

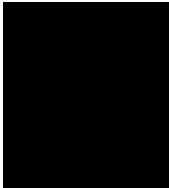
FOLKESTONE & HYTHE DISTRICT COUNCIL

Local Plan Traffic Analysis
A20 / A260 Alkham Valley Interchange

MAY 2021



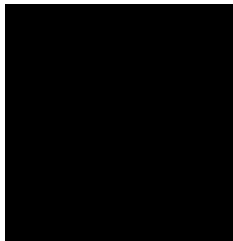
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VERSION CONTROL

Version	Date	Author	Checker	Approver	Changes
1.0	10/05/2021	JG	DC	JH	Report for Issue
2.0	28/05/2021	JG	DC	JH	Report for Issue with KCC comments addressed

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1 Introduction

1.1 Background

At the request of Folkestone and Hythe District Council, Arcadis Consulting (UK) Ltd (Arcadis) is providing support to the District Council for their Core Strategy Review. The support being provided as described in this note relates to the Statement of Common Ground between Folkestone and Hythe District Council and Highways England and, specifically, the submission made to the Examination by Highways England in a letter dated 3rd July 2020.

Arcadis held a meeting with Folkestone and Hythe District Council and Highways England on Monday the 14th of September to discuss the scope of work required to work towards a Statement of Common Ground between Folkestone and Hythe District Council and Highways England.

A series of technical meetings have taken place since September 2020 to discuss progress towards the agreement of the scope, data sources and assumptions as well as outputs.

The analysis of traffic impacts at the A20 and A260 Alkam Interchange has previously been contained in the Traffic Report (add reference) most recently dated (add). This report is a standalone technical report on the Interchange following the most recent discussions in March and April 2021.

1.2 Purpose

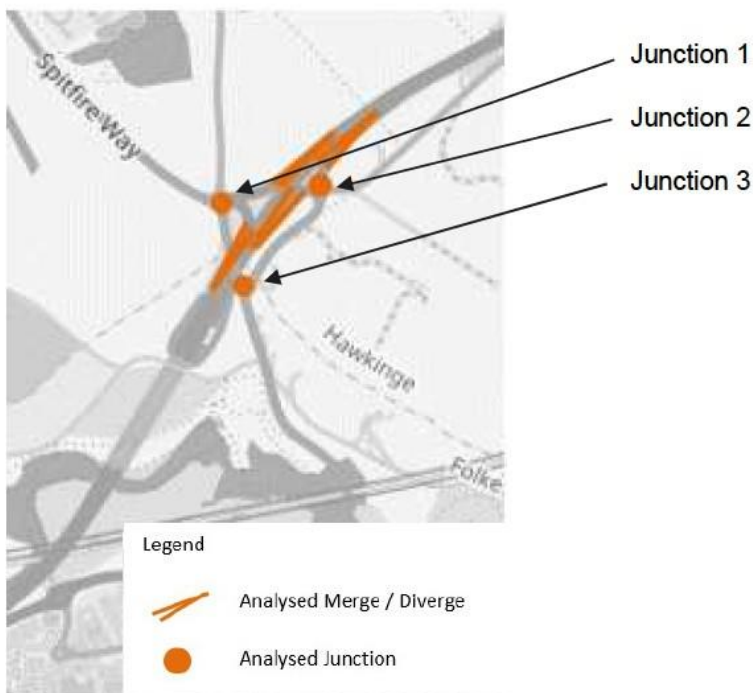
The purpose of the study is to present the analysis outcome at the interchange between the A20 and the A260. It includes:

- The nil detriment solution analysis; and
- The ultimate proposed solution for the same interchange.

1.3 Study Area

This study analyses the road network shown in orange in Image 1.

Image 1 – Proposed Study Area



A20 / Spitfire Way / Alkham Valley Road junction is a motorway interchange with the following characteristics:

- The M20 at this location is composed of 2 lanes in each direction;
- A number of physical constraints severely restrict geometric alterations at this interchange, including:
 - The presence of a tunnel West of the interchange, impacting the ability to extend merge / diverge segments;
 - The presence of a substation, requiring access to the South of the carriageway;
 - The presence of bridge structures; and
 - The topography of the site, with significant elevations on the ramps.
- These constraints have been taken into account in consideration of future interventions.

1.4 Report Structure

This document is composed of:

- Section 2, presenting the traffic demand assumptions;
- Section 3, detailing the 2037 traffic analysis;
- Section 4, establishing the nil detriment solution;
- Section 5, setting out an ultimate solution;
- Section 6, detailing the conclusions and recommendations.

2 Traffic Demand

2.1 Traffic Demand Consistency with the Previous Stage

The list of available documents is detailed in Appendix A. Two previous traffic models were available at the inception of this study. These were:

- The AECOM Shepway transport model, and
- The VISUM cordon model prepared as part of the Otterpool Park transport assessment.

For consistency with the existing draft of the Statement of Common Ground between Folkestone & Hythe District Council and Highways England (January 2020), it was decided to update the key assumptions of the 2017 AECOM Shepway transport model, rather than using the information available in the Otterpool Park transport assessment.

Following a detailed review of the AECOM Shepway transport model, the following information was identified as requiring an update:

- The Local Plan development housing and employment projections;
- The TEMPro factors, to account for the latest version of the database;
- The merge/diverge calculation methods to account for the 2020 DMRB; and
- The introduction of the junction upgrades immediately South of M20 Junction 12 (U-turning movement removal in the interchange).

No updates were undertaken of the Shepway transport model traffic assignment on the road network.

2.2 2037 Traffic Demand Preparation

The travel demand models are contained in Appendix B. This model key assumptions are listed below.

Local Plan Horizon

The local plan horizon is 2037, therefore, it corresponds to the assessment year.

Local Plan Scenario Description

Within the Shepway Transport Model, the core scenarios selected are:

- 2037 DS, corresponding to the Local Plan projection, also labelled Core Strategy Review (CSR 6,500); and
- 2037 DM, corresponding to the Places and Policies Local Plan (PPLP).

The description of individual development has evolved, but for consistency with the previous stage, development descriptions have been retained as per the AECOM model version.

Local Plan Housing and Employment Projections

The housing and employment projections are:

- As per the Local Plan in the 2037 DS;
- Discounted by Otterpool Park development in the 2037 DM.

The reason for the application of the discount is to ensure the transport model does not double count the Otterpool Park traffic via the TEMPro Factor.

Motorway Growth Rate

For the motorway mainline traffic, an independent TEMPro factor has been included in the model. This change enables the assessment to reflect the background increase in motorway traffic, which was not included in the original model developed in 2017 by AECOM.

TEMPro 7b

All TEMPro rates in the model have been superseded using the latest available version of the rates. The version is indicated as 7b.

2.3 2037 Traffic Demand Impact

The A20 / Spitfire Way / Alkham Valley Road interchange is composed of three junctions. As indicated below, the Spitfire Way junction to the North is forecast to be more impacted by Local Plan development than others in term of absolute number of vehicles. This is logical as most of the planned development is taking place North of the A20.

Junction 1 Overall Changes in Traffic Volumes (in Veh.) – Spitfire Way

The comparison of total traffic at an at-grade junction in 2037 between the DM scenario (DS PPLP) and the DS scenario (DS CSR 6,500) is as follows:

- AM Peak – DM (3363) / DS (3585), or an increase of 222 (6%)
- PM Peak – DM (3829) / DS (4069), or an increase of 240 (6%)

Junction 2 Overall Changes in Traffic Volumes (in Veh.) – Alkham Valley

The comparison of total traffic at an at-grade junction in 2037 between the DM scenario (DS PPLP) and the DS scenario (DS CSR 6,500) is as follows:

- AM Peak – DM (2491) / DS (2523), or an increase of 32 (1%)
- PM Peak – DM (2032) / DS (2184), or an increase of 152 (7%)

Junction 3 Overall Changes in Traffic Volumes (in Veh.) – Canterbury Road/Alkham Valley

The comparison of total traffic at an at-grade junction in 2037 between the DM scenario (DS PPLP) and the DS scenario (DS CSR 6,500) is as follows:

- AM Peak – DM (3231) / DS (3238), or an increase of 7 (0%)
- PM Peak – DM (3279) / DS (3385), or an increase of 106 (3%)

2.4 Conclusion

In conclusion, the traffic volume impact of the Local Plan development at the interchange is limited, corresponding to an additional traffic volume at peak hour of 0% to 7%, depending on the location and time period.

