicles and 4 outstations in the South East of England. This information was provided by the HA.

Table A6: Traffic Officer Service resources per region

Region	Headcount			Vehicle Count	Outstations Count
	On-road	RCC	Total		
North West	196	59	255	42	6
North East	128	45	173	27	5
West Midlands	136	48	184	29	5
East Midlands	69	33	102	15	3
East	211	60	271	39	6
South West	116	33	149	21	4
South East	248	45	293	40	4
Total	**1104**	**323**	**1427**	**213**	**33**

2.4.4-2.4.5: TOS levels of service

The following table indicates the properties of the TOS provided for each level of service.

Table A7: TOS levels of service

		Level of Service A	Level of Service B	Level of Service C
NTOC	**Customer information – Smart phone apps, Traffic England etc.**	✓	✓	✓
	Incident detection (virtual patrolling)	✓	✓	✓
	NTOC overview - Strategic Traffic Operations (STO)	✓	✓	✓
	Event Planning & Co-ordination (CMM)	✓	✓	✓
RCCs	**RCC co-ordination of incident management resource (Police/Contractors/TOS etc.)**	✓	✓	✓
	Control of on-road technology - ERTs, CCTV, VMS, MM etc.	✓	✓ (where available)	✓ (where available)
On Road	**National Vehicle Recovery Service (NVRS)**	✓	✓ (where available)	✓ (exceptional circumstances)

		Level of Service A	Level of Service B	Level of Service C
	Limited TOS on-road response capability (exceptional circumstances)	×	×	✓
	Partial TOS on-road response capability (when required and available)	×	✓	×
	Full TOS on-road response capability (dedicated resource)	✓	×	×

NTOC = National Traffic Operations Centre

Table A8 indicates the TOS level of service of roads M3, A3 and A3(M) according to the criteria set out in the previous table.

Table A8: TOS levels of service along the route

Road description	Length in miles	Level of service
M3	52.6	A
A3(M)	5.6	A
A3	40.3	C

2.4.8 – 2.4.10: Average lane impact duration

The following map was prepared for the Stakeholder Engagement Events [C2.4a] and it indicates the average lane impact duration of traffic incidents on the SRN. As it can be seen, no data is available for the A3, which is not covered by the TOS.

Figure A6: Average lane impact duration

2.4.15 – 2.4.16: Locations with risk of flooding

The mapping from MAGIC [C2.4b] indicates the locations with risk of flooding along the route. These have been listed in the table below, including their classification.

Table A9: Locations with risk of flooding

SL	Road	Section	Location with flooding risk	Flood warning area	Flood alert area	Flooding from river/sea (higher risk)	Flooding from river/sea (lower risk)
1	M3	J2 - J3	M3 J2 - Bridge Lane		■		■
2	M3	J2 - J3	M3 short section North of Bridge Lane	■	■		
3	M3	J2 - J3	M3 short section North of J3		■		■
4	M3	J4	A331 and Ascot - Farnham rail line underpass of M3		■		■
5	M3	J4	M3 at Junction 4		■		■
6	M3	J4 - J4a	Footpath by Cove Brook underpass of M3		■		■
7	M3	J4 - J4a	M3 between Fintry Walk FOB and Minley Rd Bridge (Farnborough)		■		■
8	M3	J4a - J5	M3 around Mallards Copse		■		■
9	M3	J4a - J5	M3 between Mallards Copse and Minley Rd Bridge (Fleet)		■	■	
10	M3	J4a - J5	M3 short section south of Minley Road Bridge			■	
11	M3	J4a - J5	M3 over River Hart		■	■	
12	M3	J4a - J5	M3 short section between Totters Ln and Holt Ln (Hook)		■	■	
13	M3	J5 - J6	M3 over Lyde River, south of Andwell Ln		■	■	
14	M3	J5 - J6	M3 short section north of Huish Ln (Old Basing)		■	■	
15	M3	J7 - J8	M3 short section at the northern end of J8				■
16	M3	J8 - J9	M3 short section by Embley Wood			■	
17	M3	J8 - J9	M3 short section between East Stratton and West Stratton	■		■	
18	M3	J8 - J9	M3 short section north of Duke Street	■			■
19	M3	J8 - J9	Chillandham Ln underpass of M3				■
20	M3	J8 - J9	M3 over River Itchen (Easton)	■			■
21	M3	J11	M3 over River Itchen (South of Winchester)	■			■
22	M3	J11	B3335 and footpath by River Itchen underpass of M3	■	■	■	
23	M3	J11 - J12	Poles Ln underpass of M3				■
24	M3	J13	A335 (by Monk's Brook) underpass of M3	■			■
25	M3	J13 - J14	M3 around Northen Copse stream			■	
26	A3	B2039 junction	B2039 - B2215 roundabout underpass of M3		■	■	
27	A3	B2039 - A247	A3 short section over Park Wood (Ripley)		■		
28	A3	B2039 - A247	A3 short section between Kiln Ln and Oldlands Copse (Send)		■		
29	A3	A247 - B2215	A3 short section north of B225 NB off-slip		■	■	
30	A3	A3100 - A3100	A3 at the A3100 NB entry		■	■	
31	A3	A3100 - A320	A3 at Riverside Park	■		■	
32	A3	A3100 - A322	A3 between Guidford City FC Stadium and Manor Rd		■	■	
33	A3	Lower Eashing - A283	A3 by Eashing Moor Corpse		■	■	
34	A3	Portsmouth Rd - French Ln	A3 by Hammer Pond (Thursley)		■	■	

