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AGENDA

EXTRAORDINARY LOCAL PLAN PANEL MEETING

Date: Thursday, 17 February 2022
Time: 7.00 pm
Venue: Council Chamber, Swale House, East Street, Sittingbourne, ME10 3HT*

Membership:

Councillors Mike Baldock (Chairman), Monique Bonney (Vice-Chairman), Alastair Gould, Mike Henderson, James Hunt, Carole Jackson, Elliott Jayes, Peter Marchington, Richard Palmer, Eddie Thomas and Ghlin Whelan.

Quorum = 3

Pages

Information for the Public
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Link to meeting: Virtually view Local Plan Panel here.

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Advice to Members: If any Councillor has any doubt about the existence or nature of any DPI or DNPI which he/she may have in any item on this agenda, he/she should seek advice from the Monitoring Officer, the Head of Legal or from other Solicitors in Legal Services as early as possible, and in advance of the Meeting.

Part A Reports for Recommendation to Cabinet

Issued on Monday, 7 February 2022

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Chief Executive, Swale Borough Council,
Swale House, East Street, Sittingbourne, Kent, ME10 3HT

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Local Plan Panel Meeting	
Meeting Date	17th February 2022
Report Title	Swale Borough Local Plan Review: Strategic Transport Modelling Evidence - part 2
Cabinet Member	Cllr Mike Baldock, Cabinet Member for Planning
SMT Lead	James Freeman, Head of Planning
Head of Service	James Freeman, Head of Planning
Lead Officer	Natalie Earl, Senior Planner
Key Decision	No
Classification	**Open**
Recommendations	1. Note the strategic transport modelling results at Appendix I; 2. Recommend to Cabinet that this work be part of the evidence base used to inform the Preferred Option stage (Regulation 19) of the Local Plan Review; and 3. Undertake further, focused analysis on what the optimum development strategy would look like in terms of minimising the impacts on the transport system.

1 Purpose of Report and Executive Summary

1.1 The purpose of this report is to set out the results of the strategic transport modelling work which has been undertaken as part of the Local Plan Review (LPR). The work has been undertaken with the Kent County Council Highways team on the steering group to advise and provide technical expertise. The modelling at this stage is highways focused and intended to give a broad overview of how the network will perform with the level and distribution of development the Local Plan Review preferred option is proposing.

1.2 The report also looks at the implications for future transportation work, including any additional modelling required to support progress of the Local Plan Review. The need to undertake further transport work will impact on the timing of the current local plan programme and a new Local Development Scheme will be required in due course.

2 Background

2.1 Members will recall that at the meeting of this Panel on 11th June 2020, they received the results of the last round of transport modelling. The report stated that a further modelling run would take place once members had chosen their preferred option. These are the results of that modelling run.

2.2 This latest Swale Transport Model (2021) was developed to test the traffic impacts of both new developments and transport infrastructure across Swale. The location of the allocations included in the modelling work are those broadly set out in the preferred option as was appropriate for this stage in the local plan process. The model was developed with a base year of 2017 to examine the traffic impacts of both future development proposals and transport infrastructure across Swale.

2.3 This work develops a refreshed set of transport forecast models with model outputs to be used as evidence base to support the LPR proposals. The key model outcomes aim to show the differences between a 2038 **Reference Case (RC)**, as adapted to include the identified committed and extant permissions and schemes, and a 2038 **Do Something (DS)** model, which includes additional LPR development allocations and schemes. This helps to identify the transport hotspots and design appropriate mitigations to ease traffic congestion. An interim model in the forecast 2027 has also been developed. The model also did a sensitivity test for Teynham to help us see how adding an alternative route could help the existing road network flow more efficiently. (Appendix II.)