3 2037 Future Base

3.1 A20 Merge / Diverge Assessment

The merge and diverge assessment is presented in Image 2 and Image 3. The key finding is:

- The dominant traffic seems tidal, from the local area towards the West in the morning, and back in the afternoon;
- The traffic staying on the motorway mainline never requires more than one lane, and overall, the traffic density on the A20 at this location is low;
- There are no lane restrictions for HGVs in the tunnel; and
- The projected traffic volume on the ramps can be high and the DMRB requirement corresponds to a two lane ramp. However, mainline traffic is low and a single lane would have sufficient capacity. Moreover, a two-lane ramp on a 2 lane mainline would require extended merge/diverge segments, which might not be practically feasible. Retaining a one lane ramps for the merge/diverge segments is recommended to retain the existing merge and diverge types.

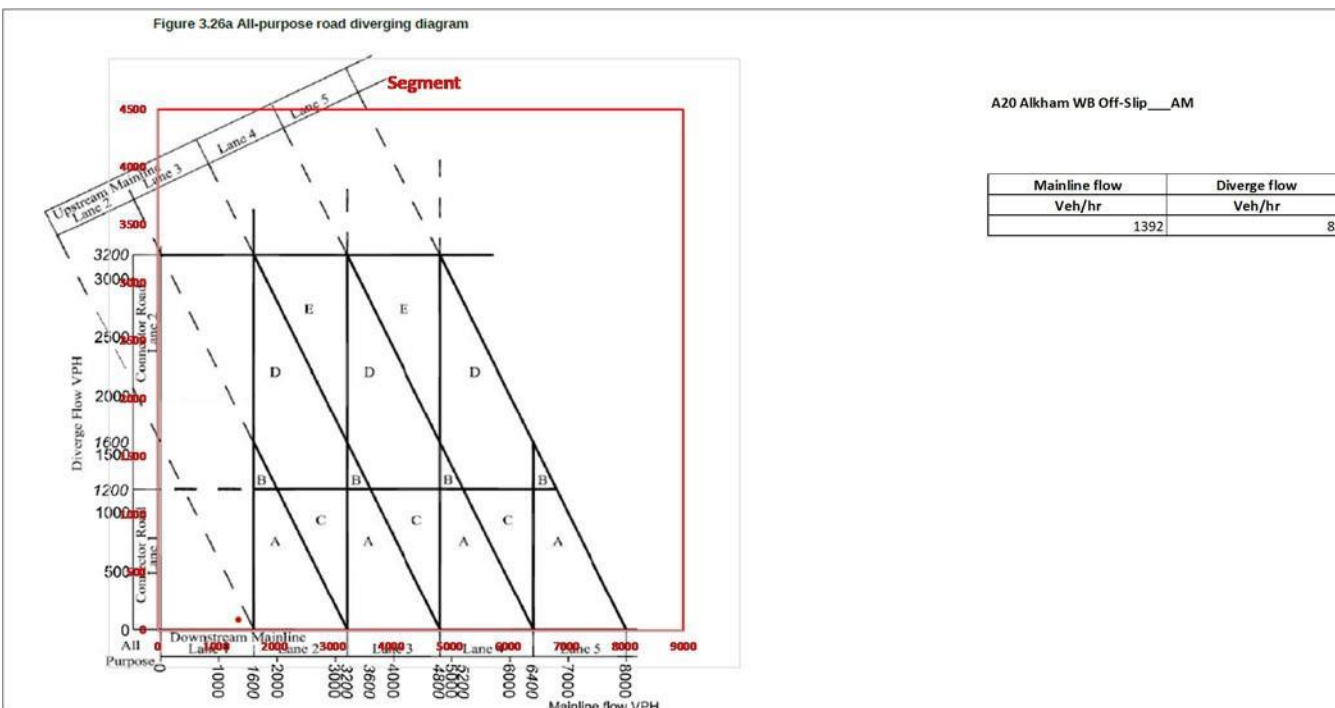
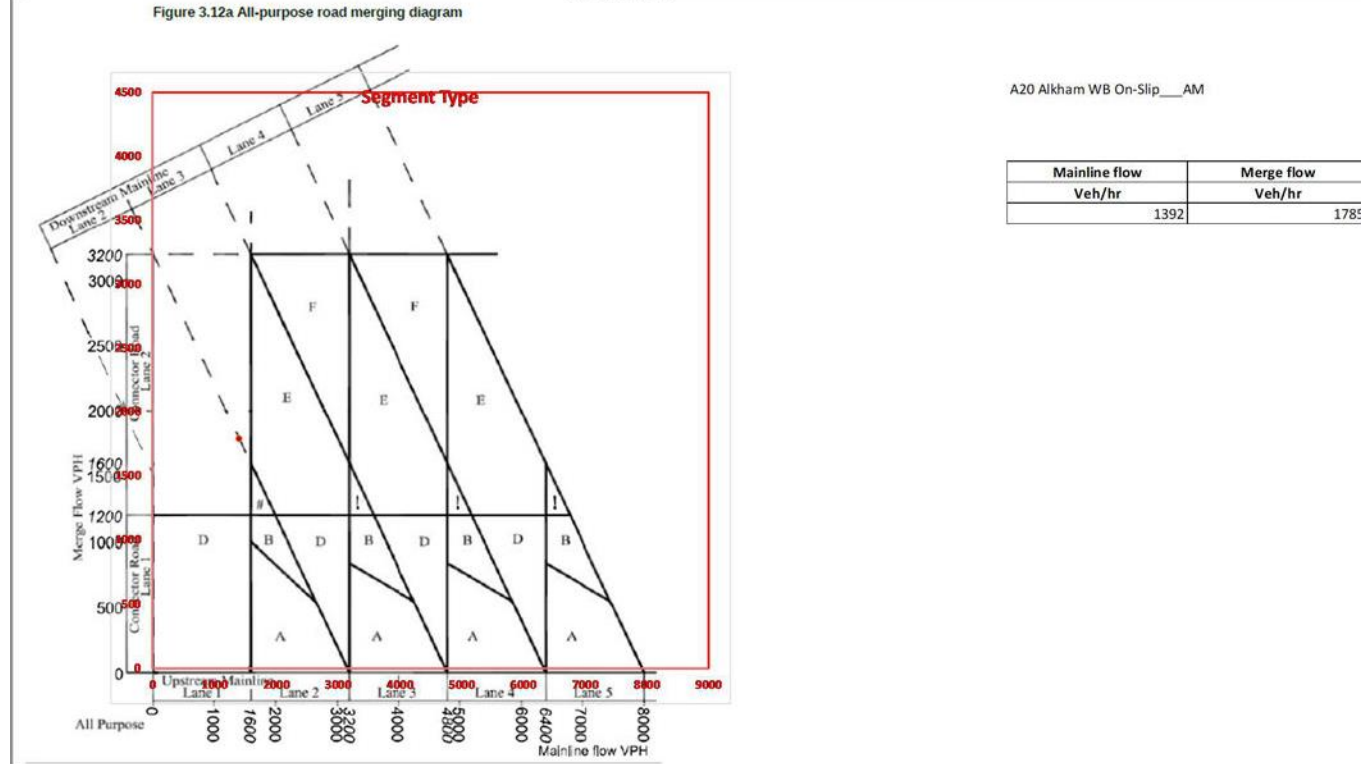
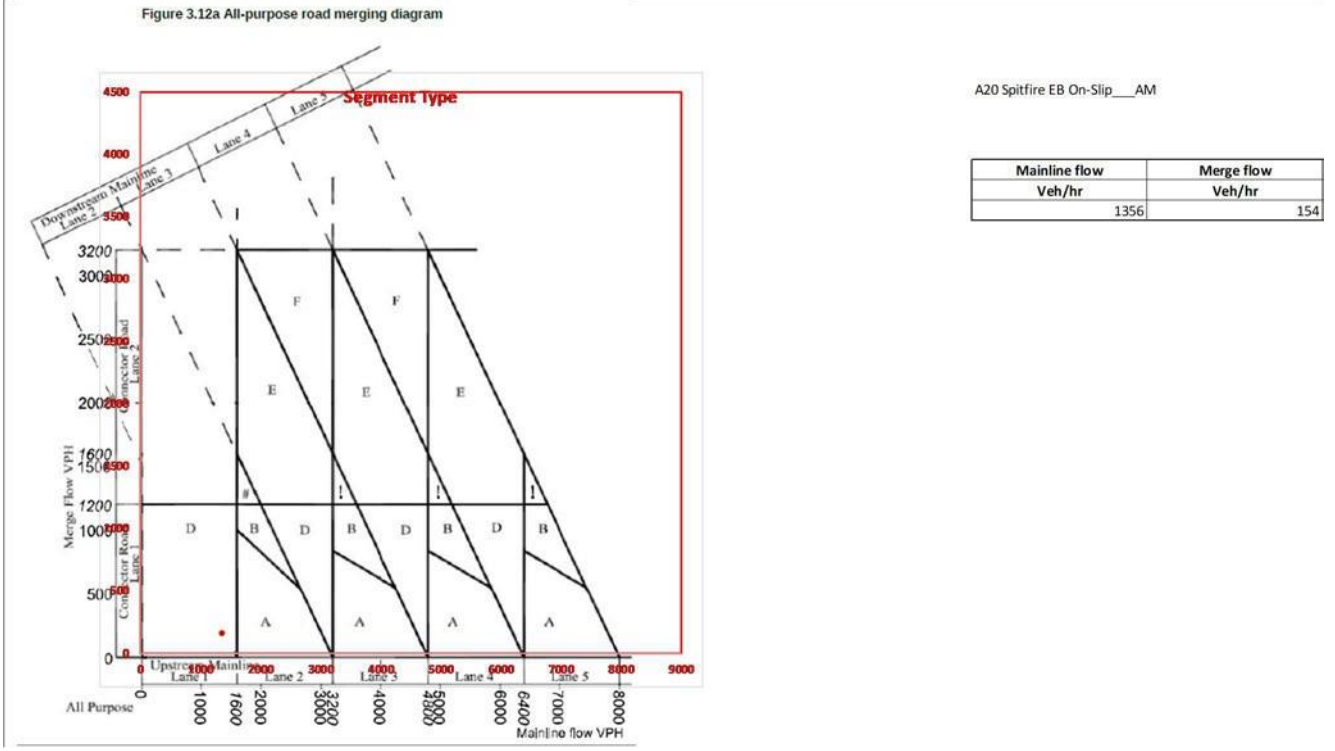
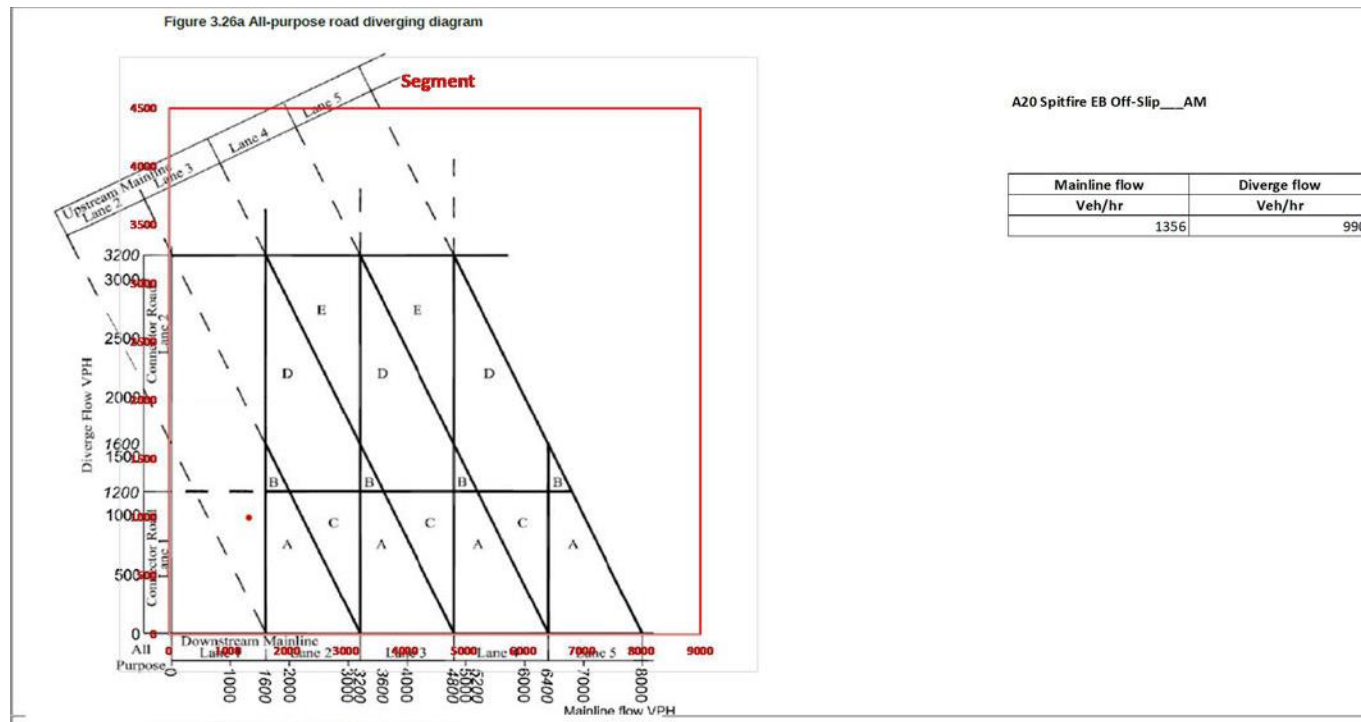
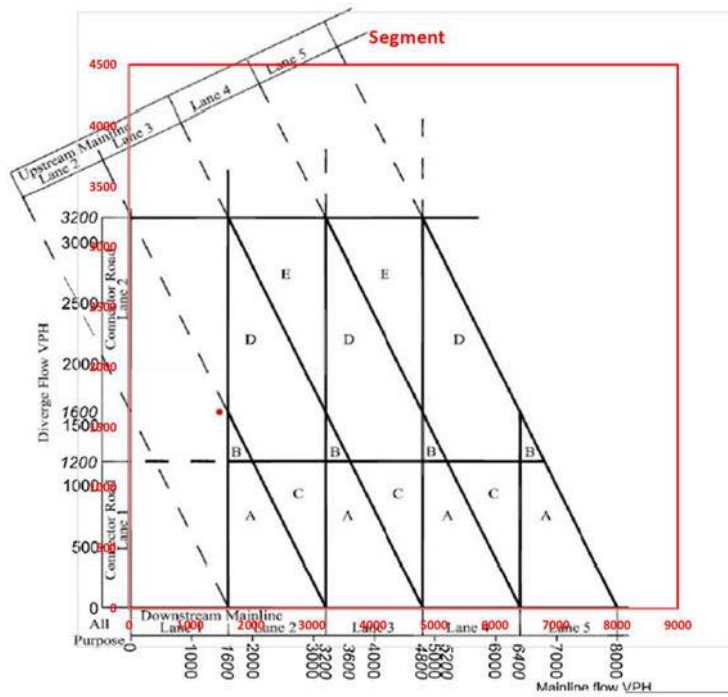