SL	Road	Section	Location with flooding risk	Flood warning area	Flood alert area	Flooding from river/sea (higher risk)	Flooding from river/sea (lower risk)
35	A3	B1231 - Liphook Services	A3 over River Wey (Liphook)				
36	A3	Liphook Services - Longmoor Road	A3 by Griggsgreen Corpse (west of Liphook Services)				
37	A3	A325 - B3006	A3 short section north of Forest Rd (Greatham)				
38	A3	B3006 - Farnham Rd	A3 over River Rother (next to Ham Barn roundabout)				
39	A3	B3006 - Farnham Rd	A3 short section north of junction with Farnham Road				
40	A3	Farnham Rd junction	A3 in its junction with Farnham Road				
41	A3	Farnham Rd - A272 (North)	A3 over Ashford Stream				
42	A3	Junction with A272 (South)	Roundabout underpass of the A3 in its junction with A272 (S)				
43	A3	A272 (South) - B2070	A3 short section next to Vision Park (Petersfield)				
44	A3(M)	J1	London Road underpass of A3(M)				

2.4.17: A335 underpass of the M3

There are locations susceptible to flooding due to road drainage capacity issues. In this sense, the A335 underpass of the M3 in Junction 13 was highlighted by the Area 3 Asset Manager.

2.4.19: Links susceptible to severe weather

The route sections susceptible to severe weather have been identified using the Area 3 Severe Weather Plan [C2.4c].

A2.5 Technology

The distribution of the different technology asset types within the route has been determined using the Technology Asset Database for Areas 3, 4 and 5 [C2.5a] provided by Jason Gravell (jason.gravell@capita.co.uk) from Capita, the TechMAC for Areas 3, 4 and 5.

2.5.14: Technology asset condition

The technology asset condition is described in the Area 3 Asset Management Plan 2012-13 [C2.5b].

A2.6 Vulnerable Road Users

2.6.4: Cyclist and pedestrian accident data

The number and location of cyclist and pedestrian casualties in the UK road network is available on the CrashMap website [C2.6a].

2.6.6: Petersfield to Queen Elisabeth Country Park cycle route

The Feasibility Study Report from the Hampshire County Council (2013) indicates the proposed route, which uses part of the old A3 alignment [C2.6b].

2.6.7: National Cycle Network routes

The Sustrans website includes a map with the routes belonging to the national cycle network [C2.6c].

2.6.8: M3 Junction 9 cycle route issues

The information was provided by the Asset Manager for Area 3.

2.6.9: Odiham – Hook cycle and pedestrian route

The lack of a safe and direct cycle and pedestrian route between Odiham and Hook was raised in the Stakeholder Engagement Events. A recent article in the Basingstoke Gazzette [C2.6d] also describes the problem and mentions the disagreement with the new planned route.

A2.7 Environment

2.7.5 – 2.7.7: Air Quality Management Areas (AQMAs)

The website of the Department for Environment, Food and Rural Affairs (Defra) lists the different AQMAs declared by each Local Authority [C2.7a]. The Eastleigh Borough Council, Surrey Heath Borough Council, Waverley Borough Council and Winchester City Council websites provide further information for the four AQMAs identified in the Evidence Report [C2.7b-e].

2.7.9 – 2.7.10, Table 2.9: Relevant cultural Heritage sites around the route

The mapping from the MAGIC website [C2.7f] provides the location of:

- Listed buildings
- World heritage sites
- Scheduled monuments
- Registered Parks and Gardens
- Registered Battlefields

A 500 metres buffer around the route has been used to determine the list of sites around the route.

