Isle of Wight Local Plan

Reference number 107794

16/10/2018

SRTM MODELLING – ISLE OF WIGHT LOCAL PLAN

SYSTRA

ISLE OF WIGHT LOCAL PLAN

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1. INTRODUCTION

1.1 Introduction

1.1.1 Isle of Wight Council (IWC) commissioned SYSTRA in July 2018 to undertake strategic transport modelling using Solent Transport's Sub-Regional Traffic Model (SRTM) to identify the high level traffic impacts of Allocation site development options as part of its Local Plan process. The Local Plan will cover the plan period from 2020 to 2035.

1.2 Background

1.2.1 Two different land use scenarios have been developed and tested as part of this Local Plan that represent both with and without Local Plan growth on the Island. The 'without' Local Plan growth only includes future development growth for those site that are already committed with the necessary planning permissions. The 'with' Local Plan growth includes the additional growth associated to the Local Plan.

1.2.2 The 'without' Local Plan contains a net gain of about 3,000 residential dwellings on the Island whereas the 'with' scenario contains an additional 10,000 dwellings. Moreover, the 'with' scenario contains an additional net gain of 443,000 square metres of employment floorspace compared to the 'without' scenario'.

1.2.3 For the Isle of Wight Local Plan assessment, scenarios were forecast to 2036 which is the closest SRTM model year to the end of the Plan period.

1.2.4 In discussion with IWC, a number of highway schemes has been included in four different scenarios. Some of the tested highway interventions are committed whilst the others are at varying stages of development. These schemes include the conversation of a major roundabout in Newport to a signalised crossroads on the A3020 and a new roundabout on St Georges Way/Pan Lane.

1.2.5 In addition, one scenario includes a new river crossing (bridge) north of Newport as a major strategic infrastructure scheme.

2. SOLENT TRANSPORT – SUB REGIONAL TRANSPORT MODEL (SRTM) BACKGROUND

2.1 SRTM Model Development

2.1.1 SYSTRA was commissioned, as part of a wider team, to support Solent Transport with the development and application of the SRTM for this nationally important area. An update to the original 2010 model was completed in early 2017 that updated and re-validated the model to a 2015 base year.

2.1.2 The SRTM has been developed to support a wide-ranging set of interventions across the Solent Transport sub-region, and is specifically required to be capable of:

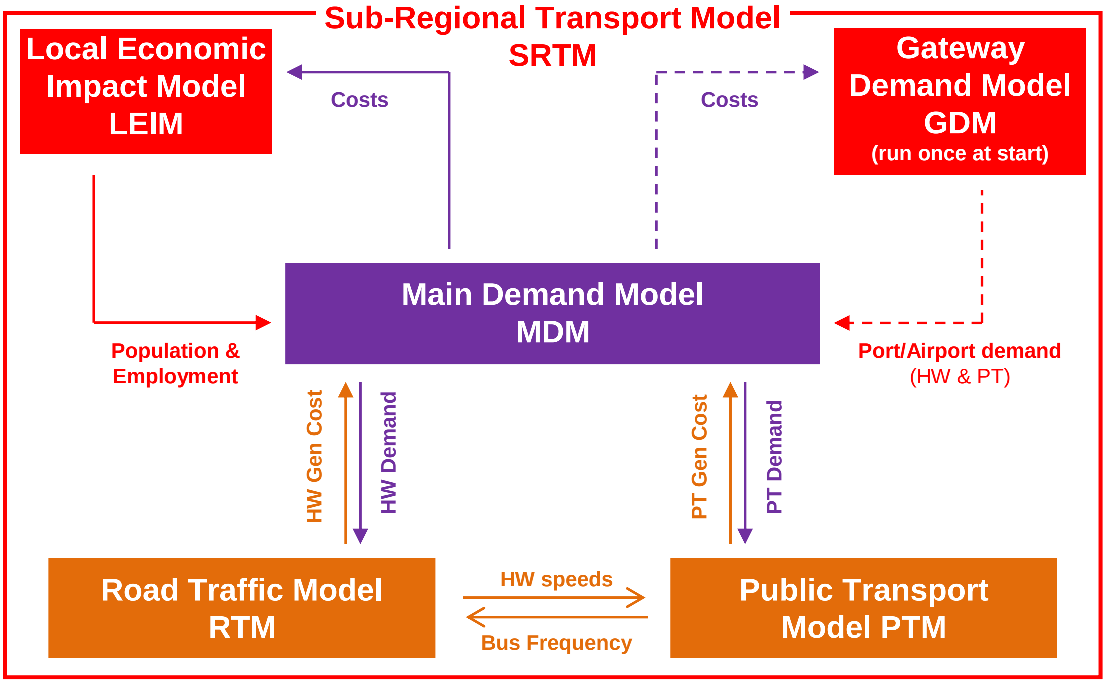
- Forecasting changes in travel demand, road traffic, public transport patronage and active mode use over time as a result of changing economic conditions, land-use policies and development, and transport improvement and interventions (schemes);
- Testing the impacts of land-use and transport policies and strategies within a relatively short model run time; and
- Testing the impacts of individual transport interventions in the increased detail necessary for preparing submissions for inclusion in funding programmes.

2.2 Sub Regional Transport Model Context and Scope

2.2.1 The SRTM is a suite of linked models comprising the following components as shown in Figure 1:

- The Main Demand Model (MDM) which predicts when (time of day), where (destination choice) and how (choice of mode) journeys are made;
- The Gateway Demand Model (GDM) which predicts demand for travel from ports and airports;
- The Road Traffic Model (RTM) which determines the routes taken by vehicles through the road network and journey times, accounting for congestion;
- The Public Transport Model (PTM) which determines routes and services chosen by public transport passengers; and
- A Local Economic Impact Model (LEIM) which uses inputs including transport costs to forecast the quantum and location of households, populations and jobs.

Figure 1. Solent Transport Sub-Regional Transport Model



2.2.2 The modelled area of the SRTM is divided into four regions, shown in Figure 2, which differ by zone size and modelling detail. The Isle of Wight is within the Core Fully Modelled Area (the most detailed region of the model). The SRTM zone structure representing the Isle of Wight is shown in Figure 3. The Isle of Wight covers a total of 118 SRTM zones with an average population of 1,200 per zone. Zone boundaries were developed in Accordance with Census output areas and boundaries.

2.2.3 In accordance with guidance three weekday periods are modelled in the SRTM:

- AM peak: busiest hour between 07:00 and 10:00, (defined as 40.5% of the three hours for Highway and 40% for Public Transport);
- Inter peak: average of 10:00 to 16:00 (i.e. 16.7% of the six hours for both modes); and
- PM peak: busiest hour between 16:00 and 19:00, (defined as 36.8% of the three hours for Highway and 40% for Public Transport).

2.2.4 The SRTM has a base year of 2015, and forecast years of 2019, 2026, 2031, 2036, and 2041. For the Isle of Wight Local Plan assessment, scenarios were forecast to 2036 as this is the furthest date to which the draft Local Plan makes proposals regarding the location and quantity of development.