2.4 The key model assumptions are outlined as follows:

1 The **RC** scenarios only include committed developments and transport schemes in future years. The **DS** scenario included the committed and all additional development (including windfalls) and schemes associated with the LPR.
2 As the LPR is aimed to assess development proposals and not a road scheme, there should not be any overall growth constraint locally, countywide, or regionally. As agreed, the National Trip Ends Model (NTEM) growth factors were applied to the model external area.
3 The TRICs rates were adopted to derive the demand for local housing and employment development, differentiated by geographic locations including Swale town centres (Sittingbourne, Faversham and Isle of Sheppey) and rural areas.
4 Goods vehicle growth for **Light Goods vehicles (LGV)** and **Heavy Goods vehicles (HGVs)** was updated by the DfT's 2018 **Road Traffic Forecast (RTF 2018)**

2.5 The trip rates in the model and in the draft Transport Strategy are already ambitious (15%) and in Kent currently only 9% of journeys made under 2.5km are done by walking so Swale needs to start implementing the active/sustainable travel agenda aggressively for our preferred development strategy to work.

2.6 The report sets out the results of the modelling work and shows there are challenges for the Local Plan Review to work through, including a number of hotspots of congestion across Swale on both the motorway, strategic and local networks. You can see from the table 7-6 on pages 60 – 61 of the report in Appendix I that many junctions are at significant overcapacity which will lead to congestion and impacts on air quality, often in areas already with **AQMAs**. (Air Quality Management Area's.) The paper in Appendix III sets out the key results

from the modelling for the borough, including traffic flows, network delays and congestion, network statics, journey times.

2.6 Further analysis of the problem junctions will need to be undertaken to consider whether there are mitigations that could be undertaken to overcome the congestion issues arising or whether there are junctions where there is limited or no capacity for improvement. Mitigations would relate to both increasing the capacity of junctions and/or whether higher modal shifts could be achieved with major public transport. Following this assessment, there would then need to be a view taken as to whether the level of development proposed cannot be mitigated and therefore cannot be accommodated or whether there are any alternative distribution of sites feasible without resulting in congestion spots across the highway network which can't be mitigated.

2.7 Of particular concern, are the potential issues surrounding the key strategic highway network junctions and their capacity to accommodate development and the ability and timing for any potential improvement works to provide sufficient capacity, noting that many of these junctions are sensitive to development proposals across the sub region, particularly within neighbouring districts e.g. M2J7 and M2J5/A249 junctions. There are some impacts showing in the modelling on neighbouring districts which will need to be discussed at our regular duty to cooperate meetings. These include with both Ashford and Canterbury

2.7 A Local Plan Inspector will normally accept a level of increase in congestion as a result of Local Plan allocations at the Examination in Public but will need to see initiatives from the Council and the promoters of the allocations on how this will be minimised, especially through modal shift. However neither, they, nor National Highways (previously Highways England) or KCC Highways will accept negative impacts on safety. This further illustrates the need to take ambitious steps towards greater modal shift and promote more active travel across the borough.

2.10 The model does not factor in Covid-19 and working from home and the impacts that may have on travel patterns as statistically reliable data is not yet available but as 44.4% of Swale's resident based workforce worked in occupations where it is considered least likely to be able to work substantively from home between July 2020 – June 2021, compared to 36.7% in SE England (NOMIS, Office for National Statistics) this may not have a significant impact on traffic levels in Swale. The occupational and sector profile of the Swale economy is such that the impacts of Covid-19 on Travel to Work Patterns may not be as affected as many other parts of the Country. However, a significant number of journeys to work in Swale come from outside of the Borough. Looking at the workplace jobs in the Borough, there is again a bias towards those sectors which might be considered less likely to be able to accommodate home working – as high as 74.4%, higher than both regional and national averages. Whilst the occupational profile within these sectors may also impact on the propensity towards more flexible working, the nature of the commercial business space is very much orientated towards 'blue collar' occupations.

3 Proposals

3.1 It is proposed that the strategic transport modelling undertaken is noted and included as part of the Council's evidence base to inform the Local Plan Review.