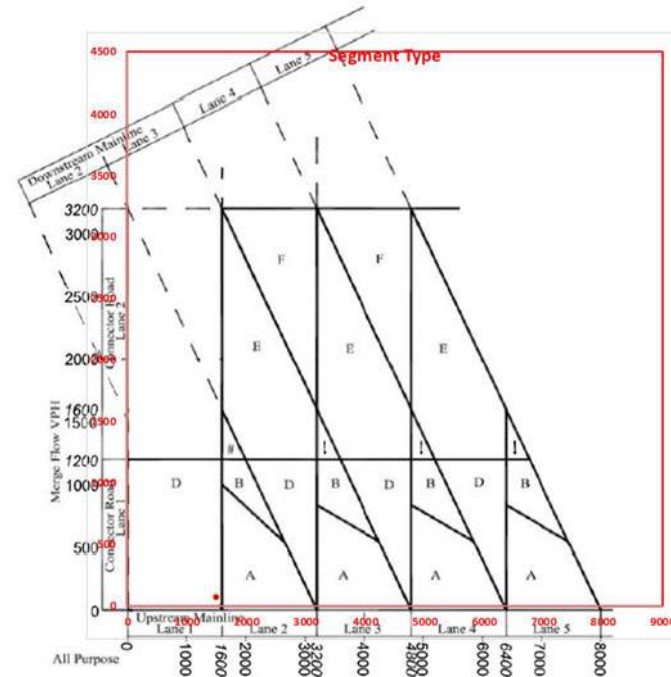
Figure 3.26a All-purpose road diverging diagram