2.2.5 The 2015 modelled highway network representation of the Isle of Wight is shown in Figure 4.

Figure 2. SRTM Study Area

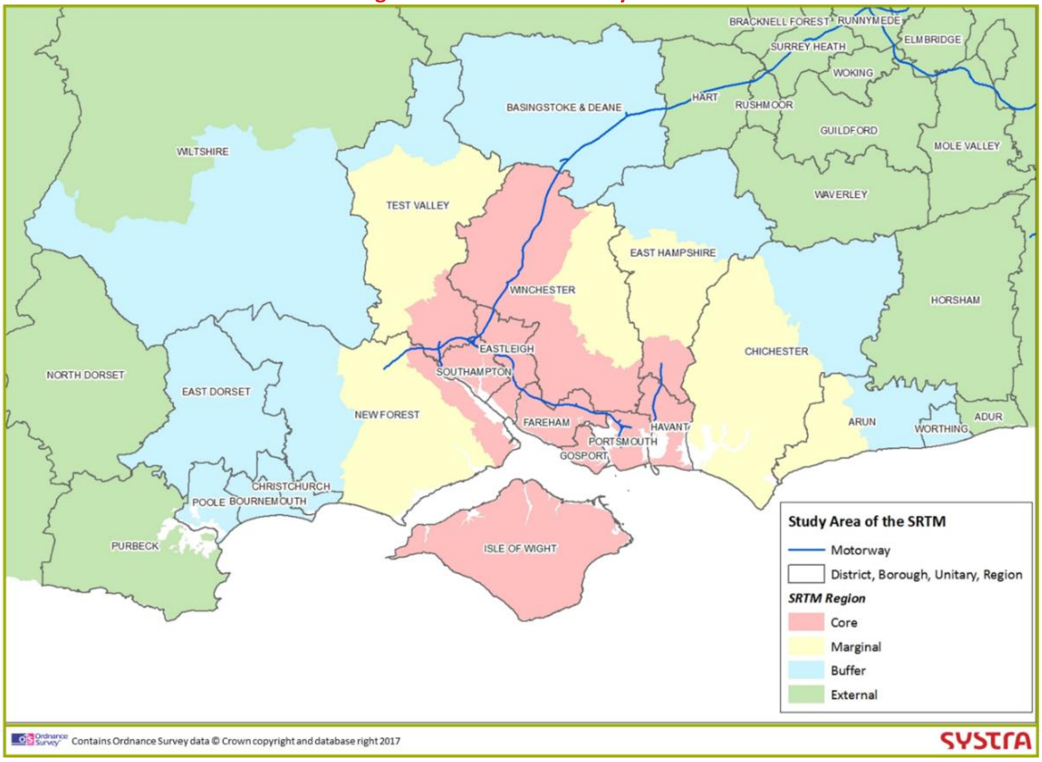


Figure 3. Isle of Wight Zone Structure

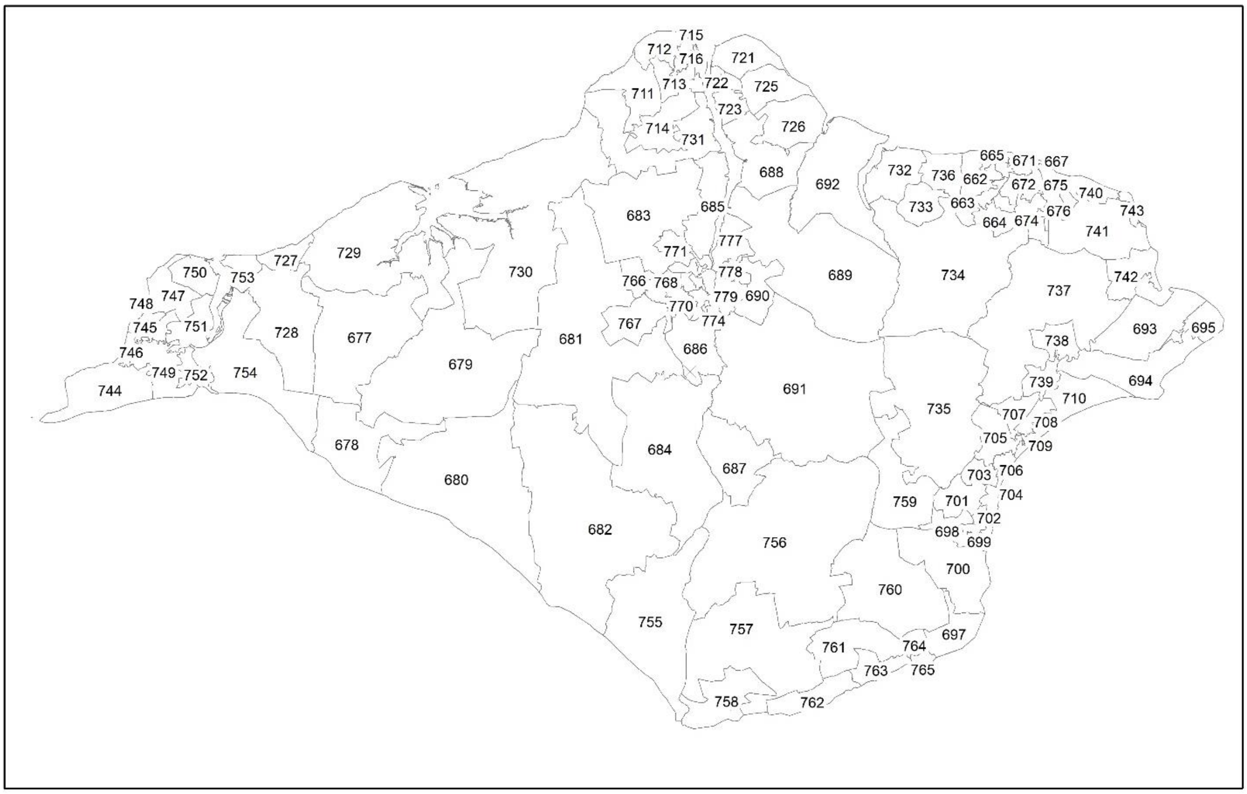
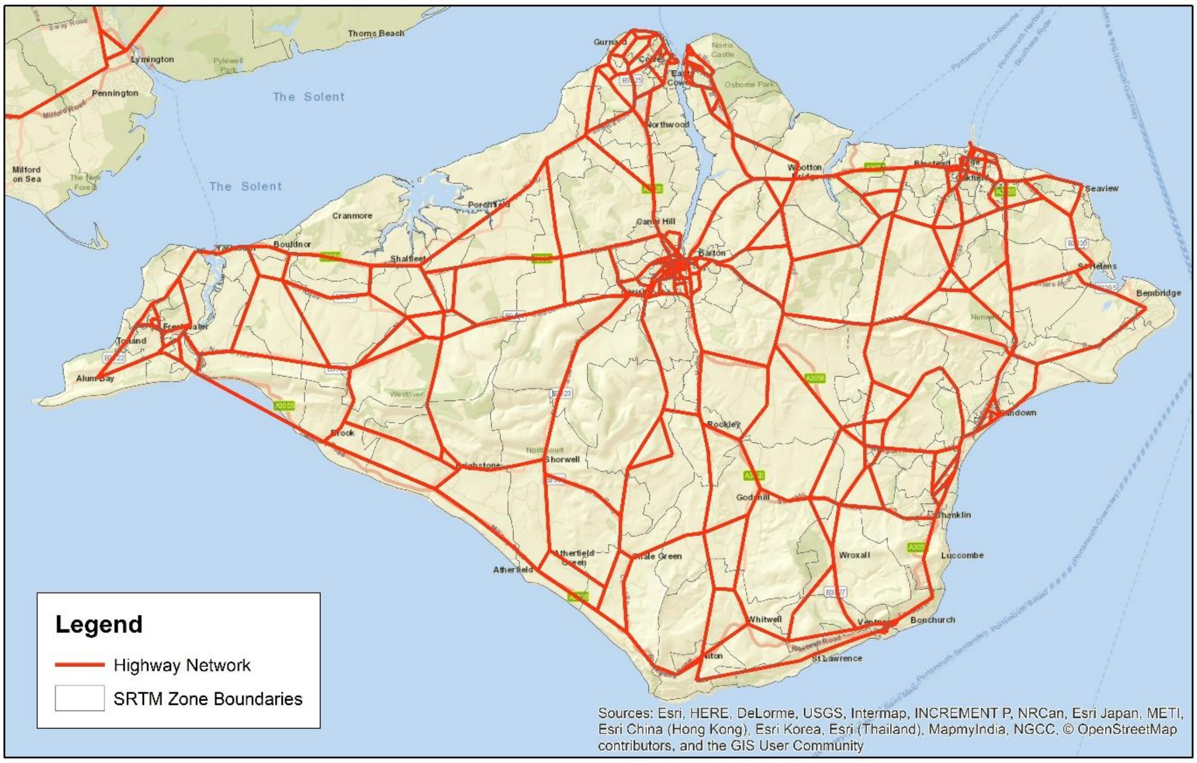


Figure 4. Isle of Wight Highway Network (2015)



3. MODEL SCENARIOS

3.1 Reference Case Committed Schemes and Development

3.1.1 The SRTM model represents conditions up to the year 2041. Known developments and committed (funded) highway schemes are included within the model's reference case scenarios (2019, 2026, 2031, 2036 and 2041) to provide the most accurate representation of future year conditions.

3.1.2 A list of the known developments and committed highway schemes at the time of commissioning are included in the Reference Case and is provided in Appendix A.

3.1.3 The following sections provide a breakdown of the key modelling processes, inputs and outputs. Committed development, and infrastructure information through to 2036 was provided / confirmed by IWC in June 2018.

3.2 2036 Baseline

Highway Network

3.2.1 The Baseline scenario is based on standard SRTM reference case scenarios networks for all modelled years.

3.2.2 In addition to the Reference Case networks, the following highway schemes have been included as part of the Baseline (the scheme numbering refers to IWC information provided):

- Scheme 1: A3054 Forest Rd/A3020 Medina Way/Parkhurst Way junction- conversion of roundabout to signalised crossroads, junction changes to enable all moves between Forest Rd & Medina way and additional lanes in various locations. This is a committed scheme in IWC's Highway Capital Programme;
- Scheme 2: St Georges Way/Pan Lane – ASDA scheme- new roundabout including Pan Lane connection via housing development to new roundabout. This scheme was completed in 2017.

3.2.3 Drawings for Baseline schemes, as well as an overview of the highway interventions for all scenarios provided by IWC, can be found in Appendix C.

Public Transport Network

3.2.4 The Baseline scenario uses standard SRTM reference case networks for all modelled years with no additional changes to PT services assumed.

Isle of Wight Baseline – Non IoW Land Use Assumptions

3.2.5 The SRTM reference case inputs populate the Baseline scenario for all model areas except the Isle of Wight, where the reference case inputs have been revised as detailed in Section 3.2.8.

3.2.6 The reference case land use (excluding the Isle of Wight) includes committed sites and "permissible" sites. Permissible sites are those locations identified as suitable for future development but that have not yet been subject to planning approval. The locations and maximum land use quantum of the permissible sites are based on the inputs collated in April 2016 in accordance with the adopted Local Plans. The take up of permissible developments is determined by the LEIM module of SRTM and is based on the local conditions (the relative "attractiveness" of the development e.g. accessibility).

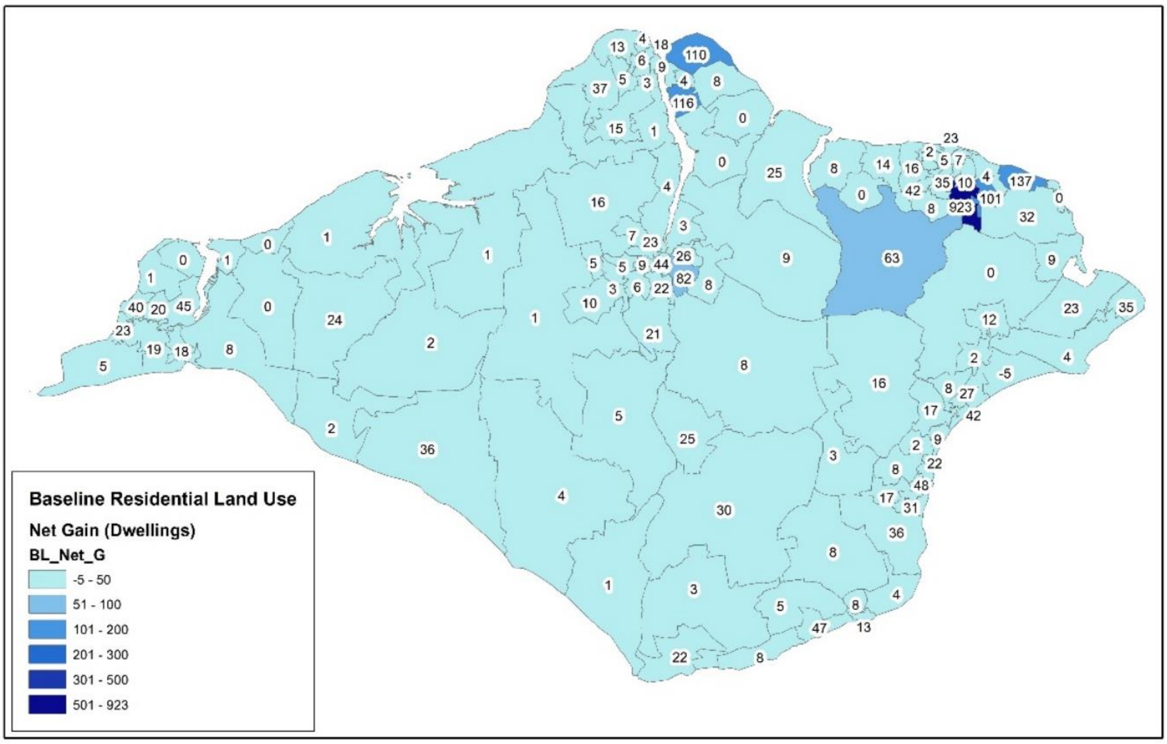
3.2.7 LEIM controls the level of overall development growth within the model in accordance with TEMPRO (v7.2) employment and population trajectories for the sub-region which conforms with WebTAG to ensure consistency with Department for Transport standards and data. This is equivalent to allowing for background traffic growth within the modelling process.