2.7.11 – 2.7.13: Other cultural heritage sites

Regarding the English Heritage, Churches Conservation Trust and National Trust sites around the route, they have been found in the respective websites [C2.7g, C2.7h, C2.7i].

2.7.15 – 2.7.16, Table 2.10: Statutory designated nature conservation sites

Statutory designated nature conservation sites around the route have been identified using the mapping from MAGIC [C2.7f]. The following list indicates the name of the sites and their location around the route.

Ramsar:

- South West London Waterbodies. M3 J2
- Thursley and Ockley Bogs. A3 Thursley
- Chichester and Langstone Harbours. A3(M) junction with A27

Special Areas of Conservation:

- Thursley, Ash, Pirbright and Chobham. M3 J2 to J3, M3 J3, A3 Thursley
- River Itchen. M3 J9, J10-11
- Woolmer Forest. A3 East of Longmoor
- Butser Hill. A3 South of Petersfield
- Solent Maritime. A3(M) junction with A27

Special Protection Areas:

- South West London Waterbodies. M3 J2
- Thames Basin Heaths. M3 J2 to J3, M3 J3, A3 junction with M25
- Thursley, Hankley and Frensham Commons. A3 Thursley
- Wealden Heaths Phase II. A3 around Hindhead
- Chichester and Langstone Harbours. A3(M) junction with A27

Sites of Specific Scientific Interest:

- Thorpe Park No.1 Travel Pit. M3 J2
- Chobham Common. M3 J2-3
- Colony Bog & Bagshot Heath. M3 J3
- Foxlease and Ancells Meadows. M3 J4a
- Hook Common and Bartley Heath. M3 J5
- Butter Wood. M3 J5
- River Itchen. M3 J9, J10-11
- St Catherine's Hill. M3 J10-11
- Ockham and Wisley Commons. A3 junction with M25
- Charterhouse to Eashing. A3 Godalming
- Thursley, Hankley and Fresham Commons. A3 Thursley
- Devil's Punch Bowl. A3 North of Hindhead
- Bramshott and Ludshott Commons. A3 South of Hindhead
- Woolmer Forest. A3 East of Longmoor
- Butser Hill. A3 South of Petersfield
- Langstone Harbour. A3(M) junction with A27

National Nature Reserves:

- Chobham Common. M3 J2-3
- Thursley. A3 Thursley
- Butser Hill. A3 South of Petersfield

Local Nature Reserves:

- Elvetham Heath. M3 J4a-5
- Shawford Dawn. M3 J11-12
- Ockham and Wisley. A3 junction with M25
- Riverside Park. A3 Guildford
- Rodborough Common. A3 Milford
- Oxenbourne Down. A3 South of Petersfield
- Catherington Lith. A3(M) J1
- Hazleton Common. A3(M) J2

2.7.19 – 2.7.20: Landscape locations

The Surrey Hills Area of Outstanding Natural Beauty and the South Downs National Park have been identified using the mapping from the MAGIC website [C2.7f].

2.7.23 – 2.7.25: Location of noise important areas

On its website Defra provides the maps with the location of Noise Important Areas, differentiating between First Priority Locations and the Other Important Areas [C2.7a].