3.2 It will be necessary to undertake a detailed review of the key 'problem' junctions highlighted in the report alongside advice and views from KCC Highways and National Highways.

3.3 This assessment would be used to inform any modifications to the preferred development strategy put forward in the Regulation 18 consultation and may involve 'duty to co-operate' sessions with our neighbouring authorities to understand the potential implications across the sub region.

3.4 Alongside the preparation of the draft Local Plan Review document, the draft Transport Strategy will also be reviewed in conjunction with Kent Highways. The Transport Strategy will set out Swale's aspirations for improving travel and mobility in Swale and deal with some of the issues arising from this transport model. The Strategy will provide a framework to guide the development of transport-based improvements and interventions within Swale for the Plan period. It will need to be updated with more specific and costed improvements now that the modelling work is complete, especially in relation to sustainable and active travel measures.

3.5 Ultimately, further transport modelling runs may be required to inform the establishment of an agreed development strategy and the sites to be included. Those runs may include testing options to demonstrate whether any particular sites are not feasible from a transportation perspective or whether a level of development is not sustainable within the highways and transportation network available within the Borough deliverable within the Local Plan Review period.

4 Alternative Options

4.1 The Strategic Transport Modelling is a technical document and is open to challenge on the assumptions and assessment arising to consider the robustness of the evidence presented. The work reported in this paper has been prepared with assistance from KCC and with input from National Highways and future work will progress with their full involvement.

4.2 The Councils next step is to progress to a Regulation 19 Preferred Options consultation later in the year. Further modelling and transport assessment work will need to be undertaken to inform the Councils evidence in support of its development strategy and distribution of development.

4.3 Not progressing with this work would undermine the Council's need to review its Local Plan and ultimately, the current Adopted Local Plan would become increasingly more out of date and could subject the Authority to challenges for

adhoc and unplanned developments which would become increasingly more difficult to defend against.

5 Consultation Undertaken or Proposed

5.1 The strategic transport model is a technical piece of evidence base so has been shared with KCC Highways and National Highways (previously Highways England) for comment. It will form part of the suite of documents that are consulted on at the Regulation 19 stage of the Local Plan Review.

6 Implications

Issue	Implications
Corporate Plan	This Local Plan supports the priority of the Council to build the right homes in the right places and supporting quality jobs for all.
Financial, Resource and Property	The costs for the production of the Local Plan can be met from existing budgets. Extra funding may be required from both S106 monies and from the Council itself for sustainable and active travel initiatives.
Legal, Statutory and Procurement	Preparation of the local plan review is a priority of the Council and is being prepared in accordance with the relevant legal, statutory and procurement frameworks.
Crime and Disorder	None identified at this stage.
Environment and Climate/Ecological Emergency	The Local Plan will be supported by its own Sustainability Appraisal and Habitats Regulation Assessment at each key stage in decision making, but the evidence base does not require individually. The Local Plan actively seeks to deliver policies and proposals to reduce and mitigate the effects of climate change.
Health and Wellbeing	None identified at this stage although the Local Plan Review itself will seek to deliver policies and proposals that contribute to corporate objectives for health and wellbeing in the borough.
Safeguarding of Children, Young People and Vulnerable Adults	None identified at this stage.
Risk Management and Health and Safety	None identified at this stage.
Equality and Diversity	None identified at this stage, although the Local Plan Review itself will be subject to equality impact assessments at key stages as advised by the policy team.

Privacy and Data Protection	None identified at this stage.

