A34 Road Safety Review

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Project Status Report

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Working on behalf of highways england

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Author(s)	Daniel Goodwin – Senior Engineer
Owner	Paul Caine – Principal Engineer
Distribution	John Henderson – Highways England Tom Proudfoot – Kier Highways Area 3 ASC
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1 Introduction

1.1 LOCATION

1.1.1 The A34 is a major route that links the international ports on the South Coast, at Southampton and Portsmouth, to the Midlands and the North West of England. There are two distinct sections of the A34; *1) Winchester to Oxford* and *2) Solihull to Salford*. The focus of this study will be the southern section – Winchester to Oxford, as shown in Figure 1-1.

1.1.2 The southern section of the A34 is rural dual carriageway trunk road that runs from Junction 9 of the M3 to Junction 9 of the M40 crossing the M4 motorway to the north of Newbury.

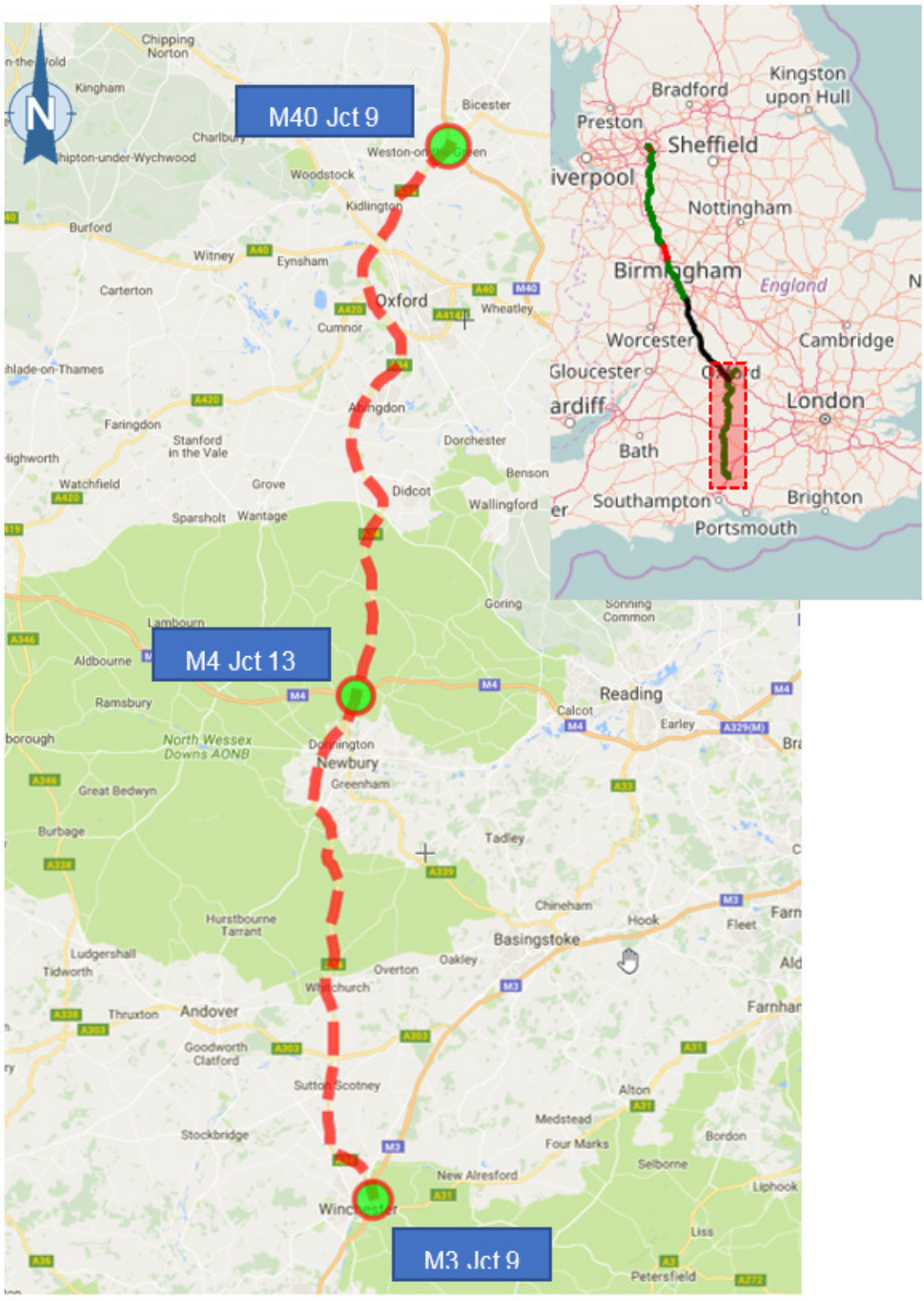

Figure 1-1 – *A34 from M40 Junction 9 to M3 Junction 9*

1.2 PROJECT BACKGROUND

1.2.1 The A34 route is regulated by the national speed limit, with the exception of a 4km section between the A44 and A4074 interchanges, where 50mph speed restrictions apply. This was previously implemented to assist with the number of direct access points onto the A34, from local housing areas and property driveways. The 50mph restrictions, which were last reviewed in 2011, are supplemented by carriageway surface markings, Vehicle Activated Signs (VAS) and fixed plated roundels.

1.2.2 The corridor has substantial Heavy Goods Vehicle (HGV) traffic as a result of the strategic importance the A34 has between the ports and the UK's northern regions. It has been acknowledged by Highways England that the route is in much need of a capacity enhancement due to congestion that is currently experienced – particularly on northbound carriageway between the M4 and M40. Consequently, a scheme to the value of approximately £1billion is anticipated to be proposed by Highways England in the future Road Investment Strategies (RIS 2 or RIS 3).

1.2.3 As a result of some high profile incidents during 2016, many involving HGVs, there is a need to investigate the overall safety of the route. Safety related issues on the A34 have gained media and political attention with more than 10 Members of Parliament having written to Highways England during 2016 to express concerns over safety and capacity of the road. A core group of MP's have been involved in campaigning directly to the Transport Minister, with concerned local people forming an action group, remonstrating for improvements.