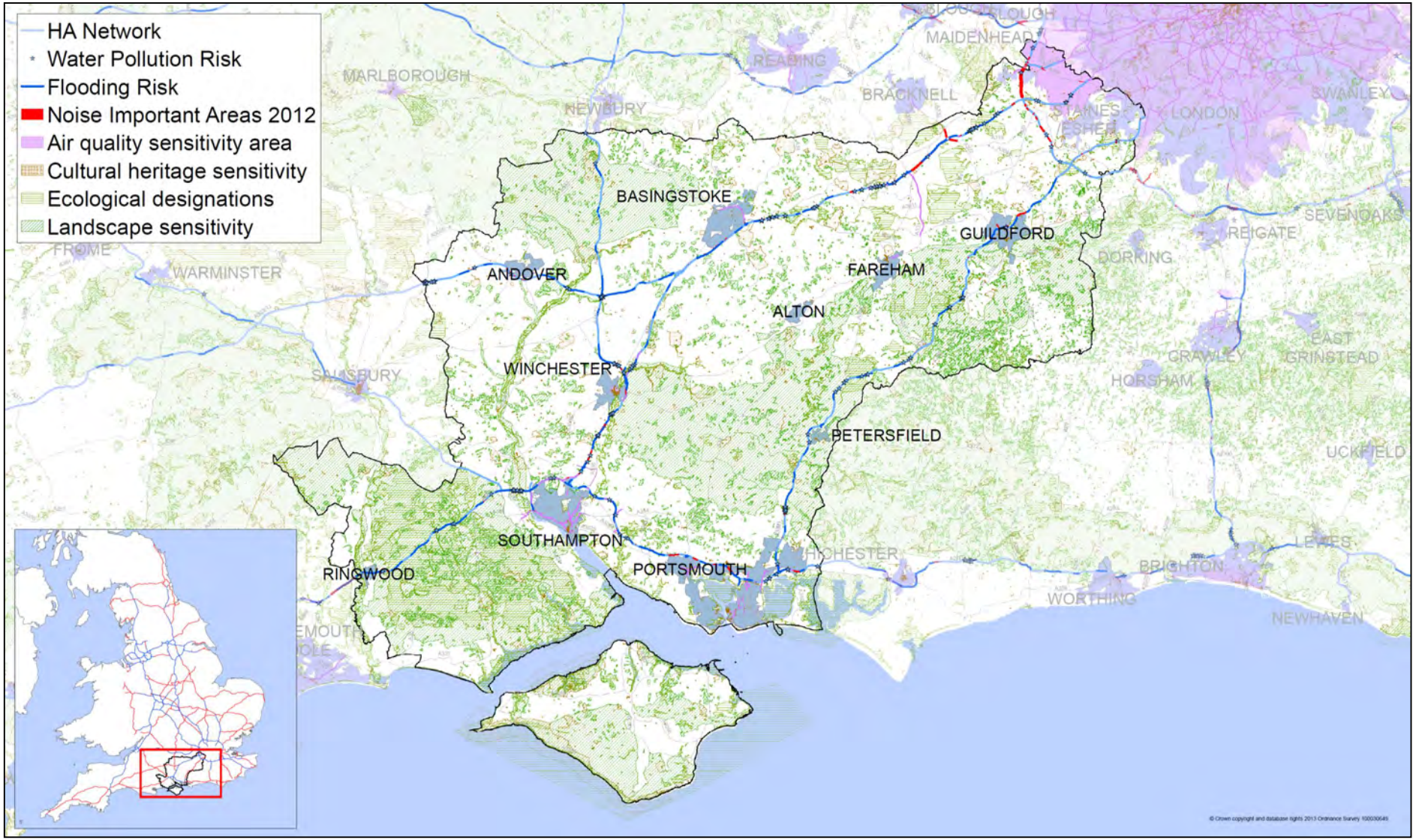
2.7.26: Special needs school susceptible to the noise from the M3

The Asset Manager for Area 3 mentioned the excessive noise caused by the M3 next to a special needs school in Compton. This problem has also been raised in an article from the Hampshire Chronicle [C2.7j].

2.7.27 – 2.7.28: Water pollution risk locations

This information is available in the Environment Map that was produced for the Stakeholder Engagement Events [C2.7i], which is provided in the following figure. The rest of information on this map was sourced from the MAGIC website [C2.7f].

Figure A7: Environment map



A3 Future considerations

A3.1 Overview

This section is intentionally blank

A3.2 Economic development and surrounding environment

3.2.3-3.2.4: LEP growth aspirations

The Solent Local Enterprise Partnership (Solent LEP) has provided the agency with its key growth targets, proposed in its 'Strategic Economic Plan' [C3.2a]. If achieved, these targets, could increase traffic levels on the route:

- Raise Gross Value Added (GVA) growth to 3%
- Increase GVA per capita by an additional £3,000
- Increase employment rate to 80%
- Improve economic activity rate to 81%
- Raise business birth rate to 4.1%
- Create 1,000 new businesses
- Improve business survival rate to 62.5%
- Raise the proportion of the population with Level 4 and above skills to 36% of the working age population;
- Increase inward investment into Solent by attracting at least 5% of Foreign Direct Investment projects entering the UK

Table 3.1: Key housing and economic growth proposals

Developments around the route have been identified from a variety of sources including local plans, transport assessments and transport studies (all cited in the reference list). The trigger for recording developments has been >100 jobs and / or > 500 residential units. Through GIS mapping a buffer of 5 miles has been applied, discarding developments located further away from the route, which have been considered to have a negligible impact on its traffic.