Isle of Wight Completions and Committed Development Land Use Assumptions

3.2.8 The starting point in the Baseline for all land use data specific to Isle of Wight Council is to remove all the standard reference case inputs after 2015. In place of these, the actual site completions post-2015 have been added plus hard committed future developments. The total completions and committed development (hard commitments) totals for Isle of

Wight Council are provided in Appendix B including a breakdown by SRTM model zone, and are also summarised in Table 1 and shown in Figure 5 below.

Figure 5. Baseline Residential Land Use



3.3 2036 Do Minimum (DM)

3.3.1 The Local Plan development allocations are included in this scenario. This contained all of the committed development on the Isle of Wight (as per the Baseline), alongside allocated smaller sites, resulting in a net gain of circa 13,000 dwellings.

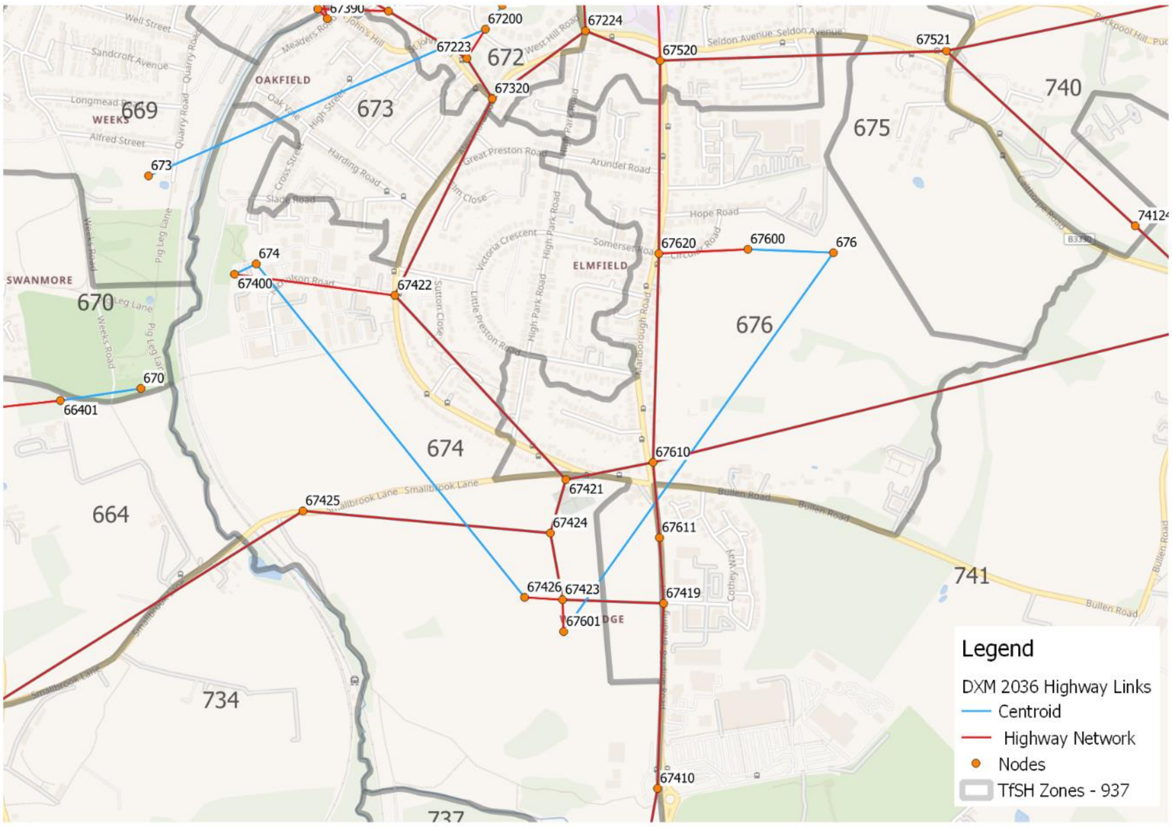
Highway Network

3.3.2 In addition to the modelled network in the Baseline scenario, the following highway schemes have been included as part of the Do Minimum option:

- Scheme 10: Nicholson Road industrial estate development- signalisation of Nicholson Road/Great Preston Road junction;
- Scheme 11: Pennyfeathers Development - diversion of Smallbrook Lane via site, new link to Great Preston Road, new development spine road junction with Brading Road and major changes to Brading Road. Also includes Marlborough Road/Great Preston Road/Brading Road/Bullen Road crossroads improvement.

3.3.3 For scheme 11, model zone connectors for zones 674 and 676 were amended in order to represent traffic that is being loaded into the network as accurately as possible for the Pennyfeathers site and to account for the Local Plan development sites. This is shown schematically in Figure 6.

Figure 6. Pennyfeathers Zone Loadings



3.3.4 Drawings for Do Minimum schemes provided by IWC can be found in Appendix D.

Public Transport Network

3.3.5 The PT network is the same as that used in the Baseline scenario.

Non Isle of Wight Land Use Assumptions

3.3.6 In the Do Minimum, the land use on the Mainland is the same as in the Baseline. By assessing the Local Plan in this way, this ensures there are no changes to the number of households, jobs or population outside the Isle of Wight, isolating the impact of the Local Plan development.

Isle of Wight Council Local Plan Land Use Assumptions

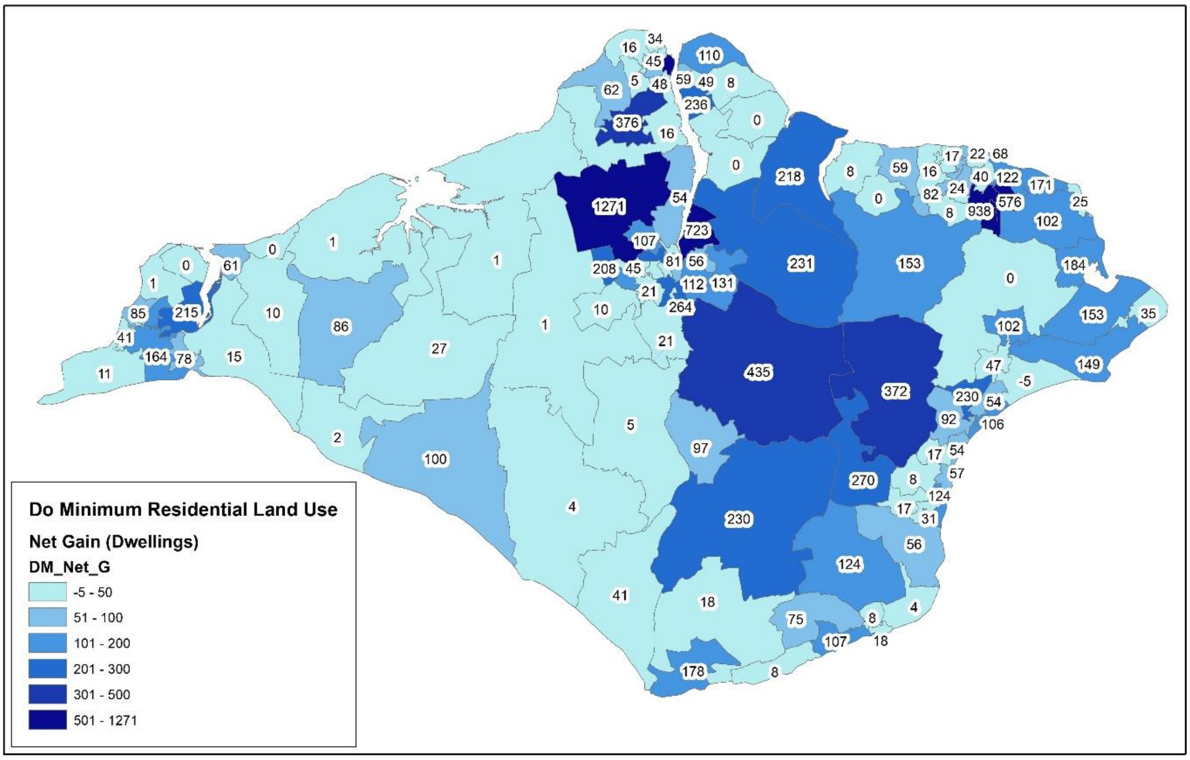
3.3.7 The Isle of Wight Council Local Plan developments are included within the Do Minimum scenario as 'exogenous' development meaning that they will be built-out fully in their specified location, regardless of local conditions and the attractiveness of their location. The Isle of Wight Local Plan development totals are shown in the table below as modelled changes (net gain), in Figure 7 and with a breakdown by zone provided in Appendix B.

Table 1. Baseline and Do Minimum: Isle of Wight Land Use Assumptions 2015 – 2036 (Net Gain)

LAND USE CATEGORY (RESIDENTIAL & EMPLOYMENT)	BASELINE	DO MINIMUM
Residential (Dwellings)	3,019	13,020
Retail (sqm)	-25	-25
Office (sqm)	3,110	63,110
Industrial (sqm)	3,633	288,633
Warehousing (sqm)	-169	97,831
Higher Education (sqm)	3,060	3,060
Adult Education (sqm)	102	102
Hotels & Accommodation (sqm)	4,120	4,120
Healthcare (sqm)	133	133
Leisure (sqm)	771	771

SRTM Ref DWO and DWP

Figure 7. Do Minimum Residential Land Use



3.4 2036 Do Something 1 (DS1)

3.4.1 The starting point for the Do Something 1 scenario is the Do Minimum, using the same land use assumptions and highway schemes.