A20 Spitfire EB Off-Slip__PM

Mainline flow Veh/hr	Diverge flow Veh/hr
1497	1619

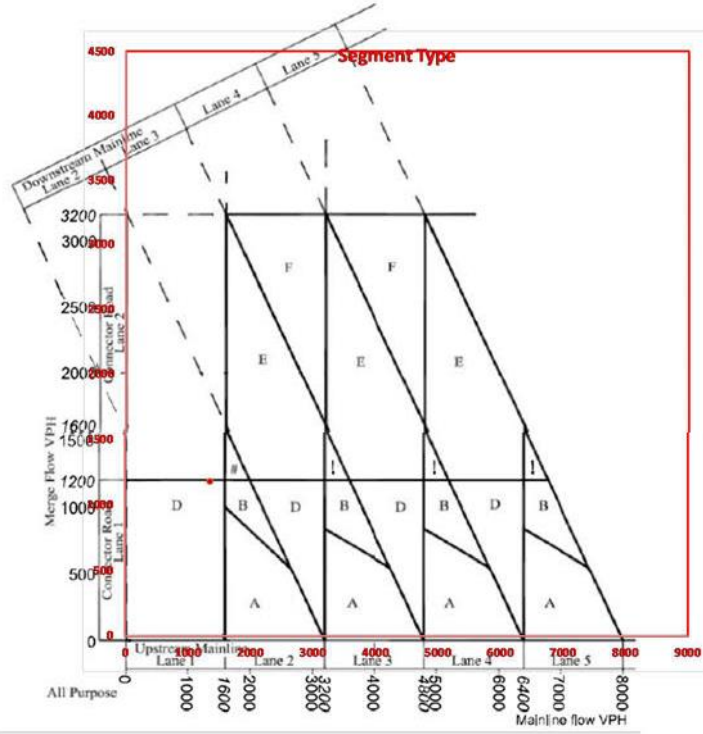
Figure 3.12a All-purpose road merging diagram



A20 Spitfire EB On-Slip__PM

Mainline flow Veh/hr	Merge flow Veh/hr
1497	67

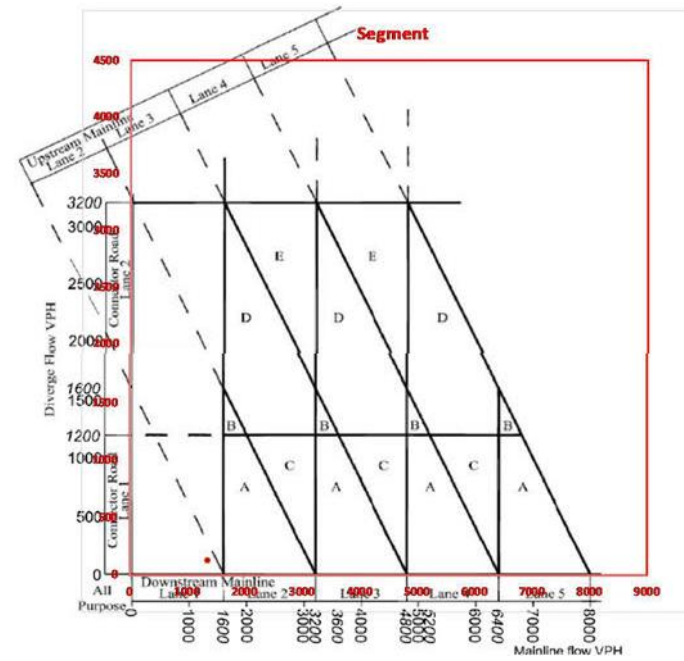
Figure 3.12a All-purpose road merging diagram



A20 Alkham WB On-Slip__PM

Mainline flow Veh/hr	Merge flow Veh/hr
1361	1177

Figure 3.26a All-purpose road diverging diagram



A20 Alkham WB Off-Slip__PM

Mainline flow Veh/hr	Diverge flow Veh/hr
1361	122

3.2 Junction 1 - Spitfire Way-White Horse Hill-A260 (Existing Layout)

Table 1 shows the traffic delay at the non-signalised North roundabout for the two scenarios:

- 2037 DM (DS PPLP 6500) corresponding to the already committed developments; and
- 2037 DS (DS CSR 6500) corresponding to the situation with the Local Plan.

The four approaches are unevenly saturated, however, typically two or more approaches have reached capacity at the junction at each peak hour. Image 4 presents the queue lengths for the same scenarios.

Road geometric improvements are forecast to be required at the junction in both the 2037 DM and DS cases, this can be combined with a signalised (or part-signalised) solution to ensure the absence of blocking back queues on the A20.

Table 1 – Spitfire Way-White Horse Hill-A260 – 2037 Existing Layout Assessment

Arm	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
DM 2037								
White House Hill	2.1	14.93	0.68	B	0.7	6.29	0.4	A
A20 Slip Roads	20.1	82.1	1	F	289.4	742.35	1.45	F
Canterbury Rd	1.2	5.57	0.54	A	3.6	12.69	0.79	B
Spitfire Way	91.5	191.54	1.12	F	3.8	12.97	0.8	B
DS 2037								
White House Hill	2.1	15.16	0.68	C	0.9	8.04	0.47	A
A20 Slip Roads	116.8	447.95	1.25	F	503.7	1350.49	1.75	F
Canterbury Rd	1.2	5.74	0.54	A	2.8	10.01	0.74	B
Spitfire Way	119.7	277.65	1.15	F	9.3	28	0.92	D

Image 4– Spitfire Way-White Horse Hill-A260– 2037 Queue Length Comparison of the DM and DS Scenarios



3.3 Junction 2 - Alkham Valley Rd-A20 Slip (Existing Layout)

Table 2 shows the traffic delay at the non-signalised South roundabout for the two scenarios:

- 2037 DM (DS PPLP 6500) corresponding to the already committed developments; and
- 2037 DS (DS CSR 6500) corresponding to the situation with the Local Plan.

The three approaches are unevenly saturated, with an RFC of above 1 on Alkham Valley Road south in both the 2037 DM and DS cases. Image 5 shows the queue lengths on the highway layout.

Table 2 – Alkham Valley Rd-A20 Slip – 2037 Existing Layout Assessment

Arm	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
DM 2037								
A20 Offslip	0	1.95	0.05	A	0.1	2.26	0.08	A
AlkamValley Rd (East)	1.6	5.05	0.62	A	0.4	2.81	0.3	A
AlkamValley Rd (South)	152.7	390	1.23	F	37.8	83.81	1.02	F
DS 2037								
A20 Offslip	0	1.92	0.05	A	0.1	2.15	0.07	A
AlkamValley Rd (East)	1.4	4.75	0.59	A	0.4	2.76	0.29	A
AlkamValley Rd (South)	186	488.43	1.28	F	120.4	240.9	1.14	F

Image 5– Alkham Valley Rd-A20 Slip – 2037 Queue Length Comparison of the DM and DS Scenarios



3.4 Junction 3 - Canterbury Rd-A260 Alkham Valley Rd (Existing Layout)

Table 3 shows a completely saturated three-arm junction on the A260 for the two scenarios:

- 2037 DM (DS PPLP 6500) corresponding to the already committed developments; and
- 2037 DS (DS CSR 6500) corresponding to the situation with the Local Plan.

The development of a large, signalised, junction or a large roundabout is forecast to be required at this location. However, the carriageway width restriction on the bridge North of the junction represents a major constraint limiting opportunities for junction improvements.

Signalising the existing junction only will not be sufficient to accommodate future traffic demand. Options to remove the heaviest movement from the junction via a free flow left turn slip from north to south would provide additional capacity, but a high level review of the impact on Spitfire Way Junction revealed such an option to be unsatisfactory.

In chapter 5 of this report, the gating of the traffic volume using a traffic signal junction at Spitfire way has been tested.

Table 3 – Canterbury Rd-A260 Alkham Valley Rd – 2037 Existing Layout Assessment

Arm	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
DM 2037								
Alkham Valley Left Turn	215.7	2545.12	1E+10	F	163.8	2636.14	1E+10	F
Alkham Valley Right Turn	33.9	2622.47	1E+10	F	43.3	2718.02	1E+10	F
Canterbury Road Right Turn	49.6	1492.51	2	F	56.9	783.24	1.67	F
DS 2037								
Alkham Valley Left Turn	206.5	29190.2	1E+10	F	158.4	3416.15	1E+10	F
Alkham Valley Right Turn	32.2	33643.02	1E+10	F	41.7	3496.55	1E+10	F
Canterbury Road Right Turn	54	1965.07	2.33	F	78.8	2048.83	2.36	F

Image 6 – Canterbury Rd-A260 Alkham Valley Rd – 2037 Queue Length Comparison of the DM and DS Scenarios



3.5 Mitigation Requirements

To accommodate the 2037 DM and DS traffic requirements at A20 / Spitfire Way / Alkham Valley Road junctions will require a set of geometric upgrades at all three junctions. Chapter 4 and 5 present the proposed interventions.

4 2037 Nil Detriment Solutions

4.1 Proposed Mitigation Considerations

The proposed concept development was focused on respecting the following constraints:

- Mitigating the impact of the DS 2037 (DS CSR 6500) scenario back to DM 2037 (DS PPLP 6500) conditions only;
- Avoiding any impact on existing structures as much as possible, for cost and feasibility reasons; and
- Maintaining the same level of accessibility as in the present situation.

This chapter presents the traffic analysis of the proposed junction layout for 2037 DS scenario with nil detriment mitigations for the three A20 Alkham Valley junctions.