A number of the commercial developments identified were provided in area instead of number of jobs. In these cases the Employment Densities Guide [C3.2bb] was used to change the area into approximate jobs using the use class classifications. These developments were then verified by local authorities especially if the documents were not recent. In this sense, the following contacts in local authorities provided new updates on their developments, which have been incorporated:

- Terry De Sousa (Planning Policy Officer, Woking Borough Council)
- Donald Yell (Principal Transport Planner, Guildford Borough Council, donald.yell@guildford.gov.uk)
- Georgina Pacey (Principal Planning Officer , Runnymede Borough Council, georgina.pacey@runnymede.gov.uk)
- Paul Falconer (Principal Planning Officer, Waverley Borough Council, paul.falconer@waverley.gov.uk)

3.2.7 – 3.2.9: Southampton and Portsmouth City Deal

The City Deal document submitted by the Solent LEP, Southampton City Council, Portsmouth City Council, Hampshire County Council and Partnership for Urban South Hampshire [C3.2cc] has been used to write this section. However, as it has been mentioned in the Evidence Report, the City Deal is still to be agreed with the central government.

A3.3 Network improvements and operational changes

Table 3.2: Committed SRN enhancement schemes

The HA website lists all the committed SRN projects [C3.3a]. The Smart Motorways scheme for the M3 between Junctions 2 and 4a is also mentioned in the "Investing in Britain's Future" document from the HM Treasury [C3.3b].

3.3.3 – 3.3.4: Delays around M3 Junction 6 and A3 Ham Barn

The Asset Manager for Area 3 highlighted the following issues mentioned in this section of the Evidence Report:

- Delays are usual around Junction 6 of the M3
- Delays are also frequent on the A3 between A325 and A272 and these might be caused by the Ham Barn Roundabout (the junction with B3006)

3.3.5: Key maintenance commitments and impending maintenance requirements

Annex C of Area 3 Asset Management Plan 20121-2013 [C3.3c] has been used to describe the key maintenance commitments and impending maintenance requirements for the route.

Table 3.3: Declared Pipeline Schemes

"Investing in Britain's Future" document from the HM Treasury has been the source for the list of declared pipeline schemes on the SRN [C3.3b].

A3.4 Wider transport networks

Table 3.4: Committed local network transport enhancement schemes

Michael Green (mike.green@surreycc.gov.uk) and Lyndon Mendes (lyndon.mendes@surreycc.gov.uk) from the Surrey County Council Policy Team and James Gagg (james.gagg@hants.gov.uk) from Hampshire County Council Transport Team have provided details on the committed local network schemes. The Electric Spine rail scheme is sourced from the "Investing in Britain's Future" document [C3.4a].

3.4.2: Aspirations for local network enhancements

The aspirations for local network enhancements have been listed by the representatives of the Surrey and Hampshire County Councils mentioned in the previous paragraph.

3.4.5: Port of Southampton growth forecasts

The expected traffic growth of the Port of Southampton is provided on its latest Master Plan [C3.4b].

3.4.6: Portsmouth International Port growth forecasts:

Traffic forecasts for the Portsmouth International Port have also been sourced from its latest Master Plan [C3.4c].

Table 3.5, 3.4.9 – 3.4.10: Airport passenger forecasts

The "UK Aviation Forecasts" report produced in 2013 by the Department for Transport (DfT) provides passenger forecasts for all the commercial airports in the UK under different assumptions [C3.4d]. The following parts of the document have been used for the Evidence Report:

- Table 5.7 (Runway Capacity Used) indicates the expected proportion of airport capacity used in future years if no new runways are built in the future. It indicates that Heathrow and Gatwick were over 90% of capacity in 2011 and could reach at 100% before 2020.
- Annex E.2 (Passenger Forecast, constrained) indicates how the passenger traffic would increase if no new runways were constructed in the future.