7 Appendices

7.1 The following documents are to be published with this report and form part of the report:

- Appendix I: SWECO Swale Local Plan Forecasting Report
- Appendix II: SWECO Swale Local Plan Forecasting Report – Teynham Sensitivity Test
- Appendix III: Project Centre's Model Summary Note

8 Background Papers

None

SWALE HIGHWAY MODEL

LOCAL PLAN REVIEW - HIGHWAYS STRATEGIC MODEL - REGULATION 19
TRAFFIC FORECAST REPORT (2021)

SWECO UK LIMITED

Change List

VER.	DATE	STATUS	PREPARED	REVIEWED	APPROVED
1	20/08/21	INTERNAL REVIEW	SB	JZ	WW
2	26/08/21	DRAFT FOR COMMENTS	SB	JZ	WW
3	24/08/21	ADDRESS SBC'S COMMENTS	SB	JZ	WW

Table of Contents

Table of Figures

Table of Tables

Glossary

ATC: Automatic Traffic Count

Constrained: Based on local plan but constrained to NTEM assumption

DfT: Department for Transport

Furness: process of growthing base year matrices to produce future year matrices

GEH: Statistic used to compare two traffic flows

GIS: Geographical Information System

LMVR: Local Model Validation Report

LSOA: A Lower Layer Super Output Area

ME2: Matrix Estimation from Maximum Entropy

NTEM: National Trip End Model

NTM: National Transport Model

Overcapacity queues: Extra time spent in queues at over-capacity junctions waiting for the cycle in which the vehicle exits

PCU: Passenger Car Unit. A measure of how much space is taken up on the highway network by different vehicles e.g. HGV= 2 PCUs, Car= 1 PCU.

PPK: Pence Per Kilometre - a component of generalised cost

PPM: Pence Per Minute - a component of generalised cost

P1X: Interactive analysis of results in SATURN

RTF: Road Traffic forecast

SATURN: Simulation and Assignment of Traffic to Urban Road Networks- transport modelling software package used to develop highway assignment models

SATURN buffer network: Modelled area comprised of links with no explicit junction modelling

Screenline: an arbitrarily established line of reference at which traffic counts are made

SERTM: South-East Regional Traffic Model

SHM: Swale Highway Model

Simulation area: Area of detailed modelling provided by SATURN simulation network

Speed-flow area: Extension of the fully modelled area from the simulation area with capacity restraint provided by link speed-flow curves only

NTEM: Trip End Model Presentation Program

Transient queues: The time spent by vehicles in queues which, in the case of signals, clear during a single cycle

Unconstrained: Based on adjusted Local Plan

VOC: Vehicle Operating Cost

V/C: Volume/Capacity ratio. Weighted Volume /Capacity of a junction averages out capacity over all arms of the junction; and Highest Volume /Capacity reflects the case for the 'worst' arm of the junction.

VoT: Value of Time

TAG: Transport analysis guidance

Executive Summary

This report sets out the modelling approach and analysis undertaken to support the Regulation 19 Local Plan Review (LPR) in Swale. The Local Plan Review is prepared in accordance with the Local Development Scheme (LDS), with the primary objective to understand future transport infrastructure required to meet the development needs within the borough and its surrounding areas. The LPR contain an overall strategy for the pattern, location, and scale of future developments and make sufficient provision for the future growth needs of the Swale Borough for the plan period from 2022 to 2038.

The LPR is expected to deliver up to around 17,410 dwellings within the period between 2022 and 2037/38. The employment land needs for the same period are expected to be around 750,000m^2. The Swale Highway Model (SHM) was developed with a base year in 2017 to examine the traffic impacts of both future development proposals and transport infrastructure across Swale.

This work commissioned is to develop a refreshed set of SHM forecast models to examine a range of revised LPR options, with model outputs to be provided as an evidence base to support the LPR proposals. The key model outcomes are aimed to show the differences between a 2038 Reference Case (RC), as adapted to include the identified committed and extant permissions and schemes, and a 2038 Do Something (DS) model, which includes additional LPR development allocations and schemes. This will help to identify the transport hotspots in the region and design appropriate mitigations to ease traffic congestion. An interim model in the forecast 2027 has also been developed to demonstrate the impact of the 5-year from LP adoption.