1.2.4 During a Parliamentary debate in October 2016, the Minister of State at the Department for Transport (The Right Honourable John Hayes CBE MP) announced a review of safety on the A34. The safety review intends to lead to a number of options to achieve the desired safety benefits and additionally contribute to Highways England's commitment of reducing the amount of Killed or Seriously Injured (KSI's) accidents on the network by 40%, in advance of 2020.

1.3 DOCUMENT PURPOSE

1.3.1 The purpose of this document is provide a project status update, acknowledging what has been done to date and what is intended over the duration of the review.

2 Project Status

2.1 PROGRESS TO DATE

2.1.1 Mouchel have held an inaugural meeting with Highway's England's John Henderson (Asset Manager) and Area 3's incumbent ASC, Kier Highways, to further understand the scope of work and the deliverables expected.

2.1.2 A video survey has been conducted along the full extents of the A34, from the M40 to the M3. Providing a record of the existing arrangement and condition of the network will facilitate the safety review.

2.1.3 Collision data from the Kier Highways has been received and analysed for the entire length of the A34. It was identified that the collision data received did not correlate with the data used in Annex A of the brief. Subsequently, the missing collision information from the respective councils, West Berkshire Council and Oxfordshire Council was request and received on 10th February 2017. This has since been integrated into the existing data sets. Draft location drawings have been produced detailing the position, severity and reference of all collisions recorded in the last 5 years. Initial analysis of the accident data is included in Paragraph 2.2.1 below.

2.1.4 Average speed data for the entire route has been obtained from WebTRIS and will be utilised during the analysis.

2.1.5 2D horizontal geometry analysis has been completed along the scheme centre line with high level visibility analysis conducted for Lanes 1 & 2 on both the north and southbound carriageways. This minimum forward visibility requirement has been displayed as an envelope CAD model and will be used to identify existing sub-standard sections of the A34.

2.1.6 An outline review of Laybys (type, location and spacing), speed limit zones, street lighting areas, regions of NMU provision, bus stops, private access, verge signage and matrix signage has been conducted. Areas and elements of non-compliance with their respective standards to DMRB have been highlighted. This has been summarised in a master CAD model and has been completed for the entire length of the scheme.