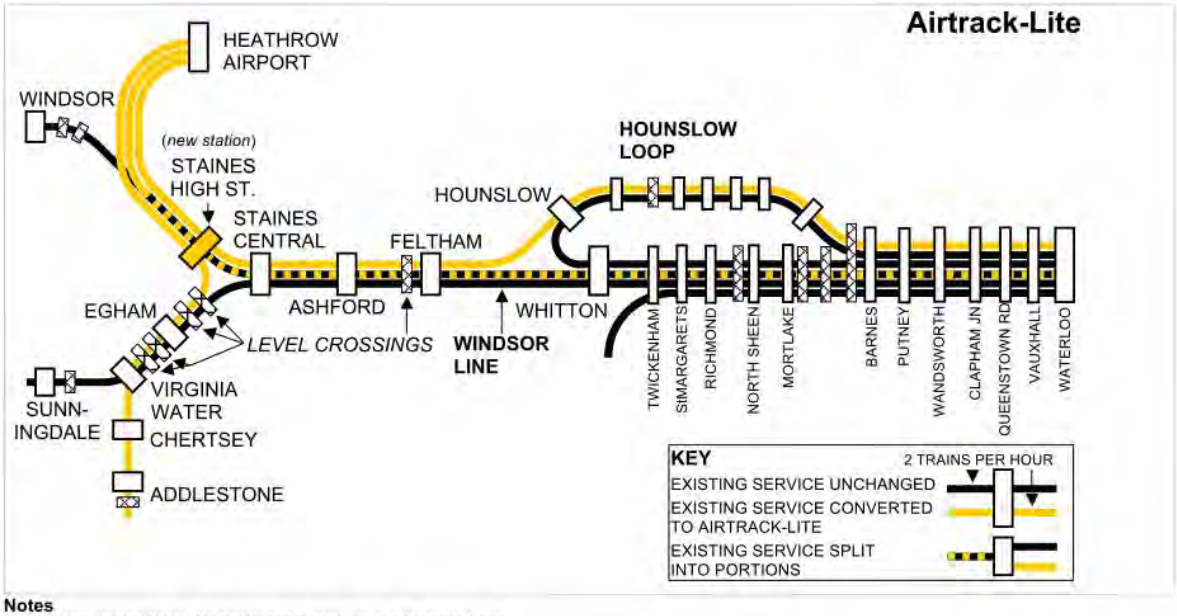
3.4.11: Airports Commission alternatives to increase capacity in the South East

This information is based on the Interim Report of the Airports Comission [C3.4e], which was published on December 2013.

3.4.13: Airtrack-Lite project

The Airtrack-Lite project to link Heathrow with Clapham Junction is described in the "Surrey Rail Strategy – Surface Access to Airports Study Report" [C3.4f]. The following map indicates the new services proposed under this project, which is still in the planning stage.

Figure A8: Airtrack-Lite project map



Notes

- NO ADDITIONAL SERVICES AT ANY LEVEL CROSSINGS
- TRAIN PATH OF EXISTING WATERLOO-WEYBRIDGE SERVICE USED BY 2 NEW TRAIN SERVICES:
  - WATERLOO – HOUNSLOW LOOP – STAINES – HEATHROW
  - SOUTH COAST – WOKING – STAINES – HEATHROW
- WINDSOR TRAIN SPLIT AT STAINES HIGH ST FOR WINDSOR & HEATHROW

Sourced from Wandsworth Borough Council on the 12th of December 2013 [C3.4g]

3.4.14: New platform in Redhill station

The approved plan to construct a new platform in Redhill before 2020 is also mentioned in the "Surrey Rail Strategy – Surface Access to Airports Study Report" [C3.4f].

A4 Key challenges and opportunities

Information reported in Section 4 of the Evidence Report has been derived from the evidence and discussion in Sections 2 and 3, comments received from the HA route leads and supporting MACs, and comments received from the engagement events, reported in the Engagement Event Report listed in section B1 of this Technical Annex. The main input for the M25 to Solent route has been from the Solent and Enterprise M3 LEP Area Stakeholder Engagement Event held in Basingstoke.

Table 4.1: Schedule of challenges and opportunities

The key output of Section 4 is Table 4.1. It summarises the key challenges and opportunities identified throughout Section 4 of the Evidence Report.

This includes any challenges and opportunities that were assigned “sticky dots” during the Stakeholder Engagement Events. The last three columns indicate the priority assigned by the Stakeholders to each issue, which has been determined from the ratio of “sticky dots” to each topic vs the total “dots” placed at the Basingstoke event.

In other cases the issue was not raised during the Engagement Events, but has been included in Table 4.1 due to its relevance determined from the evidence and discussion in Sections 2 and 3, comments received from the HA route leads and supporting MACs. The column titled “Was this identified through Stakeholder Engagement?” indicates whether or not each challenge or opportunity was raised by stakeholders during the Engagement Events.

There are also cases where a certain challenge or opportunity was raised during the events but was not assigned a “sticky dot”. If that issue has been considered relevant, it has also been included in Table 4.1 but no priority has been assigned to it in the three last columns.

A4.1 Introduction

This section is intentionally blank

A4.2 Operational challenges and opportunities

This section is intentionally blank

A4.3 Asset condition challenges and opportunities

Section 4.3 of the Evidence Report indicates possible causes for the historic asset condition issues and likely future challenges. These have been extracted from the Area 3 Asset Management Plan 2012 – 2013 [C4.3a] and through liaison with the Asset Manager for Area 3.