Model assumptions

The key model assumptions are outlined as follows:

- The RC scenarios only include committed developments and transport schemes in future years. The DS scenario included the committed and all additional development (including windfalls) and schemes associated with the LPR.
- As the LPR is aimed to assess development proposals and not a road scheme, there should not be any overall growth constraint locally, countywide, or regionally. As agreed, the National Trip Ends Model (NTEM) growth factors were applied to the model external area.
- The TRICs rates were adopted to derive the demand for local housing and employment development, differentiated by geographic locations including Swale town centres (Sittingbourne, Faversham and Isle of Sheppey) and rural areas.
- Goods vehicle growth for Light Goods vehicles (LGV) and heavy Goods vehicles (HGVs) was updated by the DfT's 2018 Road Traffic Forecast (RTF 2018)

The table below summarises the differences between the RC and DS scenarios for the total housing and employment developments in the year 2027 and 2038. When comparing to the RC scenario, the total number of houses by the year 2038 is expected to increase by more than 10,000 and the total employment by around 600,000 sqm.

Year	Housing (total number of dwellings)			Employment (total sqm)		
	RC	DS	Change	RC	DS	Change
2027	6,163	8,307	+2,144	69,400	374,305	+304,905
2038	9,225	19,841	+10,616	138,800	748,609	+609,809

As agreed with KCC, SBC and Highways England, the car trip rates for housing development were undertaken by TRICs-based values, which are differentiated by two types of geographic locations, one for Swale town centre and the other for Swale rural area, as shown in Table 5-1 and 5-2 in the report. The employment demand was then calculated by the trip rate per job (after converted from ratios of square meters per job by land-use type) from NTEM for cars and TRICs for LGV and HGVs, as shown in Table 5-4.

Model outputs

Matrix totals

For the RC scenarios, when comparing to the 2017 base year, it is found that the overall demand increases by approximate 10.3% to 11.7% and 19.2% to 22.6% in the forecast year 2027 and 2038, respectively. The total demand in the DS scenarios is higher than the corresponding RC scenarios, up from the base year by 11.0% to 12.3% in the year 2027 and 21.7% to 24.2% in the year 2038. The results of demand comparisons are shown in Table 5-10 ad 5-11.

Network Statistics

In the AM peak in the year 2027, it is found that the average travel speed in the core modelled area in Swale reduces to 63.6 KPH (-4.6%) in the RC scenario and to 62.3 (-6.5%) KPH. The speed reduces further in the year 2038, to 61.7 KPH (-7.4%) in the RC and 54.6 KPH (-18.0%) in the DS scenario. This reflects the level of demand increase, measured by the total distance travelled, which is up by 19.2% and 22.3% in the year 2038 for the RC and DS scenario respectively.

A similar pattern is found in the PM peak, with speed reduced to 64.4 KPH (-36%) and 62.9 (-5.8%) KPH in the year 2027, and 61.5 KPH (-7.9%) and 54.0 KPH (-19.2%) in the year 2038 when comparing to the base year. Meanwhile, the total distance travelled increase by 18.9 % and 22.5% in the year 2038 for the RC and DS scenario, respectively.

As expected, the scale of speed decrease in the Inter Peak in future years is less significant than that in the corresponding AM and PM peak since the demand in the Inter Peak is generally lower (e.g., around 18-19% less than demand in the RC and DS scenario in the AM peak in the year 2038).

The results of network statistics are shown in Table 7-1 to 7-3.

Journey Times

Journey time analysis along selected routes was carried out for the RC and DS scenarios in the future years. Overall, comparing to the base year, journey time increases on most routes in the RC scenarios in the year 2027 and 2038. The Journey time increases further in the corresponding DS scenarios, which reflects the level of additional demand related to the LP developments loaded to the network.

The routes showing heavy delays include the Selling Road, A2 between A249 and M2 through Sittingbourne and Faversham. Meanwhile, it is found the journey time along Sheppey to M2 J7 via M2 EB (R51 & R52) and Sheppey to M20/A249 SB (R55 & R56) showed some reduction or marginal increase in the year 2027 and 2038 RC and DS scenarios, due to the M2 J5 improvement scheme.