2.1.7 SCRIM and TRACS data has been obtained for the A34 northern section, between the M40 and the M4. Analysis has been conducted to establish areas of low SCRIM and TRACS. A separate request has been submitted for SCRIM and TRACS data for the A34 southern section, between the M4 and M3 section of the A34.

2.1.8 A draft structure and preliminary sections of the final Safety Review Report has been created.

2.2 PROJECT UPDATE

2.2.1 Accident Analysis – M3 to M4

Initial analysis of the received accident data for A34 from the M3 to the M4 is shown below. A number of areas of concern have been identified.

Areas of concern:

- A4 Speen interchange – 4 loss of control incidents;
- A343 Highclere Common Road 6 collisions – 5 Rear End Shunts;
- Whitchurch southbound – 5 rear end shunt collisions between the on-slip & Firgo gap;
- Firgo Gap – which is due for closure in Q3 2017;
- A34/A303 Bullington Junction – this may need looking at as a junction study in itself as there are several collisions due to the road layout itself within the junction and also the added effects of traffic once Firgo Gap is closed (issues brought up in the Road Safety Audit Stage 2 Ref. ITS/345/2016);
- A34 Northbound before the A33 split, where the north & south carriageways separate – 5 rear end shunts; and
- A34 southbound merge with A33 – 3 loss of control incidents.

Whilst there has been over 200 collisions recorded, the majority are spread out through the study area. It is proposed to cross reference the recorded collisions to known traffic queues and gradients which may account for some of the rear end shunt type collisions.

Summary of collisions recorded

	01/12/11 - 30/11/12	01/12/12 - 30/11/13	01/12/13 - 30/11/14	01/12/14 - 30/11/15	01/12/15 - 30/11/16	5 Year Total
Fatal Collisions	0	2	2	1	0	**5**
Serious Collisions	8	8	9	8	10	**43**
Slight Collisions	34	24	35	32	41	**166**
Total no. of Collisions	**42**	**34**	**46**	**41**	**51**	**214**

The table below indicates the general status of the route, with the dark- no street lighting category being above the national average:

	01/12/11 - 30/11/12	01/12/12 - 30/11/13	01/12/13 - 30/11/14	01/12/14 - 30/11/15	01/12/15 - 30/11/16	5 Year Total	A34 5-Year Total	Average Area 3 Trunk Roads	National Average**
Severity Ratio	42%	31%	28%	24%	20%	22%	18%	19%	22%
Collisions occurring on a wet road surface	11	11	19	9	13	50	175	772	9883
	26%	32%	40%	20%	27%	23%	31%	32%	34%
Total Collisions during the hours of darkness	15	14	17	12	12	58	144	739	7734
	36%	41%	35%	30%	23%	27%	26%	30%	27%
Dark Collisions: Street Lighting present	1	0	0	1	0	2	15	201	2124
	2%	0%	0%	3%	0%	1%	0%	8%	7%
Dark Collisions: No Street Lighting Present	14	13	17	11	11	55	138	466	5296
	33%	38%	35%	27%	20%	26%	25%	19%	18%

2.2.2 Accident Analysis – M4 to M40

Initial analysis of the received accident data for the A34 from the M4 to the M40 is shown below. A number of areas of concern have been identified, which are listed below:

- A34 Northbound between A44 Peartree and M40 Junction 9. There are 42 collisions recorded at this location.
- A34 southbound slip with Kidlington Road junction. There are 8 collisions recorded at this location.
- A34 Northbound to the south of the South Hinksey (A4144) junction. There are 15 collisions recorded at this location.
- A34 Northbound to the south of the Milton (A4130) junction. There are 17 collisions recorded at this location.
- A34 Northbound to the south of the East Isley junction. There are 11 collisions recorded at this location.
- A34 Northbound to the south of the Beedon (Stanmore Road) junction. There are 7 collisions recorded at this location.
- A34/M40 Junction. There are 32 collisions recorded at this location.