A4.4 Capacity challenges and opportunities

The Asset Manager for Area 3 was the source for the following capacity challenges indicated in the Evidence Report:

- Congestion on the M3 between Junctions 2 to 4 has a knock-on effect to the local roads at Junction 3 (Bagshot) and Junction 4 (Frimley)
- Junction 9 of the M3 (Winchester) experiences a high level of congestion and delay with poor journey time reliability, partially caused by the high proportion of HGV's travelling between the M27, M3 and A34. This issue was also highlighted by various stakeholders during the engagement events.
- The level of interaction between local traffic also causes delay and congestion at Junctions 11, 12 and 13 of the M3.

A4.5 Safety challenges and opportunities

This section is intentionally blank

A4.6 Social and environmental challenges and opportunities

This section is intentionally blank

A4.7 Conclusion

This section is intentionally blank

Part B Stakeholder engagement

B1 Stakeholder Engagement

B1.1 Engagement events

The Highways Agency hosted a series of Engagement Events within the South East region which encompasses the southern part of the South East Local Enterprise Partnership prior to commencing the drafting of the Stage 1 Evidence Report. The details of the Engagement Events in South East Region can be found in the following reports.

- Highways Agency Route-based Strategy, Solent and M3 LEP Areas Engagement, Basingstoke Engagement Event, December 2013
- Highways Agency Route-based Strategies, C2C LEP Area Engagement, Gatwick Event, December 2013
- Highways Agency Rout-based Strategies, Bucks TV LEP Area Engagement. High Wycombe Event, December 2013
- Route-based Strategy, Stakeholder Engagement. London Engagement Event. December 2013
- Highways Agency, Route-based Strategies, SELEP Area Engagement, Maidstone Event, December 2013
- Highways Agency Route-based Strategy, Oxfordshire LEP Area, Oxford Engagement Event ,December 2013
- Highways Agency Route-based Strategies, TV Berkshire LEP Area Engagement, Reading Event, December 2013

Comments from stakeholders documented in the Stage 1 evidence report were taken from these engagement event reports.

Part C Bibliography

C1 Introduction

C1.1 Background

This section is intentionally blank

C1.2 The scope of the stage 1 evidence report

This section is intentionally blank

C1.3 Route description

a) United Nations Economic and Social Council (2002): *European Agreement on Main International Traffic Arteries*

b) Roads UK *(*www.roadsuk.co.uk)

C2 Route capability, condition and constraints

C2.1 Route performance

a) Higways Agency (2013): *Average peak-hour speed map prepared for the RBS stakeholder engagement events*

b) Higways Agency (2013): *Vehicle hours delay map prepared for the RBS stakeholder engagement events*

C2.2 Road Safety

a) Enterprise Mouchel (2013): Road accident database for Area 3

b) Highways Agency (2013): *Draft South East Regional Safety Report*

c) Department for Transport (2011): *STATS 19*

d) Higways Agency (2013): *Safety map prepared for the RBS stakeholder engagement events*

C2.3 Asset Condition

a) Higways Agency (2012): *Area 3 Asset Management Plan 2012-13*

b) Higways Agency (2013): *Pavement condition map prepared for the RBS stakeholder engagement events*

C2.4 Route Operation

a) Higways Agency (2013): *Average lane impact duration map prepared for the RBS stakeholder engagement events*

b) MAGIC website (www.magic.gov.uk)

c) Highways Agency (2013): *Area 3 Severe Weather Plan*

C2.5 Technology

a) Capita (2013): *Areas 3, 4 and 5 Technology asset database*

b) Higways Agency (2012): *Area 3 Asset Management Plan 2012-13*

C2.6 Vulnerable Road Users

a) CrashMap (www.crashmap.co.uk)

b) Hampshire County Council (2013): *A3 Cycleway Route – Petersfield to Queen Elisabeth Country Park – Feasibility Study Report*

c) Sustrans (www.sustrans.org.uk)

d) Basingstoke Gazette (16th November 2013): *Cycle route plan between Odiham and Hook is 'hopeless for commuters'*

C2.7 Environment

a) Defra (www.gov.uk/defra)

b) Eastleigh Borough Council (www.eastleigh.gov.uk)

c) Surrey Heath Borough Council (www.surreyheath.gov.uk)

d) Winchester City Council (www.winchester.gov.uk)

e) Waverley Borough Council (www.waverley.gov.uk)

f) MAGIC website (www.magic.gov.uk)

g) English Heritage (www.english-heritage.org.uk)

h) Churches Conservation Trust (www.visitchurches.org.uk)

i) National Trust (www.nationaltrust.org.uk)

j) Hampshire Chronicle (26th April 2002): *Roar of motorway blights education*

k) Higways Agency (2013): *Environment map prepared for the RBS stakeholder engagement events*