The journey time results are presented in Appendix C.

Traffic Flows

It is found that traffic flow increases on most key roads in the region, including M2, M20, A249 and A2, especially for the DS scenarios when comparing to the base year. It is also revealed that there is a level of traffic decrease on the A249 SB from M2 J5 to M20 J7 in the AM peak and PM peak in the 2037 RC scenario. An investigation showed this is due to the traffic rerouting following the M2 and A229 corridor to avoid the excessive delay at the A249 SB approach arm at M20 J7 gyratory, as well as the reduced congestion at M2 J5 with the improvement scheme in place.

It is also revealed that traffic increases on most local roads in the DS scenarios, when comparing to the RC scenarios. Figure 7-8 to 7-16 show the total flows (in PCUs) on key roads in Sittingbourne, Faversham and Sheppey areas in the base year 2017, 2038 RC, and 2038 DS scenarios. The results for the forecast year 2027 are shown in Appendix E.

Network Delays and Congestions

The analysis of Volume over Capacity ratio (V/C, also known as Degree of Saturation), a measure of network delays and congestions at key junctions and links, was undertaken across modelled scenarios. As expected, a few junctions (most of them along the A2 corridor between A249 and M2 J7) in the DS scenarios in the AM and PM peak in the year 2038 show heavy delays, including:

- Minster Road/ A250 Halfway Road
- A250 Lower Road/Sheppey Way
- A2 London Road/Western Link
- M2 Junction 7
- A2/A251 Ashford Road
- A2/Brogdale Road
- A2 Key Street/A249
- A2 Canterbury Road/Murston Road/Rectory Road
- A2 Canterbury Road/Murston Road/Rectory Road
- A249/2500 roundabout
- A2 London Road/Station Road (Teynham)
- A2 London Road/Hempstead Lane

The results of V/C are presented in Table 7-5 and 7-6, and Appendix F.

Conclusions

In summary, the modelling above was carried out in line with TAG and based on a validated base model. The forecasts described above appear to show sensible results that inform how the reference case and additional LPR developments would impact the local highway network and its surrounding area in future years.

The evidence and outputs from the forecast models are deemed suitable and provide a comparison base for evaluating alternative Local Plan, identifying appropriate mitigation packages, and assessing individual development proposals consistently and transparently.

1 Introduction

1.1 Background

The Swale Highway Model (SHM) was developed by SWECO for Kent County Council (KCC) to examine the traffic impacts of both future development proposals and transport infrastructure across Swale. The model has been used as an evidence base for the assessment of the Local Plan (LP) by Swale Borough Council (SBC). In addition, the model has also been adopted as the platform for the Transport Assessments for a few developments in Swale.

In May 2020, SWECO was commissioned to refresh the Swale LP forecast with a set of new local housing and employment assumptions. Since then, alternative LP growth assumptions and committed transport schemes have been proposed, along with the updated national forecast guidelines such as the DfT's Road Traffic Forecast. Therefore, the existing SHM forecast models need to be updated to assess the traffic impact of the revised LP and identify potential mitigation measures in support of local growth.

1.2 Context

A strategic highway assignment model represents a simplified version of the real-life situation. The structure and level of detail required for an application are determined by a consideration of the ultimate use of the model. As models serve a variety of functions, the nature of models is similarly varied, ranging from highly detailed urban situations to more strategic regional and inter urban contexts.

The SHM was designed to cover a sufficiently wide area to capture the strategic impacts within the Swale district and ensure local traffic conditions and routings are fully presented in Swale, Faversham and Sheppey.

1.3 Purpose of the Report

This Traffic Forecasting Report documents all key aspects of the future year traffic forecasting for Swale, including the revised housing and employment trajectory, modelling methodology and associated model parameters. It is intended that the Forecasting Report is a free-standing document that covers all aspects of the future year demand forecasting. However, more detail on many aspects of the modelling process can be referred to supplementary reports and technical notes.