3.4.2 In addition to the highway schemes modelled in the DM, the following interventions on the Isle of Wight network have been identified by IWC and have been included in the DS1 scenario:

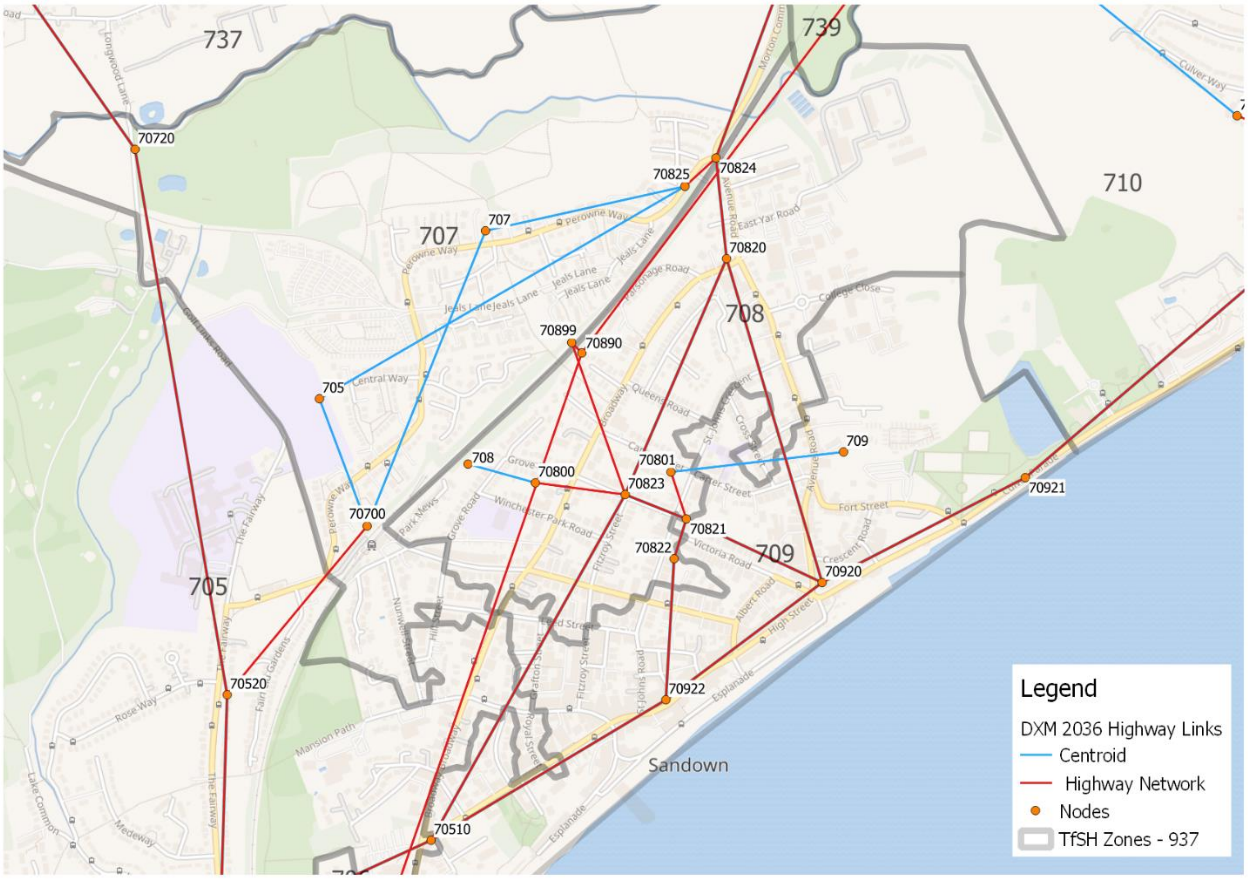
- Scheme 4: Coppins Bridge – remarking of southbound approach arm on A3020 Medina Way to improve lane discipline and removal of signalised pedestrian crossing;
- Scheme 5: Medina Way / River Way junction – signalising of slip road merge with main SB carriageway;
- Scheme 6: Hunnyhill / Hunnycross Way - new Flare at signalised junction;
- Scheme 8: Terrace Road extension westwards through existing Jewsons site to Trafalgar Rd to create through route and one way system (westbound traffic via Terrace Rd, eastbound via Trafalgar Rd);
- Scheme 12: Quarr Hill / Newnham Road - conversion from mini roundabout to signalised crossroads;
- Scheme 13: Binstead Road / Pellhurst Road - relocation of pedestrian crossings;
- Scheme 14: Queen's Road / West Street – signal timing alterations;
- Scheme 15: Argyll St / West Street – signal timing alterations;
- Scheme 16: Morton Common / Perowne Way – layout change;
- Scheme 17: Lake Hill / The Fairway – signalisation;

- Scheme 18: Sandown Road / Newport Road Lake – widening of northern and western arms to provide longer 2-lane approaches;
- Scheme 20: High Street / Victoria Avenue – signal timing alterations.

3.4.3 Design proposals / drawings already exist for a number of these schems, but for some, these proposals are at a conceptual / pre-feasibility level only. The identified changes have been coded into the SRTM network.

3.4.4 As part of scheme number 16, zone connectors for zones 705 and 707 were added to this redesigned junction. In doing so, traffic being loaded into the network can be represented as accurately as possible to account for the Local Plan development sites. The zone loading points are shown in Figure 8.

Figure 8. Sandown Zone Loadings



3.4.5 Scheme number 19 was listed in the schemes from IWC, but has not been included as this roundabout is not modelled within the SRTM.

3.4.6 Drawings for Do Something 1 schemes provided by IWC can be found in Appendix E.

3.5 2036 Do Something 2 (DS2)

3.5.1 The starting point for the Do Something 2 is the Do Something 1 scenario, using the same land use assumptions and highway schemes.

3.5.2 The following additional strategic intervention on the Isle of Wight has also been included:

- New crossing (bridge) over the River Medina north of Newport.

3.5.3 For this scheme, geometric designs do not exist, but parameters for coding this scheme into the SATURN highway network have been provided by IWC, and are detailed in Section 4.12.

3.5.4 A conceptual plan for this scheme can be found in Appendix F.

4. MODEL RESULTS – KEY CONGESTION HOTSPOTS

4.1 Introduction

4.1.1 This section identifies the effect that both the Local Plan allocations, and transport interventions have had in the form of key congestion hotspots within the network. In order to identify locations with capacity issues as a result of Local Plan allocations, the operational capacity on all links on the approaches to junctions on the Island have been assessed. Junction approaches have been reviewed based on the ratio of flow to capacity (V/C) on each approach – hence identifying links with a high V/C is a proxy for identifying junctions with capacity issues.

4.1.2 If the V/C is near, or in excess of 90%, then the junction will be subject to queuing and delays; a value of 90% is taken as the practical value for design purposes. A value of >100% means that the junction is over capacity and significant queuing and delays could occur.

4.1.3 Links where the V/C is more than 80% in either AM or PM peak hour for the Baseline or Do Minimum scenario is the criteria applied to identify a 'long-list' of junctions where future highway schemes may be required.

4.1.4 The change in V/C between the DM / DS1 / DS2, and Baseline scenarios has been calculated to identify locations where the V/C worsens as a result of the Local Plan development. In addition to identifying locations with an V/C greater than 80%, the following criteria has been applied to show junctions that worsen either significantly or severely:

- **'Significant'** has a V/C of greater than 85% and an increase in V/C (between Baseline and DM / DS1 / DS2) of 5 or more
- **'Severe'** has a V/C of greater than 95% and an increase in V/C of 10 or more

4.1.5 It should be noted that the purpose of the above thresholds is to identify those locations where junction performance is most impacted by growth associated to the Local Plan. Locations where junction performance is already poor, but where the change in performance does not meet the above thresholds will not be flagged with either 'significant' or 'severe' category.

4.1.6 The full spreadsheet, detailing AM and PM Ratio of Flow to Capacity (RFC), actual flows and delays alongside the difference severity of all of the scenarios compared to the Baseline is shown in Appendix G.

4.1.7 Appendix H shows the flow difference plots. The absolute difference in Passenger Car Units (PCUs) is identified adjacent to the appropriate link. Blue lines identify a reduction compared to scenarios containing changes to the highway network and pink/red lines an increase. In addition, the scale of the change is represented graphically with coloured lines of varying bandwidth. Only flow differences above 10 PCUs are displayed in the plots. The following scenarios are compared within Appendix I:

- Baseline 2036 (DWO) vs. DM 2036 (DWP); and
- Baseline 2036 (DWO) vs. DS1 2036 (DXM); and

- Baseline 2036 (DWO) vs. DS2 2036 (DXO).

4.1.8 The Volume to Capacity (V/C) ratio plots for all scenarios are shown in Appendix J. For the V/C plots the performance of the link is identified through the colour of the link as follows:

- >80% Pink
- >100% Red

4.1.9 The following maps show congestion hotspots per scenario. Junctions are highlighted if the difference in RFC is severe or significant in at least one time period. The numbers refer to the spreadsheet data provided in Appendix G.

4.1.10 In the DM scenario, 5 junctions have been forecast to experience severe impacts, with 20 junctions forecast to experience significant impacts. The number of junctions failing is higher in the DS1 scenario with 8 locations with severe and 24 with significant impacts compared to the Baseline. In the DS2 scenario, 8 junctions have been identified as severe and 20 as significant.