C3 Future considerations

C3.1 Overview

This section is intentionally blank

C3.2 Economic development and surrounding environment

a) Solent Local Enterprise Partnership (January 2014): *Solent Strategic Economic Plan, Version 1*

b) Basingstoke and Deane (February 2012): *Basingstoke and Deane Local Development Framework - Pre-Submission Core Strategy 2006 to 2027*

c) East Hampshire District Council (May 2012): *East Hampshire District Local Plan - Joint Core Strategy*

d) Eastleigh Borough Council (August 2012): *Eastleigh Borough Local Plan 2011-2029 - Pre-submission consultation*

e) Eastleigh Borough Council and Hampshire County Council (2011): *Eastleigh Town Access Plan 2011*

f) Fareham Borough Council (August 2011): *Local Development Framework – Core Strategy*

g) Guildford Borough Council (September 2012): *North Street Design and Development Brief*

h) Guildford Borough Council (June 2006): *Town Centre Area Action Plan*

i) Guildford Borough Council (December 2012): *Guildford Borough Strategic Housing Land Availability Assessment*

j) Guildford Borough Council (July 2013): *Guildford Borough Monitoring Report 2012-2013*

k) Gosport Borough Council (December 2012): *Gosport Borough Local Plan 2011-2029 - Consultation Draft*

l) Hart District Council (November 2012): *Hart District Local Plan Core Strategy 2011-2029 - Pre-Submission Draft*

m) Havant Borough Council (March 2011): *Havant Borough Core Strategy*

n) New Forest District Council (October 2009): *New Forest District Core Strategy*

o) Partnership for Urban South Hampshire (PUSH) website (www.push.gov.uk)

p) Portsmouth City Council (January 2012): *The Portsmouth Plan*

q) Runnymede Borough Council (February 2013): *Runnymede Borough Infrastructure Delivery Plan*

r) Runnymede Borough Council (August 2013): *Runnymede Borough Local Plan Core Strategy*

s) Rushmoor Borough Council (October 2011): *Rushmoor Core Strategy*

t) Solent Enterprise Zone at Daedalus website (www.solentez.co.uk)

u) Southampton City Council (January 2010): *Southampton Core Strategy Development Plan*

v) Spelthorne Borough Council (February 2009): *Core Strategy and Policies Development Plan Document*

w) Spelthorne Borough Council (November 2008): *Staines Town Centre Draft Urban Design Framework*

x) Surrey Heath Borough Council (February 2012): *Core Strategy & Development Management Policies 2011- 2028*

y) Test Valley Borough (February 2013): *Test Valley Borough Revised Local Plan*

z) Winchester District Council (March 2013): *Winchester District Local Plan Part 1 – Joint Core Strategy Development Plan*

aa) Woking Borough Council (July 2011): *Woking Local Development Documents - Core Strategy*

bb) Drivers Jonas Deloitte (2010): *Employment densities guide (2nd Edition)*

cc) Solent LEP, Southampton City Council, Portsmouth City Council, Hampshire County Council and Partnership for Urban South Hampshire (2013): *Southampton City Council Southampton and Portsmouth City Deal*

C3.3 Network improvements and operational changes

a) Highways Agency website: Road Projects (www.highways.gov.uk/roads)

b) HM Treasury (2013): *Investing in Britain's Future*

c) Higways Agency (2012): *Area 3 Asset Management Plan 2012-13 – Annex C*

C3.4 Wider transport networks

a) HM Treasury (2013): *Investing in Britain's Future*

b) Associated British Ports (2010): *Port of Southampton Master Plan 2009-2030*

c) Portsmouth International Port (2011): *Portsmouth International Port Master Plan – Planning to 2026*

d) Department for Transport (2013): *UK Aviation Forecasts*

e) Airports Commision (2013): *Interim Report*

f) Surrey County Council (2013): *Surrey Rail Strategy – Surface Access to Airports Study Report*

g) Wandsworth Borough Council (www.wandsworth.gov.uk)

C4 Key challenges and opportunities

C4.1 Introduction

This section is intentionally blank

C4.2 Operational challenges and opportunities

This section is intentionally blank

C4.3 Asset condition challenges and opportunities

a) Higways Agency (2012): *Area 3 Asset Management Plan 2012-13*

C4.4 Capacity challenges and opportunities

This section is intentionally blank

C4.5 Safety challenges and opportunities

This section is intentionally blank

C4.6 Social and environmental challenges and opportunities

This section is intentionally blank

C4.7 Conclusion

This section is intentionally blank

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