4.2 Junction 1 - Spitfire Way-White Horse Hill-A260 (Option 1)

The Spitfire Way-White Horse Hill-A260 Option 1 potential improvements shown in Image 7 are as follows;

- Widen the A20 Slip approach to two lanes throughout and flare to three lanes for the final 15m;
- Increase the entry width by 0.4m and the effective flare length by 11m on the Spitfire Way approach; and;
- Provide a two-lane exit on the Canterbury Road southbound exit.

Image 7 – Spitfire Way-White Horse Hill-A260 – 2037 Potential Layout

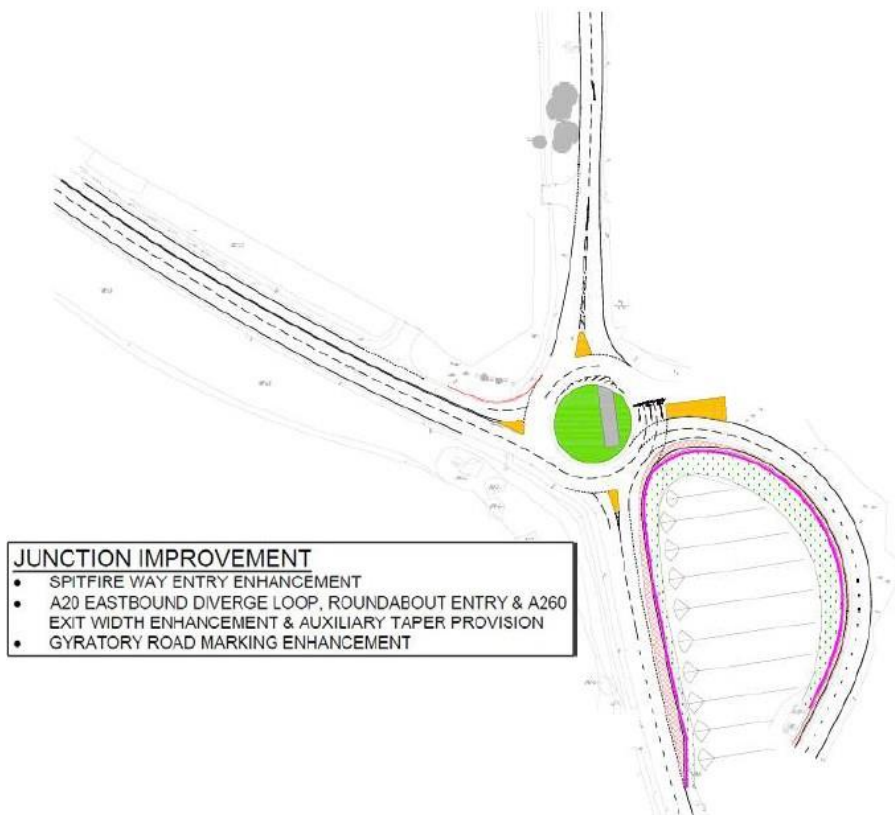


Table 4 shows that most arms have improved performance in the proposed 2037 situation compared to the DM 2037 situation, including the PM peak A20 Slip Road.

Queues in the AM peak, however, have increased on Spitfire Way on the A20 Slip Road from 20 to 30 vehicles. This queue of 90 metres per lane, however, does not block back onto the motorway.

Table 4 – Spitfire Way-White Horse Hill-A260 – 2037 Proposed Layout Assessment

Arm	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	DS 2037							
White Horse Hill	3.3	24.89	0.78	C	0.9	8.07	0.47	A
A20 Slip Road	30	93.04	1.03	F	226.4	475.87	1.33	F
Canterbury Rd	1.4	6.68	0.58	A	4.7	17.07	0.83	C
Spitfire Way	42.1	88.45	1.03	F	4.5	13.16	0.82	B

Overall, the junction delays are mitigated to the better levels than the 2037 DM case and operational consequences for traffic queues remain the same.

4.3 Junction 2 - Alkham Valley Rd-A20 Slip

Image 8 shows the increased entry width by 0.64m and the effective flare length by 16.8m on the Alkham Valley South approach.

Image 8 – Alkham Valley Rd-A20 Slip – 2037 Potential Layout

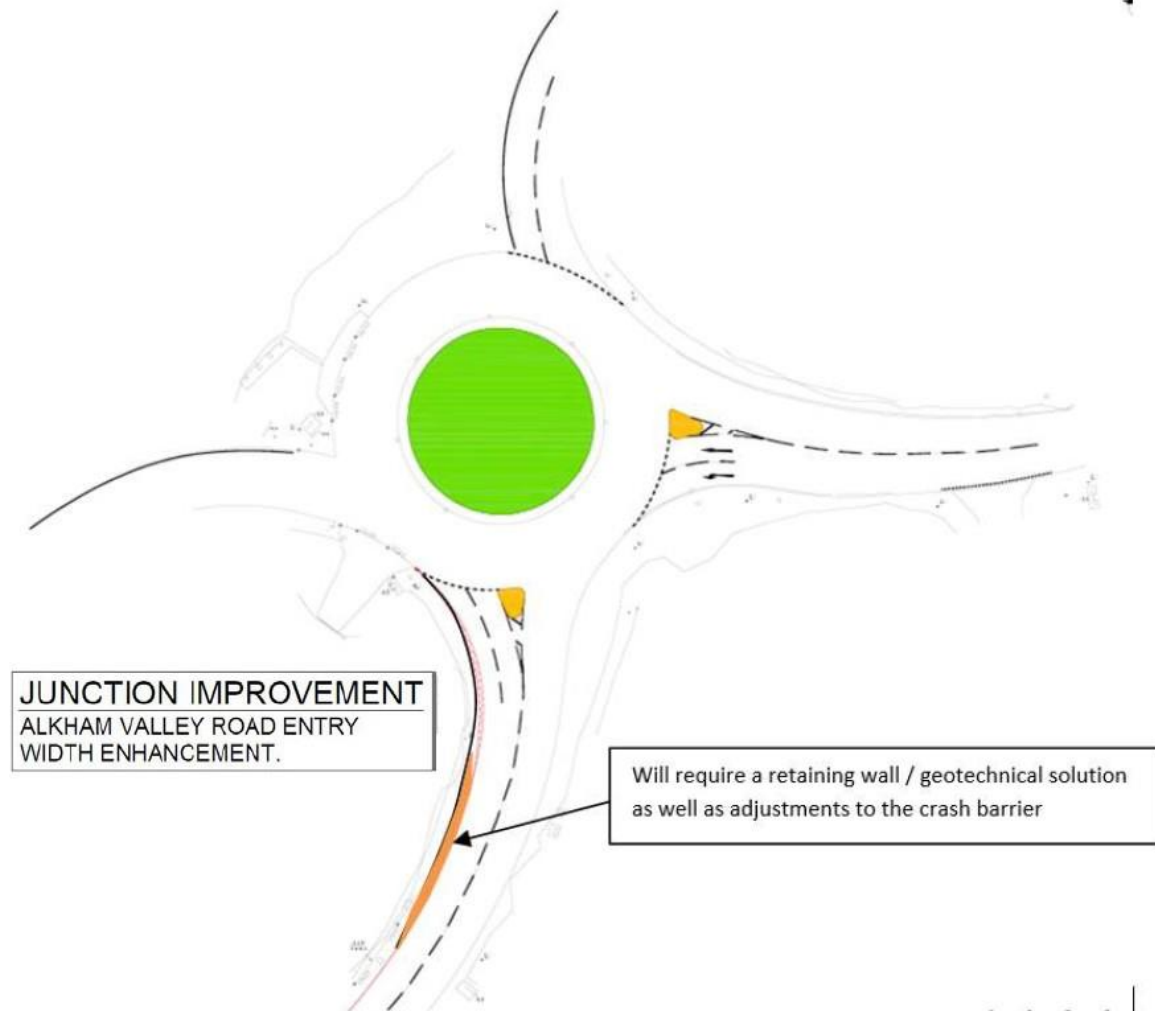


Table 5 shows the modelling results after the implementation of the above mitigation measures.

Table 5 – Alkham Valley Rd-A20 Slip – 2037 Potential Layout Assessment

Arms	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	DS 2037							
A20 Onslip	0	1.96	0.05	A	0.1	2.23	0.07	A
Alkham Valley (East)	1.4	4.75	0.59	A	0.4	2.76	0.29	A
Alkham Valley (South)	95.1	193.11	1.12	F	36.9	73.49	1.02	F

The proposed measures mitigate the traffic increase impact at Alkham Valley so that the junction performance is better than in the 2037 DM case. Nevertheless, the junction remains over capacity.

4.4 Junction 3 - Canterbury Rd-A260 Alkham Valley Rd

Image 9 shows a southbound segregated left turn into Alkham Valley road so that the minor arm movements no longer have to yield to them.