4.1.11 Paragraphs 4.2 to 4.14 provide additional details on forecast impacts at each of these 'severe' locations.

Figure 9. Congestion Hotspots - Do Minimum – DWP

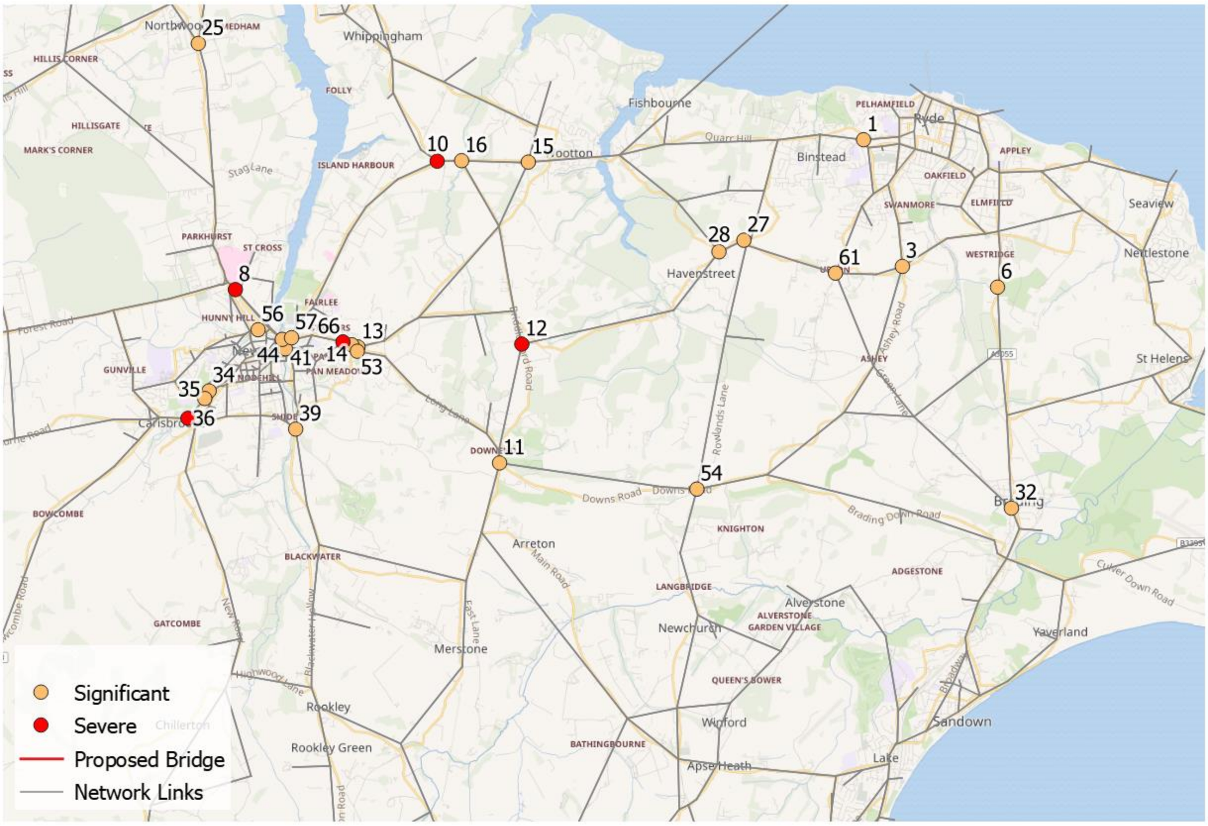


Figure 10. Congestion Hotspots - Do Something 1 – DXM

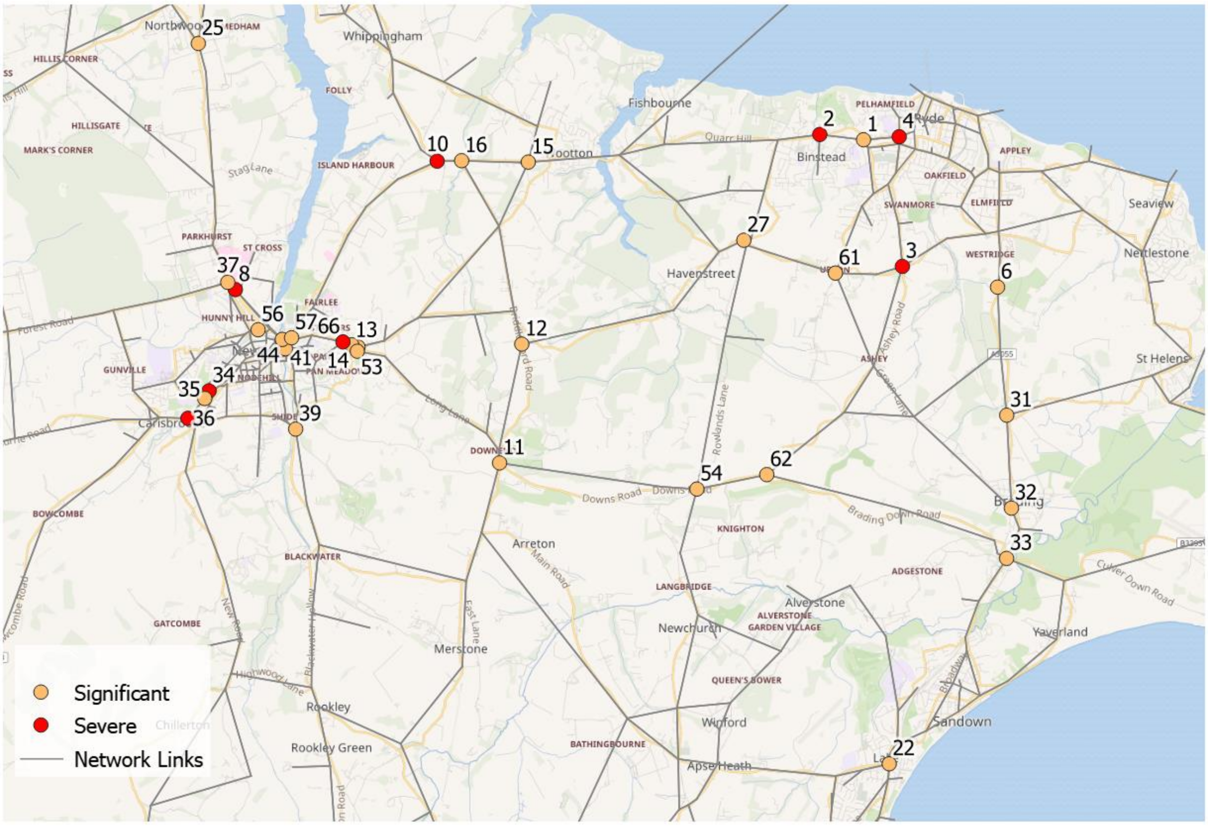
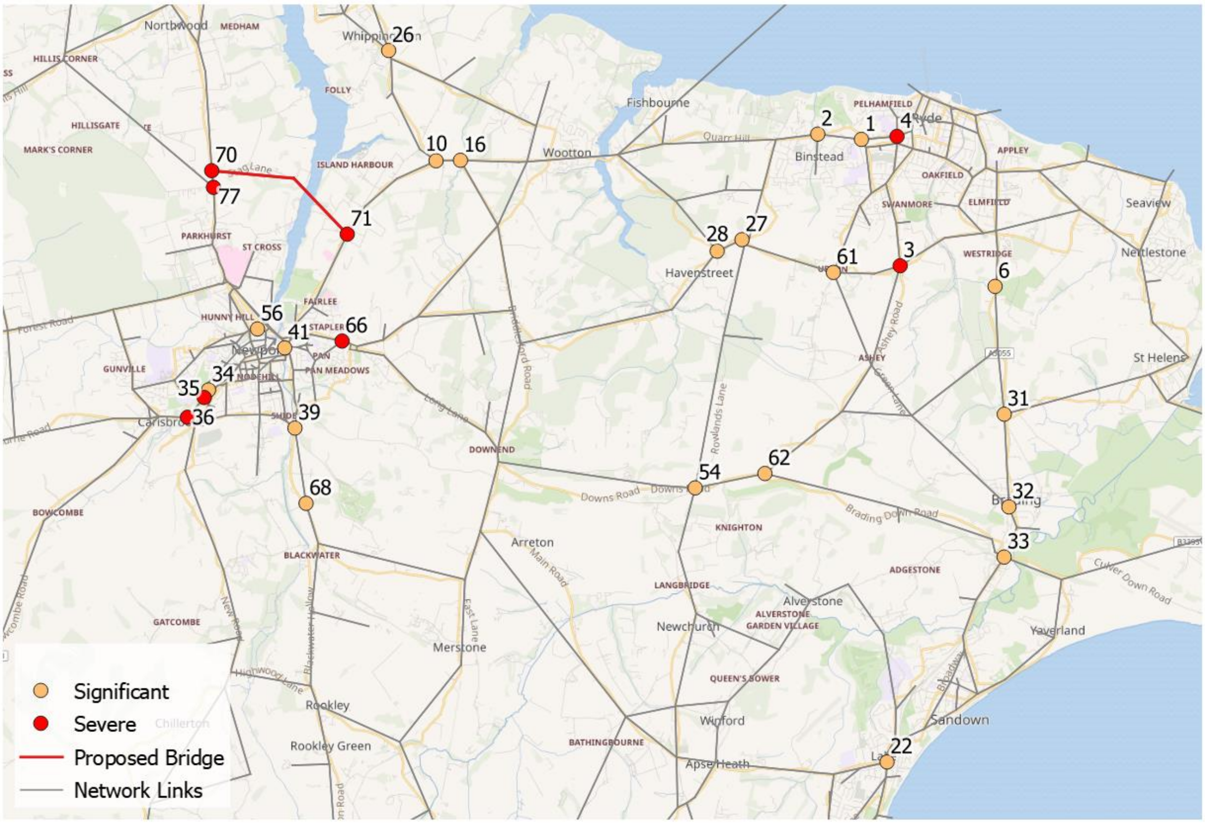


Figure 11. Congestion Hotspots - Do Something 2 – DXO



4.2 Binstead Road / Binstead Hill Roundabout (#2)

4.2.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 2. Binstead Road / Binstead Hill

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Binstead Hill EB	84	86	96	91	701	715	798	760	4	4	5	4	96	97	85	82	790	798	702	671	6	6	4	4
Binstead Road WB	59	58	54	59	465	453	420	467	4	4	4	4	77	80	77	77	600	617	596	600	4	5	4	4
Connector to Zones 662 and 736	6	6	6	6	439	432	431	431	3	3	3	3	4	4	4	4	312	312	315	315	3	3	3	3

4.2.2 In the AM peak, in the DM scenario, as a result of the land use intervention, V/Cs at the eastbound approach arm from Binstead Hill is forecasted to increase by 2% compared to the Baseline. In the PM peak, this approach arm is forecasted to increase by 1%. The increases in both peak periods do not result in any significant or severe impacts identified because the change relative to the Baseline is less than 5%.

4.2.3 However, in the DS1 scenario, this roundabout is identified as experiencing severe impacts in the AM peak compared to the Baseline, meaning that congestion has worsened. This arm is forecasted to approach capacity in 2036 (96%). In the PM peak, as V/Cs, flows and delays are forecast lower than the Baseline, no significant or severe impacts are identified.

4.2.4 During the AM peak, for the DS2 scenario, this roundabout is identified as experiencing only significant impacts compared to the Baseline, meaning that congestion has worsened (slightly less than DS1) with a V/C of 91%. No significant or severe impacts are identified in the PM peak.

4.2.5 The results show that for all of the scenarios, the eastbound approach arm from Binstead Hill is the most congested arm at this junction. Of all the scenarios, congestion is the worst in the DS1. However, even though there minimal capacity left on the eastbound approach arm, it must be noted that there is no forecast change in delays per PCU.

4.3 Ashley Road / Carters Road / Smallbrook Lane Roundabout (#3)

4.3.1 Table 3 below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 3. Ashley Road / Carters Road / Smallbrook Lane

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Ashley Road SB	29	36	36	41	206	225	224	253	4	5	6	6	32	50	47	47	205	195	183	184	5	12	12	12
Ashley Road NB	52	54	50	55	363	385	367	387	10	11	10	11	59	63	63	63	431	433	433	433	13	14	14	14
Smallbrook Lane WB	100	102	102	102	815	829	832	821	20	51	54	55	88	97	100	100	718	796	823	824	5	9	14	15
Carters Road EB	40	58	57	55	296	418	421	402	4	5	5	5	52	77	74	73	359	531	510	502	5	7	7	7

4.3.2 In the AM peak, for the DM, DS1 and DS2 scenarios, there are no significant or severe impacts identified at the junction. However, the westbound approach arm is forecast to operate over capacity in all scenarios, but does not trigger any of the criteria as the forecast change is minimal between scenarios.

4.3.3 In the PM peak, for the DM scenario, the V/C for the approach arm from Smallbrook Lane is forecast to approach capacity (97%), which is identified as a significant impact as it is an increase of over 5% compared to the Baseline. For both the DS1 and DS2 scenarios, this arm is forecast to operate at capacity (100%), classified as a severe impact.