Summary of collisions recorded

	01/12/11 - 31/11/12	01/12/12 - 31/11/13	01/12/13 - 31/11/14	01/12/14 - 31/11/15	01/12/15 - 31/11/16	5 Year Total
Fatal Collisions	2	1	1	2	4	**10**
Serious Collisions	12	17	11	10	13	**63**
Slight Collisions	102	86	81	56	64	**389**
Total no. of Collisions	**116**	**104**	**93**	**68**	**81**	**462**

The table below indicates the general status of the route, with the dark- no street lighting category being above the national average.

	01/12/11 - 30/11/12	01/12/12 - 30/11/13	01/12/13 - 30/11/14	01/12/14 - 30/11/15	01/12/15 - 30/11/16	5 Year Total	A34 5-Year Total	Average Area 3 Trunk Roads	National Average**
Severity Ratio	12%	17%	13%	18%	21%	16%	18%	19%	22%
Collisions occurring on a wet road surface	33	35	32	15	21	136	175	772	9883
	28%	34%	34%	22%	26%	29%	31%	32%	34%
Total Collisions during the hours of darkness	28	28	26	22	17	121	144	739	7734
	24%	27%	28%	32%	21%	26%	26%	30%	27%
Dark Collisions: Street Lighting present	5	4	3	2	2	16	15	201	2124
	4%	4%	3%	3%	3%	3%	0%	8%	7%
Dark Collisions: No Street Lighting Present	22	23	22	20	15	102	138	466	5296
	19%	22%	24%	30%	19%	22%	25%	19%	18%

Analysis of the collision data has indicated that 52% of the collisions are Rear End Shunt collisions on either the northbound or southbound carriageways. There appears to be an issue with northbound shunt collisions which are nearly double that of southbound shunt type collision numbers:

	Total	%
Shunt NB	157	34
Shunt SB	85	18
Single vehicle loss of control NB	48	10
Single vehicle loss of control SB	44	10
Lane change NB	41	9
Lane change SB	20	4
Lane change at Roundabout	17	4
Loss of control NB	11	2

2.2.3 Other

The study has also concentrated on the following items to complement the accident investigatory work identified above to see if they are contributory factors to the reported collisions;

- Plotted all incorrect signage;
- Working through inconsistencies and errors regarding signs and lines;
- Laybys have been plotted and measured against standards;
- Services/accesses/police observation platforms have been plotted;
- Previous safety schemes have been plotted;
- Proposed improvement schemes have been plotted;
- Plotted the collision data;
- Plotted and reviewed visibility;
- Reviewed accident data to identify environmental factors/weather and skidding factors; and
- looked at factors contributing to the Kidlington road junction cluster

2.3 FUTURE PROJECT WORK

2.3.1 Accident Data Validation

Following on from the above accident investigatory works, the following areas will be investigated further to determine whether or not they contribute to the recorded collisions:

- Obtain SCRIM and TRACS data for the southern section, between the M4 and M3;
- Further analysis of collision data at the identified cluster areas;
- Undertake high level analysis of the A34 corridor against current design standards;
- Explore identified cluster areas in more detail to determine any relationships between recorded collisions and carriageway compliance;
- Review WEBDAS data base for relevant Departure from Standards in cluster areas;
- Road safety specialists to visit the identified cluster sites along the A34 corridor; and
- Review previous studies undertaken.

2.3.2 A34 Road Safety Review Outputs

Ultimately, the purpose of the Review is to identify potential improvements to the A34 Strategic Road Network that will improve safety along the corridor. This will be achieved by;

- Considering suggestions made by the public (Annex B) and businesses and provide responses on their suitability;
- Consider whether engineering, signage or technology solutions could have a beneficial impact to try and prevent further incidents;
- Summarise the best options for improvement that could be made in the short term.
- Providing estimated costs and a view on whether they would likely to provide a positive Benefit to Cost Ratio and Value for Money.
- Assisting Highways England in stakeholder liaison.

2.3.3 Programme

March 2017: Project Status Report #2

June 2017: A34 Road Safety Review Complete and Final (dependent upon level of stakeholder / client liaison and feedback)