Image 9 – Canterbury Rd-A260 Alkham Valley Rd – 2037 Potential Layout

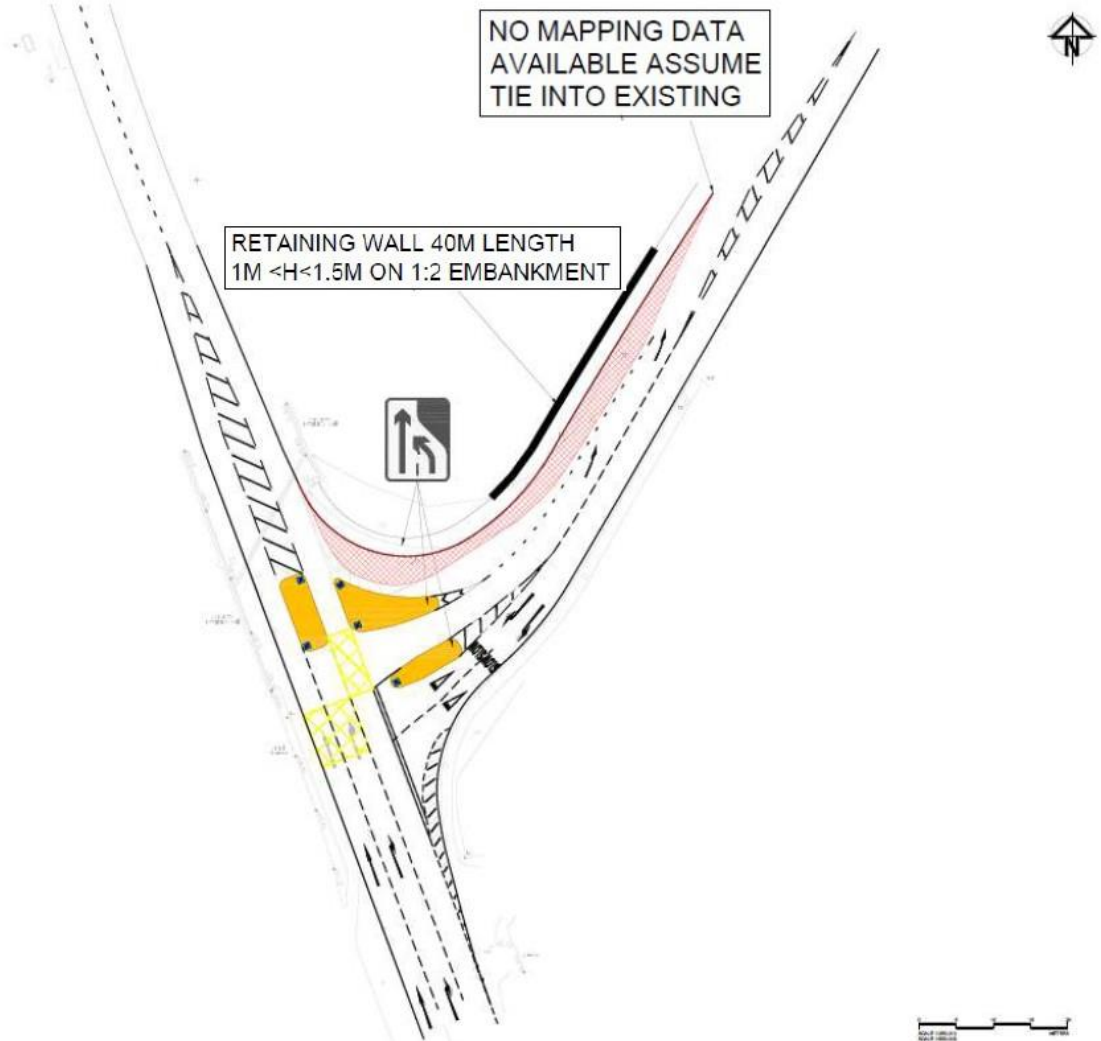


Table 6 shows the modelling results with the mitigation measures implemented.

Table 6 – Canterbury Rd-A260 Alkham Valley Rd – 2037 Potential Layout Assessment

Arms	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	DS 2037							
Alkham Valley (Left Turn)	2.8	31.06	0.75	D	0.8	13.66	0.46	B
Alkham Valley (Right Turn)	0.8	61.21	0.48	F	1	63.53	0.51	F
Canterbury Rd (Right Turn)	0.6	11.44	0.36	B	0.9	12.36	0.47	B

The proposed measures would mitigate the traffic increase impact at Canterbury Rd-A260 Alkham Valley Rd, but the waiting time to turn right from Alkham Valley remains quite long.

4.5 Nil Detriment Option Conclusion

Overall, nil detriment solutions have been presented in this chapter. These solutions correspond to the level of mitigation required to compensate for the traffic impact of the Local Plan. This would mean that the Local Plan development does not worsen the forecast situation without the growth. It is noted however that significant congestion would remain, and Junction 3 is very constrained physically. The next chapter presents a potential solution to resolve the risk of queueing back onto the A20 as well as queueing at Junction 3.

5 2037 Potential 'Ultimate' Solutions

5.1 Junction 1 - Spitfire Way-White Horse Hill-A260 (Option 2)

Traffic Management Solution

The potential signalisation of junction 1, as an ultimate solution for the junction has for objective to:

- Increase capacity a Junction 1;
- The ability to trigger a traffic signal phase (hurry call) to clear extended queues on the A20 off-ramp; and
- The ability to regulate traffic to maintain traffic conditions at Junction 3.

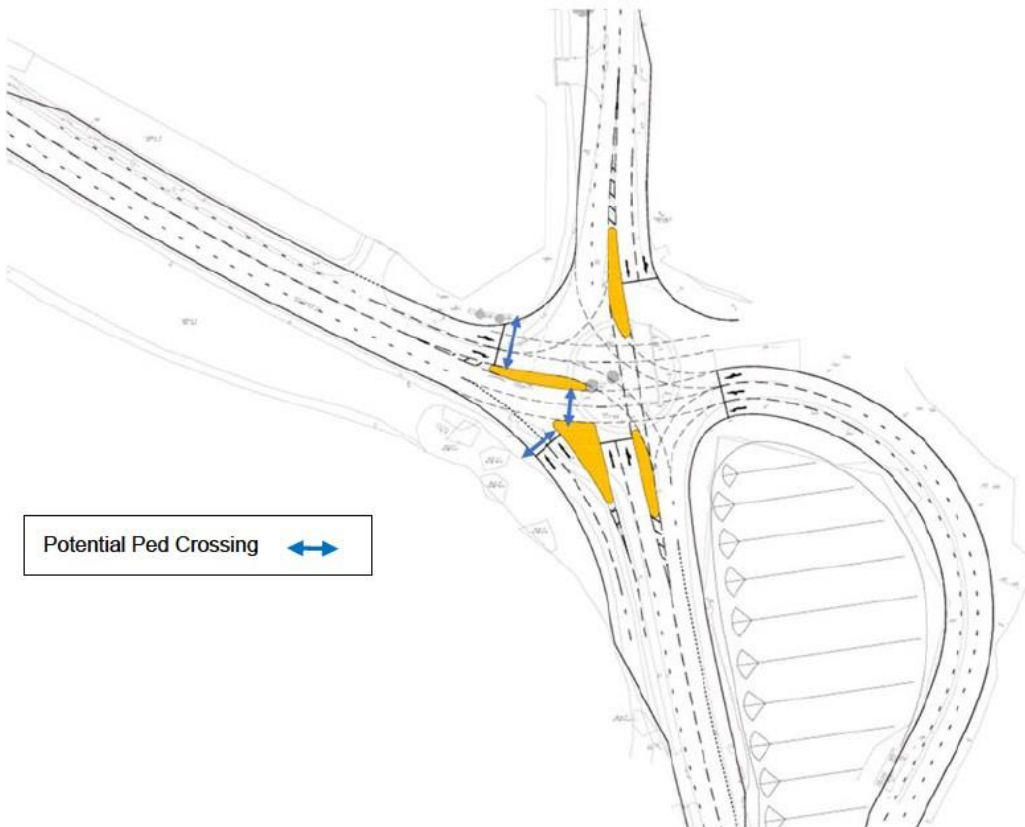
Option Description

The potential improvements to the junction in addition to signalisation are as follows:

- Provide a lane and flare lane on White Horse Hill approach of 50m and a two-lane exit northbound. Following discussions with KCC it is proposed that the right turn from White Horse Hill to Spitfire Way movement would be prohibited.
- Provide two full lanes on the A20 Slip and a third flare lane on the nearside for 100m
- Provide two lanes from the bridge structure on the A260 Canterbury Road and widen to provide a flare on each lane for the final 30m of the approach. The two nearside lanes would operate as a left turn filter. Provide a two-lane exit southbound that merges to one lane prior to the bridge structure.
- Provide a lane and a flare on Spitfire Way for 120m on the approach and a two-lane exit westbound.