4.3.4 In addition to the significant or severe impacts, PCU delays are forecast higher in the AM peak than in the PM peak. For instance, in the DS2 scenario, delays at the approach arm from Smallbrook Lane are reported to be 55 and 15 seconds in the AM and PM peaks respectively.

4.3.5 The results show that the most congested arm at this mini roundabout is the approach arm from Smallbrook Lane, and that congestion is forecast in both peak periods. The likely reason for more delays in the AM peak is the limited road capacity at this junction so, when the V/C is over 100%, this leads to longer delays. Therefore, congestion-easing measures are recommended to be implemented at this junction. For example, upgrading the current mini roundabout to a standard roundabout or signal controlled junction could improve performance. Moreover, local junction modelling is recommended for appraisal of any layout change.

4.4 Queens Road / John Street / West Street Junction (#4)

4.4.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 4. Queens Road / John Street / West Street

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Queens Road EB	93	93	106	106	534	538	382	382	49	52	220	218	82	84	102	101	497	510	368	363	30	32	150	126
West Street NB	89	90	101	102	353	355	297	297	55	56	148	150	84	81	92	97	304	295	268	282	48	44	72	97
John Street WB	54	61	68	66	649	725	687	671	22	27	30	30	62	64	88	88	813	825	899	899	45	51	31	30

4.4.2 For both the DS1 and DS2 scenarios, in both AM and PM peaks, the forecasts suggest that this junction is experiencing a severe impact.

4.4.3 In the AM peak the most congested arms are forecast to be Queens Road and West Street with both arms operating over capacity. In the PM peak, all approach arms are forecasted as congested.

4.4.4 Within both the DS1 and DS2 scenarios, the signal timings have been changed as part of the identified interventions. It is recommended that this junction may benefit from a further review of the signal staging/ timings to improve congestion at this location.

4.5 Medina Way / Dodnor Lane / Parkhurst Road / Forest Road Junction (#8 and #37)

4.5.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 5. Dodnor Lane / Medina Way / Parkhurst Road / Forest Road

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm (Crossroads)	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Dodnor Lane	31	37	37	34	613	707	708	707	53	40	41	37	60	54	54	51	869	869	869	869	90	76	71	71
Medina Way NB	93	96	100	90	1942	1998	2083	1888	64	94	98	69	80	96	99	84	2037	2110	2130	1961	26	37	40	33
Parkhurst Road	42	57	56	44	384	516	505	422	33	41	40	34	16	22	22	20	90	147	146	139	39	35	35	33
Medina Way SB (from signalised T-junction)	65	80	82	53	1333	1596	1634	1065	30	35	36	30	48	61	61	41	1203	1442	1453	960	17	21	22	19
Approach Arm (T-Junction)	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Forest Road	86	90	93	74	738	706	731	744	46	54	61	35	70	72	72	66	393	404	402	395	46	47	47	43
Medina Way SB	55	65	66	45	1308	1619	1646	1006	14	15	15	19	46	54	54	36	1248	1488	1497	963	9	11	11	13
Medina Way NB (from signalised crossroads)	68	84	67	67	1641	1775	1836	1498	15	20	16	17	64	69	72	69	1989	2049	2111	1849	9	13	13	11

4.5.2 This junction forms part of a major highway scheme which has been modelled in all four scenarios. As part of this scheme, the existing roundabout has been changed to signalised crossroads with a free flow lane for left turning vehicles from Medina Way to Dodnor Lane. Parkhurst Road has been closed for through traffic and a new signalised junction to the west has been added to link Medina Way with Forest Road.

4.5.3 In the AM peak, the junction is identified as experiencing significant impacts in the DS1 scenario on the approach from Forest Road and (93%) the approach from Medina Way northbound. The V/C's on these arms have reduced compared to the Baseline in the DS2 scenario, and there are no Local Plan driven impacts classified as significant or severe identified under this scenario.

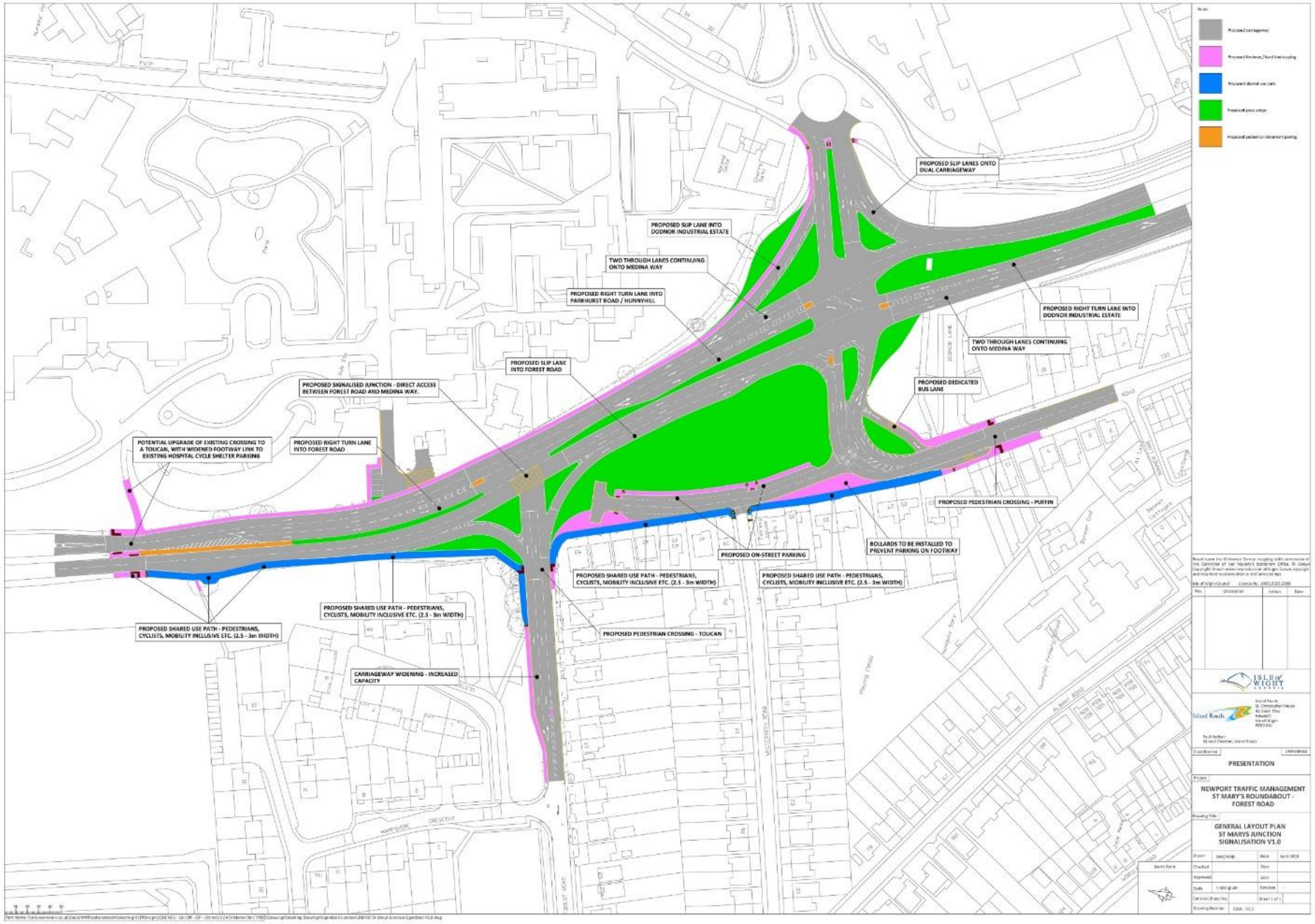
4.5.4 In the PM peak, this junction is identified as experiencing severe impacts in the DM and DS1 scenario as the V/C on the approach arm from Medina Way northbound has been forecasted to increase by over 10% compared to the Baseline. In the DS2 scenario, the V/C is forecasted at 84% which is an increase from the Baseline but since the increase is less than 5% there are no significant or severe impacts identified under this scenario.

4.5.5 The results reflect the impacts from the new river crossing implemented in DS2. The DS2 scenario shows the lowest flows on Medina Way for all of the scenarios. However, the northbound approach arm is still approaching practical capacity in both time periods in the DS2 scenario.

4.5.6 The scheme layout was developed in advance of the Local Plan modelling and it is recommended to undertake further local junction modelling to optimise signal staging/ timing for the crossroads section of this junction to account for the Local Plan impacts.

4.5.7 The current scheme drawing can be seen in Figure 12. The drawing is also included in Appendix C.

Figure 12. Highway Scheme Number 1 3.5 Dodnor Lane / Medina Way / Forest Road Junction



4.6 Racecourse / Lushington Hill / Whippingham Road Roundabout (#10)

4.6.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 6. Racecourse / Lushington Hill / Whippingham Road

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Racecourse	85	96	96	82	1004	1157	1166	990	11	16	16	11	89	96	92	79	1127	1216	1158	997	11	14	11	10
Lushington Hill	87	79	79	92	1071	968	965	1126	11	10	10	12	69	78	77	80	867	985	969	997	9	9	9	9
Whippingham Road	87	92	92	92	1016	1023	1021	1071	12	15	15	14	84	85	83	83	1014	997	994	1025	10	11	10	10

4.6.2 The approach arm from Racecourse is forecast severe impacts in the DM and DS1 scenarios during the AM peak. This arm is approaching capacity at 96% in DS1. In the PM peak, this approach arm is identified as experiencing significant impacts under the DM scenario but no significant or severe impacts were identified in the DS1 scenario.

4.6.3 During the AM peak, the Lushington Hill approach arm is approaching capacity in the DS2 scenario (92%). The increase from 87% in the Baseline classifies this as a significant increase but there are no significant or severe impacts identified on this approach in other scenarios, or during the PM peak.

4.6.4 The results also show that the Whippingham Road approach to this roundabout is forecast significant impacts (92%) in the DM and both DS scenarios during the AM peak only.

4.6.5 Despite the increases in RFC measures, the delays per PCU at this junction remain low and increase only marginally between the different scenarios.