An indicative sketch of the potential junction layout is shown in Image 10.

Image 10 – Proposed Staging for the Spitfire Way / White Horse Hill Signalised Crossroads

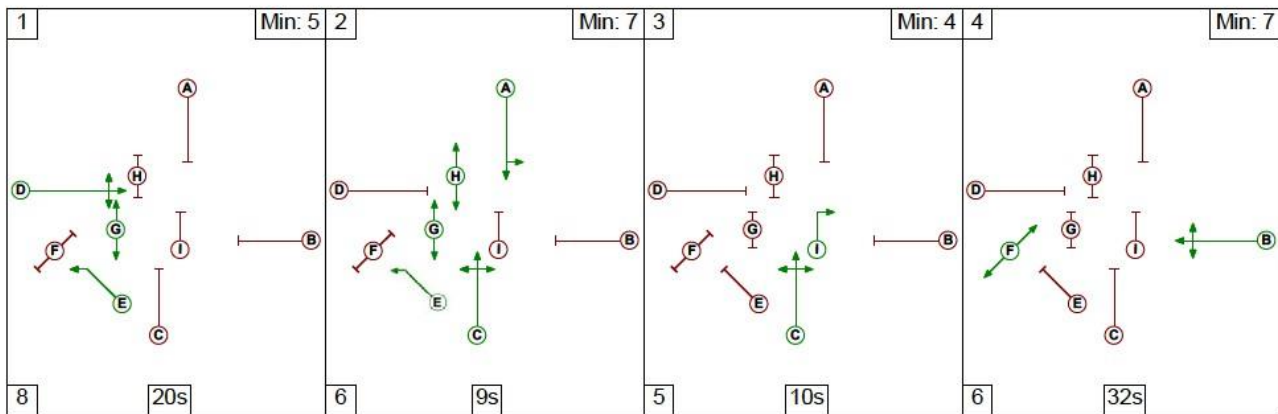


Network Traffic Model

A LinSig Network Traffic model was developed to test the proposed signalised junction performance at the Spitfire Way Roundabout. To assess the signalised junction upgrade at Spitfire Way, the Canterbury Road / Alkham Valley Road junction to the south, this junction was also included as part of the LinSig network. A matrix estimation in LinSig was undertaken using the 2037 DS CSR AM and PM peak flows to obtain the Origin and Destination (OD) movements for the network. The highest turning count GEH in either peak was 0.9 indicating that the matrix estimation is accurate.

The proposed staging for the junction is shown in Image 11. The purpose of stage 3 is to provide the operational flexibility to create gaps in traffic at Junction 3, located further South.

Image 11 – Proposed Staging for the Spitfire Way / White Horse Hill Signalised Crossroads



The LinSig network for the potential layout is shown in Image 12 and Image 13.

Image 12 – Canterbury Rd-A260 Alkham Valley Rd – 2037 AM Proposed Crossroads LinSig Network

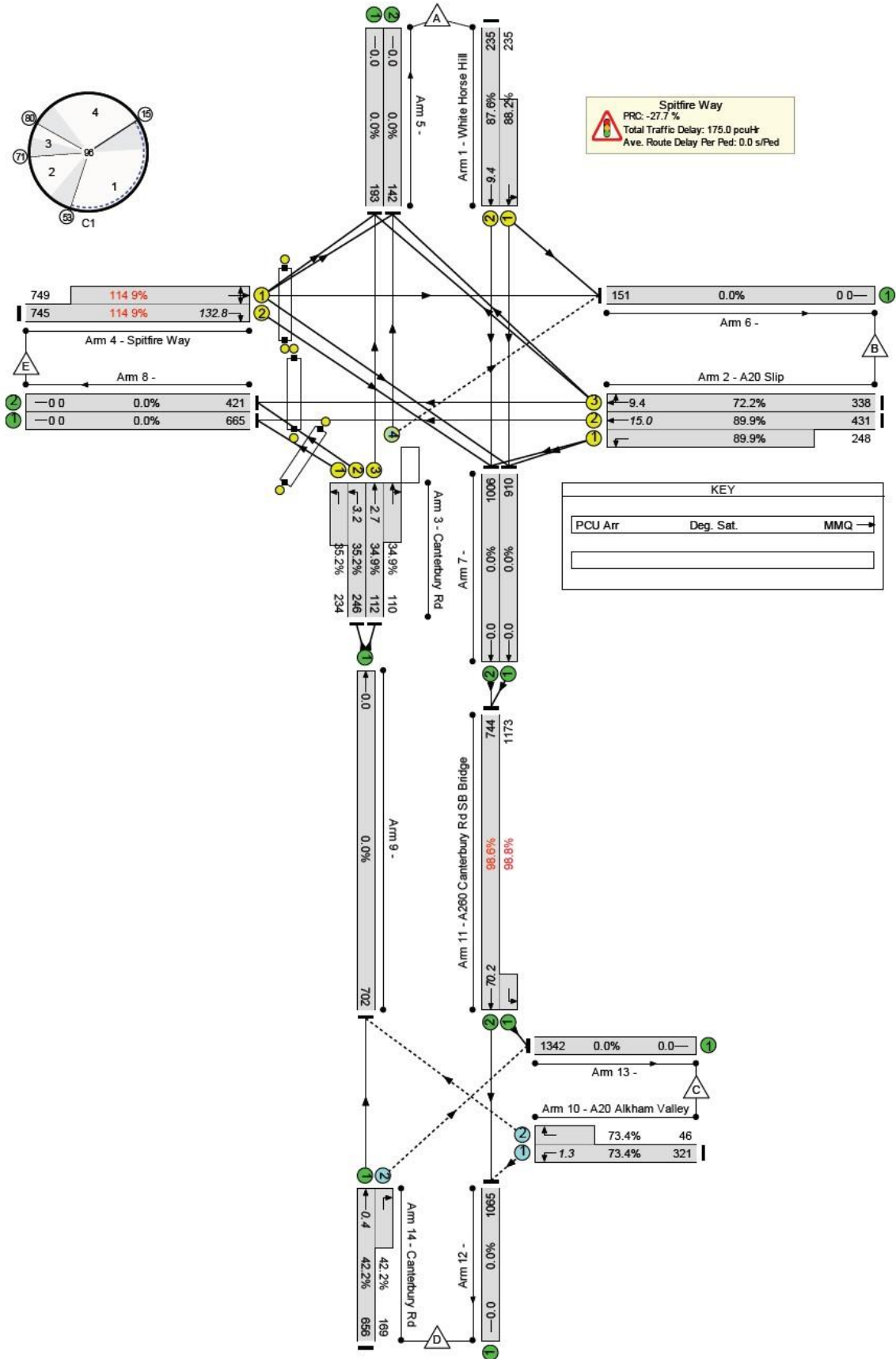
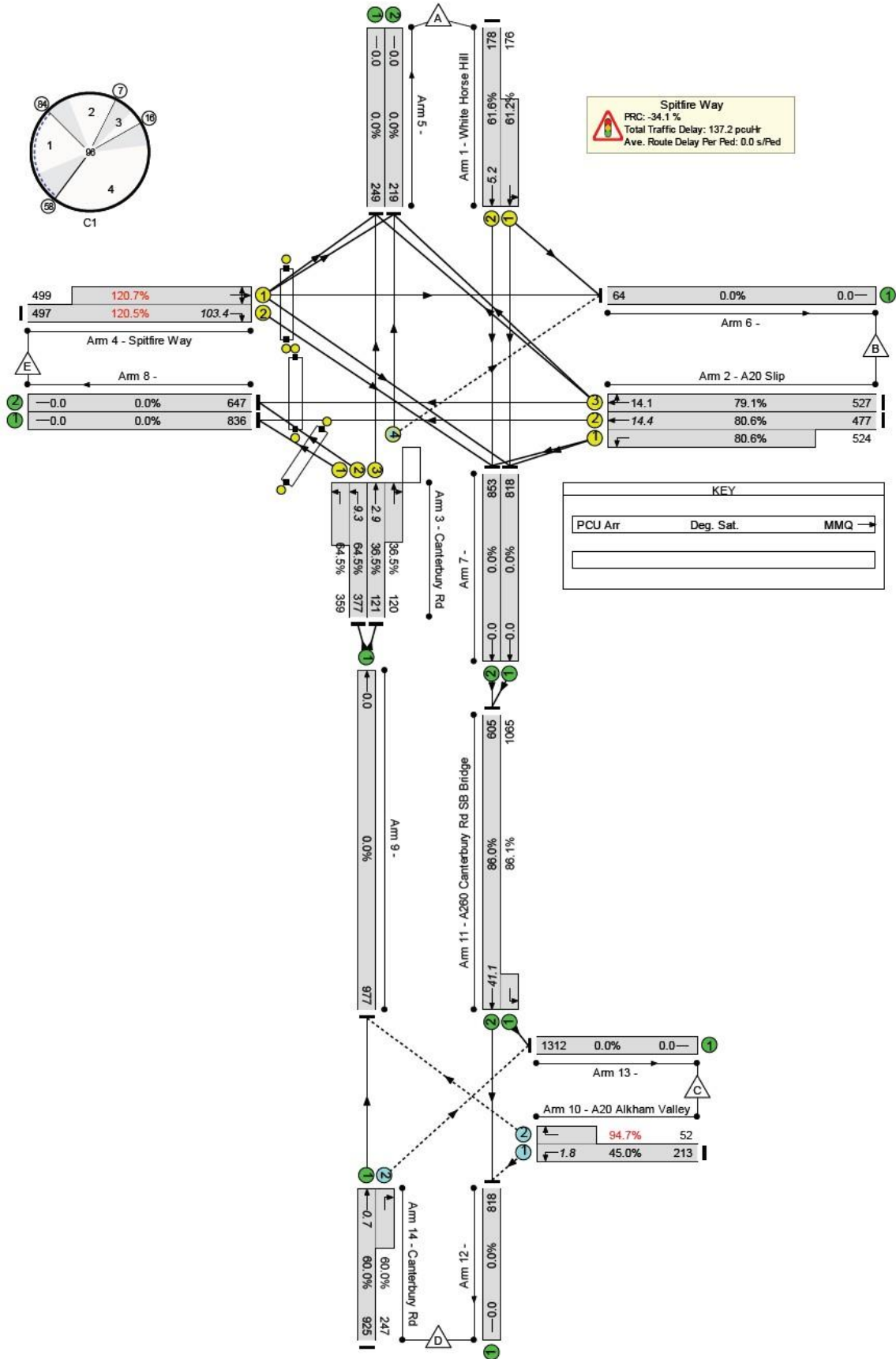