4.7 Briddlesford Road / Combley Road Junction (#12)

4.7.1 Table 7 below presents junction performance statistics, by arm, for the Baseline (BL), DM, DS1 and DS2 test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 7. Briddlesford Road / Combley Road

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	**BL**	**DM**	**DS 1**	**DS 2**	**BL**	**DM**	**DS 1**	**DS 2**	**BL**	**DM**	**DS 1**	**DS 2**	**BL**	**DM**	**DS 1**	**DS 2**	**BL**	**DM**	**DS 1**	**DS 2**	**BL**	**DM**	**DS 1**	**DS 2**
Briddlesford Road NB	14	13	15	13	227	210	235	209	1	1	1	1	10	14	14	12	141	205	204	166	2	2	2	2
Combley Road	86	92	93	88	448	473	457	446	17	22	25	18	80	96	89	78	432	487	454	415	13	32	20	12
Briddlesford Road SB	20	26	25	29	330	432	417	479	1	1	1	2	32	35	36	37	525	578	588	617	2	2	2	2

4.7.2 In the AM peak, under the DM and DS1 scenarios, the junction is identified as experiencing significant impacts with the V/C on the approach arm from Combley Road forecast to be approaching capacity at 92% and 93% respectively, which is an increase of over 5% compared to the Baseline. In the DS2 scenario, a 2% increase from the Baseline to a V/C of 88%, which is less than 5% means there are no significant or severe impacts identified compared to Baseline even though this arm is still approaching capacity.

4.7.3 In the PM peak, under the DM scenario, the junction is identified as experiencing severe impacts with the approach arm from Combley Road forecast a V/C of 96% which is an increase of over 10% compared to the Baseline. For the DS1 scenario, this junction is identified as experiencing significant impacts as the Combley Road approach arm is forecast a V/C of 89%, which is an increase of under 10% compared to the Baseline. In the DS2 scenario, there are no significant or severe impacts forecast.

4.7.4 Slightly lower flows in the DS2 scenario compared to the DS1 scenario indicate some re-routing of traffic due to the new river crossing, leading to no approach arms being identified with significant or severe impacts in the DS2 scenario. Similar to the previous junction, delays per PCU at this junction remain relatively low with small increases between the different scenarios.

4.8 Carisbrooke Road / Recreation Ground Road Junction (#34)

4.8.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 8. Carisbrooke Road / Recreation Ground Road

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Carisbrooke Road EB	36	40	41	42	755	850	869	902	1	1	1	1	33	32	32	32	688	678	667	667	1	1	1	1
Carisbrooke Road WB	16	16	19	18	314	325	382	365	1	1	1	1	19	20	22	21	385	409	454	435	1	1	1	1
Recreation Ground Road	88	96	99	95	468	476	486	461	17	33	47	33	43	65	84	77	197	299	432	410	8	11	14	11

4.8.2 In the AM peak, the junction is identified as experiencing significant impacts for the DM and DS2 scenarios with the V/C on the approach arm from Recreation Ground Road forecast to increase by over 5% but less than 10% from the Baseline. In the DS1 scenario, the same approach arm to this junction is identified as experiencing a severe impact with a V/C of 99%.

4.8.3 In the PM peak, there are no significant or severe impacts identified with the criteria applied.

4.8.4 In addition to the significant and severe V/C junction impacts in the AM peak, delays have increased significantly. For instance, the DS1 delay is almost three times the Baseline value with an increase of 30 seconds.

4.8.5 These results show that the approach arm from Recreation Ground Road, which is the minor arm, is the only arm impacted at this priority junction. From the results it is recommended that measures to reduce congestion as a result of the transport/land use intervention might be required. However, it must be noted that major improvements or alternative junction types are unlikely to be feasible due to limited space. Moreover, signalising this junction is likely to cause delays on Carisbrooke Road.

4.9 Wellington Road / Carisbrooke Road Roundabout (#35)

4.9.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 9. Wellington Road / Carisbrooke Road

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Wellington Road	25	35	36	42	144	187	192	214	7	9	9	9	23	25	25	25	146	161	163	164	7	7	7	7
Carisbrooke Road WB	68	71	75	72	571	593	632	603	5	5	5	5	70	84	88	81	582	706	739	682	5	5	5	5
Carisbrooke Road EB	83	90	94	95	680	738	750	761	7	8	10	10	76	75	74	74	617	604	590	590	7	7	7	7

4.9.2 In the AM peak, this roundabout is identified as experiencing significant impacts in the DM and DS1 scenarios due to the Carisbrooke Road eastbound approach arm. Impacts at this approach arm are severe in the DS2 scenario with a V/C of 95%.

4.9.3 In the PM peak, there are no severe or significant impacts identified except for the DS1 scenario which is forecast a significant impact from the Baseline to a V/C of 88% on the Carisbrooke Road westbound approach arm.

4.9.4 Despite the V/C impacts, the forecast delay changes are minimal in all scenarios and modelled time periods and that indicates mitigation is not required.

4.10 High Street / Cedar Hill / Carisbrooke Road Junction (#36)

4.10.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 10. High Street / Cedar Hill / Carisbrooke Road

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
High Street	35	36	35	38	498	502	491	531	3	3	3	3	33	35	34	36	478	482	494	513	3	3	3	3
Cedar Hill	81	96	96	95	468	552	548	543	10	26	23	21	69	73	63	63	385	395	338	343	8	10	8	8
Carisbrooke Road WB	25	26	25	24	465	487	477	446	1	1	1	1	25	30	31	28	498	601	614	556	1	1	1	1

4.10.2 In the AM peak, a severe impact is identified in all scenarios as the forecast V/C increase on the Cedar Hill approach. In the PM peak, there are no forecast severe or significant impacts identified in any of the scenarios. Moreover, none of the approach arms is forecast to approach capacity during the PM peak.

4.10.3 As can be seen from the results, the congested arm is the approach arm from Cedar Hill, which hasn't improved with the highway interventions implemented. Despite the forecast increase in V/C the delay per PCU increase is relatively small and indicates additional mitigation measures are not required.

4.11 Staplers Road / Furrlongs Junction (#66)

4.11.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 11. Staplers Road / Furrlongs

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Staplers Road WB	54	61	64	58	1095	1237	1279	1134	2	2	2	2	63	64	64	63	1249	1286	1285	1271	2	3	3	2
Furrlongs NB	9	25	24	78	22	27	27	101	12	27	26	41	2	2	2	2	1	1	1	1	12	12	12	12
Staplers Road EB	47	98	98	101	999	996	994	935	2	43	38	76	46	47	47	47	991	1010	1011	1014	2	2	2	2

4.11.2 In the AM peak, this priority junction is identified as experiencing severe impacts in all scenarios as the V/C on the eastbound approach arm from Staplers Road is forecast to either approach or exceed capacity. The delay per PCU on this approach is also forecast to increase substantially.

4.11.3 In the PM peak, there are no significant or severe impacts identified as none of the approach arms have met the criteria for significant or severe impacts.

4.11.4 From the results, the congested arm is the approach arm from Staplers Road eastbound and mitigation measures may be required at this junction.

4.12 A3020 Cowes Rd / Stag Ln (New River Crossing) Junction (#70)

4.12.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 12. A3020 Cowes Road / Stag Ln (New River Crossing)

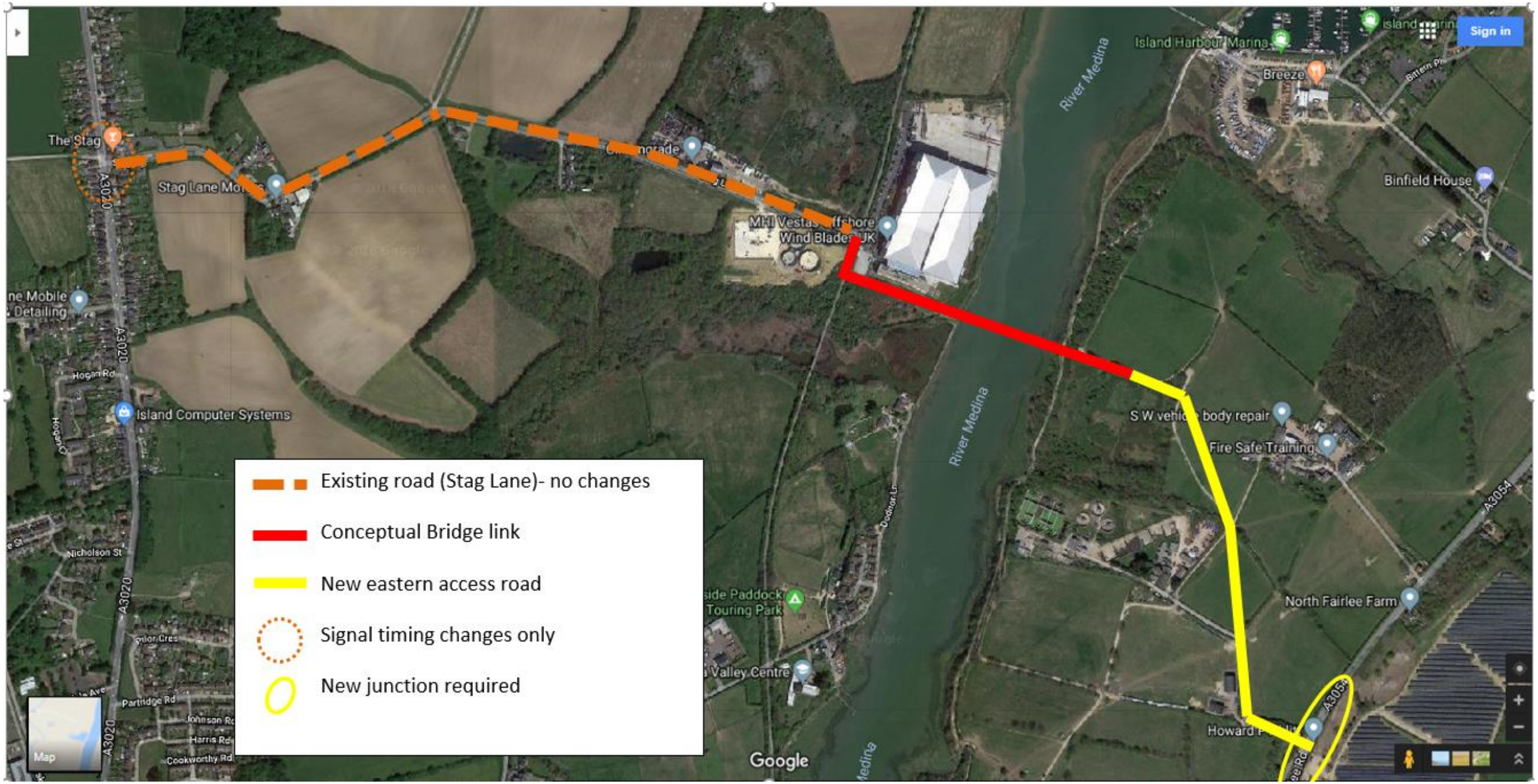
	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Cowes Road SB	49	55	55	107	1059	1177	1195	630	0	0	0	231	55	59	59	105	1185	1281	1284	678	0	0	0	189
Stag Lane WB (from new bridge)	0	0	0	61	0	0	0	376	0	0	0	43	0	0	0	52	0	0	0	318	0	0	0	41
Horsebridge Hill NB	54	58	58	82	1162	1243	1254	1062	0	0	0	20	50	55	56	72	1079	1185	1207	991	0	0	0	14

4.12.2 This junction has been added as part of the DS2 scenario to link the new river crossing with the existing highway network and has been modelled as a signalised junction. As can be seen from Figure 13 on the next page, the junction circled in orange is the link with A3020 Cowes Rd / Stag Ln. This signalised junction existed in the Baseline, but has the additional arm when the new river crossing is introduced in DS2.

4.12.3 The southbound approach arm from Cowes Road is forecast severe impacts, with the approach arm exceeding its saturation capacity at 107% in the AM peak and 105% in the PM peak. Forecast delay increases on this approach are also substantial.

4.12.4 Based on the results the new river crossing has reduced traffic flows within Newport, however due to this new crossing and the re-routing changes, this has impacted on this existing junction. It is recommended that signal timings or junction design changes are considered at this junction to reduce the large increase in delay shown in DS2.

Figure 13. New River Crossing



4.13 A3054 Fairlee Way / New River Crossing Junction (#71)

4.13.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 13. A3054 Fairlee Way / New River Crossing

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Fairlee Road SB	45	42	43	71	966	911	925	1109	0	0	0	21	39	45	45	64	851	979	971	1012	0	0	0	17
Fairlee Road NB	46	53	54	101	1004	1157	1166	612	0	0	0	111	52	56	53	100	1127	1216	1158	712	0	0	0	102
New link road from new bridge	0	0	0	82	0	0	0	383	0	0	0	55	0	0	0	65	0	0	0	288	0	0	0	47

4.13.2 Similarly to the A3020 Cowes Rd / Stag Ln junction outlined in chapter 4.12, this junction has been added to the highway network as part of the DS2 scenario to link the new river crossing.

4.13.3 As shown in Figure 13 in chapter 4.12, this is the junction circled in yellow. Due to traffic re-routing to the new bridge, the approach arm from Fairlee Road northbound is forecast a severe impact, with the approach arm V/C of 101% in the AM and at capacity in the PM peak. Forecast delay increases are also substantial on this approach arm.

4.13.4 Similarly to the previous junction, it is recommended that signal timings or junction design changes are considered at this junction to reduce the large increase in delay shown in DS2.

4.14 A3020 Horsebridge Hill/Nokle Common (#77)

4.14.1 The table below presents junction performance statistics, by arm, for the Baseline (BL), Do Minimum (DM), Do Something 1 (DS1) and Do Something 2 (DS2) test scenarios for the AM and PM peak. Where there are significant or severe impacts identified, they are highlighted in colours for the applicable approach arm and scenario.

Table 14. A3020 Horsebridge Hill / Nokle Common

	AM												PM											
	RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)				RFC (%)				Actual Flow (PCUs)				Delay per PCU (s)			
Approach Arm	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2	BL	DM	DS 1	DS 2
Horsebridge Hill SB	66	73	74	34	1059	1177	1195	480	3	4	4	2	73	79	79	35	1185	1281	1284	540	4	5	5	2
Horsebridge Hill NB	74	78	79	64	1190	1271	1283	1037	4	5	5	3	70	76	77	60	1125	1229	1252	972	4	4	5	3
Nokle Common EB	54	65	68	101	84	76	75	320	36	57	62	79	19	27	28	92	28	29	28	310	27	40	42	40

4.14.2 Due to of the new river crossing modelled as part of the DS2 scenario, the eastbound approach arm from Nokle Common experiences severe impacts, with the approach arm exceeding its capacity during the AM peak. The same approach arm is subject to a significant impact in the PM peak, approaching capacity (92%). Potential re-routing of traffic due to the new bridge can also be seen from the forecast flows that have increased significantly compared to the other scenarios.

4.14.3 Mitigation measures are recommended at this junction.

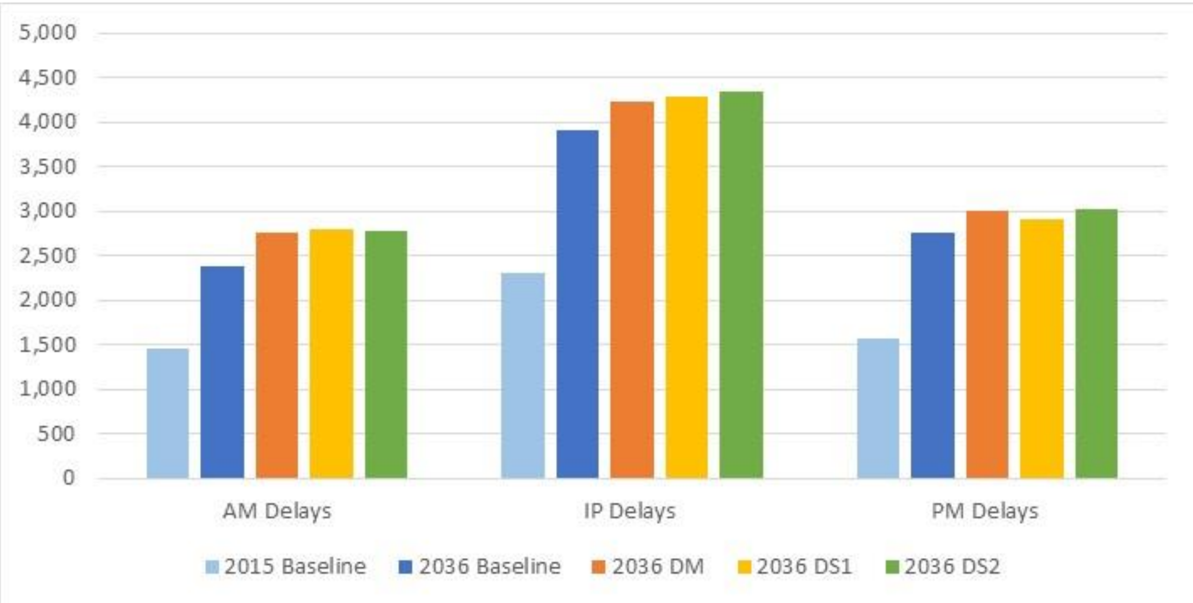
5. NETWORK WIDE IMPACTS

5.1.1 Table 15 below shows the highway delay per time period in PCU hours on the Isle of Wight for 2015/ 2036 Baseline, DM and the DS scenarios. The same data is visualised in Figure 14.

Table 15. Isle Of Wight Highway Delays in PCU Hours

SCENARIO	YEAR	AM PERIOD (07:00-10:00)	IP PERIOD (10:00-16:00)	PM PERIOD (16:00-19:00)
Baseline (DPF)	2015	1,466	2,313	1,573
Baseline (DWO)	2036	2,377	3,913	2,767
DM (DWP)	2036	2,763	4,230	3,006
DS1 (DXM)	2036	2,798	4,288	2,917
DS2 (DXO)	2036	2,783	4,339	3,020

Figure 14. Isle of Wight Highway Delays in PCU Hours



6. SUMMARY

6.1.1 Isle of Wight Council is preparing a new Local Plan that will cover the period through to 2036 and includes for the delivery of approximately 10,000 additional dwellings over and above existing commitments plus employment landuse. Solent Transport's SRTM model has been utilised to test four scenarios to help inform the development and appraisal of the Local Plan:

- 2036 Baseline - Committed Development and Infrastructure but without IoW Local Plan development allocations
- 2036 Do Minimum - Baseline plus IoW Local Plan development allocations
- 2036 Do Something 1 - Do Minimum plus Additional Infrastructure
- 2036 Do Something 2 - Do Something 1 plus Medina Bridge scheme

6.1.2 A Local Plan delivering the scale of development required is likely to add to traffic congestion in some locations on the Isle of Wight. It is also important to note that traffic is forecast to increase substantially between today and 2036 as a result of developments already permitted on the island, development outside the island, and general traffic growth. This is reflected in the 2036 Baseline model and is likely to happen without new development proposed by the Local Plan.

6.1.3 Growth in network wide delays between the 2015 and 2036 Baseline, driven by the factors identified previously, in significantly greater than forecast additional delays and congestion as a result of the draft Local Plan development allocations.

6.1.4 The Do Minimum scenario shows higher delays in all time periods on the Isle of Wight compared to the Baseline due to additional traffic generated by the Local Plan developments. A methodology based on changes to Ratio of Flow to Capacity at junctions has identified of 5 junctions as being severely impacted by Local Plan proposed development compared to the Baseline, with 20 junctions significantly impacted.

6.1.5 The Do Something 1 results show that total Isle of Wight wide delays at 2036, with the new Local Plan developments and preliminary highway enhancements, is notably higher compared to the Baseline at 2036 without the new development or highway enhancements, particularly during the AM peak. The number of junctions under pressure is higher in the DS1 scenario with 8 locations having severe and 24 locations having significant impacts compared to the Baseline This suggests that new Local Plan developments and highway enhancements will add to the extra delays which are forecast to arise by 2036 from current developments and background growth.

6.1.6 The proposed new river crossing to the north of Newport modelled as part of the Do Something 2 scenario has attracted around 380 PCUs in both directions during the AM peak and approximately 300 PCUs during the PM peak with significant flow decreases on both A3054 Fairlee Road and A3020 Medina Way. This leads to less delays on junctions such as the new signalised Dodnor Lane / Medina Way / Forest Road Junction in all time periods. However, overall delays on the Isle of Wight have only been reduced during the AM and are forecast to increase in the PM peak. This can be attributed to the congestion around the two signalised junctions linking the proposed Medina Crossing with the existing road network. In the DS2 scenario, 8 junctions have been identified as severe and 20 as significant. This indicates that further consideration is required about how any proposed Medina crossing could connect to the existing highway network without creating major new congestion hotspots.

6.1.7 The following locations have been identified as suffering from a severe impact in one or more of the Do Minimum or Do Something scenarios when compared to the Baseline:

- Binstead Road / Binstead Hill
- Ashley Road / Carters Road / Smallbrook Lane
- Queens Road / John Street / West Street
- Dodnor Lane / Medina Way / Forest Road
- Racecourse / Lushington Hill / Whippingham Road
- Briddlesford Road / Combley Road
- Carisbrooke Road / Recreation Ground Road
- Wellington Road / Carisbrooke Road
- High Street / Cedar Hill / Carisbrooke Road
- Staplers Road / Furrlongs
- A3020 Cowes Rd / Stag Ln (New River Crossing)
- A3054 Fairlee Way / New River Crossing
- A3020 Horsebridge Hill/Nokle Common

6.1.8 However, not all junctions suffering from a severe impact to RFC result in significant changes that would be tangible to end users as in some instances delays only increase by a few seconds, or an existing queue gets one or two vehicles longer.

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