Image 13 – Canterbury Rd-A260 Alkham Valley Rd – 2037 AM Proposed Crossroads LinSig Network



Traffic Gating Strategy

The traffic signal operation has been manually adjusted to gate traffic on Spitfire Way in order to ensure that the A20 slip road approach and Alkham Valley Road to the south operate within capacity. Queue detectors can be placed on the A20 Slip and on the A260 southbound merge in order to adjust signal timings at the Spitfire Way / White Horse Hill junction. The traffic modelling results shown in Table 7, indicate that the proposed layout offers a viable solution to manage traffic demand at this constrained section of the network. The signalised solution will require gating traffic on Spitfire Way in order to maintain the integrity of the wider network, as such the results for Spitfire Way have a DoS of above 100%.

Such a solution retains a queue on Spitfire Way, but:

- The queue location is located at a safe place on the network, away from the A20 off-slip ramp;
- A free-flowing solution would require:
 - Two lanes southbound on the bridge; and
 - Extensive civil works at Canterbury Rd-A260 Alkham Valley Rd junction.

Table 7 – Spitfire Way-White Horse Hill-A260 – 2037 Option 2 Traffic Modelling Results

Arm	Lane	AM		PM	
		Queue (PCU)	DoS (%)	Queue (PCU)	DoS (%)
DS 2037 Scenario B1					
White Horse Hill	Lane 1 (flare)	9.4	88.2%	5.2	61.2%
	Lane 2		87.6%		61.6%
A20 Slip Road	Lane 1 (flare)	15	89.9%	14.4	80.6%
	Lane 2		89.9%		80.6%
	Lane 3	9.4	72.2%	14.1	79.1%
Canterbury Rd	Lane 1 (flare)	3.2	35.2%	9.3	64.5%
	Lane 2		35.2%		36.5%
	Lane 3	2.7	34.9%	2.9	33.4%
	Lane 4 (flare)		34.9%		33.4%
Spitfire Way	Lane 1 (flare)	132.8	114.9%	103.4	120.7%
	Lane 2		114.9%		120.5%
A260 Canterbury Rd SB Bridge (Link Result)			98.6%		86.1%
Alkham Valley Road		1.3	73.4%	1.8	94.7%
A260 Canterbury Rd NB right turn		0.4	42.2%	0.7	60%

5.2 'Ultimate' Option Conclusion

In conclusion, a signalised solution of Junction 1 has also been developed. This solution can mitigate the traffic congestion in the ultimate 2037 situation, however, it will require gating traffic on Spitfire Way at peak hours.

5.3 Intervention Timeline

Using a one hour flow profile to model the 2016 baseline for each of the local junctions indicates that they are all above practical capacity on at least one approach during the worst 15 minute period. As such any increase in capacity would require an intervention. A further assessment using a flat traffic flow profile has been undertaken and is presented in Table 8. The assessment assumed a flat traffic profile in order to establish when full saturation would occur. The threshold growth for the assessment was until an approach reached an RFC of 0.9. The results indicate that if it were not for the impacts of COVID 19 it would be likely that upgrades would be already be required at the Spitfire Way Roundabout and Canterbury Rd-A260 Alkham Valley Road junctions.

Table 8 – Spitfire Way-White Horse Hill-A260 – 2037 Option 2 Traffic Modelling Results

Junction/Peak Hour	2016 Base Year Flows	2037 Forecast Year Flows	% Growth	% Growth /yr	Threshold growth	Years to Intervention	Intervention Year	Approach Failing
Spitfire AM	2722	3584	1.32	1.319%	13%	10	2025	Spitfire Way
Spitfire PM	3116	4069	1.31	1.278%	3%	2	2018	A20 Slip
Canterbury AM	2702	3237	1.20	0.864%	6%	7	2022	Alkham Valley Left turn
Canterbury PM	2740	3384	1.24	1.011%	8%	7	2023	NB Right Turn
Alkham Valley AM	2112	2523	1.19	0.849%	4%	5	2020	Alkham Valley
Alkham Valley PM	1693	2183	1.29	1.217%	18%	15	2030	Alkham Valley

6 Overall Conclusion

In conclusion, the merge / diverge arrangement would require upgrading according to DMRB design standards, but from a congestion standpoint, it would not result in saturated traffic conditions and such an upgrade would have feasibility issues. A safety assessment would, however, be required to ensure last-minute lane change manoeuvres are mitigated.

Regarding the three at-grade junctions of the A20 / Spitfire Way / Alkham Valley Road interchange, to reinstate free-flowing traffic conditions:

- Physical junction interventions will be required, combined with the signalisation of the junctions; and
- The Canterbury Road-A260 Alkham Valley Road junction is constrained by the bridge just North of it and might not be able to accommodate a sufficient junction upgrade.

The DS CSR 6,500 scenario, however, is having a very limited contribution to the above-described traffic conditions. Mitigating its impact alone would be limited to the development of minor junction improvements. This section demonstrates that limited highways geometric interventions are sufficient to mitigate the increase in traffic volumes generated by the Local Plan.

A signalised solution of Junction 1 has also been developed. This solution can mitigate the traffic congestion in the ultimate 2037 situation, however, it will require gating traffic on Spitfire Way at peak hours.

APPENDIX A

Available Data

The data sources readily available as input to this study are available in Appendix A and consist of:

- AECOM, Briefing Note: Shepway Transport Model Update – Review & Findings, December 2017;
- AECOM, Shepway Transport Model – Merge and Diverge Appraisal (with spreadsheet model), September 2018;
- AECOM, Shepway Transport Model, Local Junction Modelling and outputs; November 2017;
- Taylor Wimpey, Cheriton High Street Junction, committed scheme drawing, May 2018;
- Email correspondence from Highways England to Folkestone & Hythe District Council dated October 2018 to confirm that no mitigation would be required for the 2031 Do Something scenario for the Places and Policies Local Plan (additional modelling scenarios);
- Arcadis, Otterpool Park – Transport Assessment, February 2019 (with supporting information and traffic models);
- Folkestone & Hythe District Council and Highways England, Statement of Common Ground, January 2020;
- Highways England, Folkestone and Hythe District Core Strategy Review Examination Submission to the Examination by Highways England, July 2020; and
- Folkestone & Hythe District Council, Core Strategy Review – Inspector’s Matters, July 2020.

Further information can be found as required on the Folkestone and Hythe District Council Local Plan website (<https://www.folkestone-hythe.gov.uk/core-strategy-review/core-strategy-review-examination-news-updates>).

APPENDIX B

Travel Demand Model

APPENDIX C

Junction Models

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