1.4 Report Structure

This report summarises the development of the revised future year Swale Highway Models. This report is structured as follows:

- Chapter 2 provides a summary of the base year models development, calibration and validation.
- Chapter 3 presents the overall forecasting methodology and assumptions.
- Chapter 4 details the housing and employment developments from the uncertainty log in the forecast years.
- Chapter 5 details the method of producing forecast demand for all forecast year scenarios.
- Chapter 6 summarises the development of forecast networks.
- Chapter 7 details the model output analysis of the forecast models.
- Chapter 8 concludes the work.

2 Summary of Current Base Model

2.1 Overview

This chapter details the development and calibration of the SHM base year model, which was used as a basis for forecast year models. More information can be found in the Swale Highways Model Local Model Validation Report (LMVR) dated 18th May 2018.

2.2 Model area and network

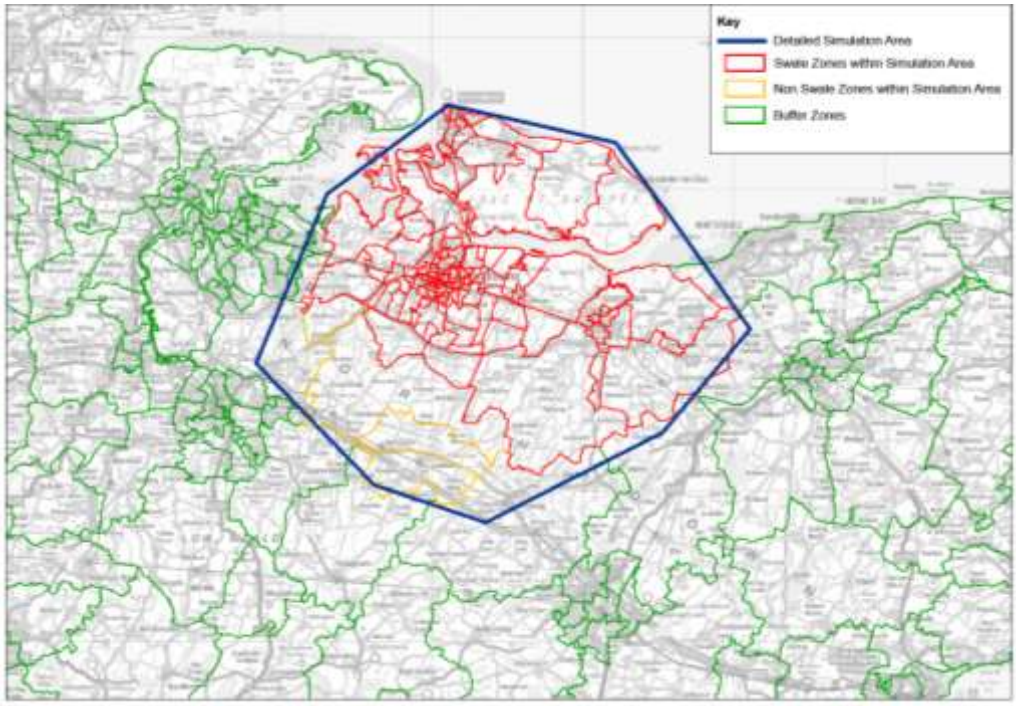
The Highways England's South-East Regional Traffic Model (SERTM) prior trip matrices and zoning system were utilised for the SHM. The provisional SERTM trip matrices have been constructed using mobile phone data, collected for 20 weekdays in March 2015. The data provides better resolution for long distance trips so synthetic matrices have been constructed to infill short distance trips.

The SHM study area covers the whole of Swale Borough Council with a slight overlap into the neighbouring authorities of Canterbury, Medway, and Maidstone areas. The number of zones was increased from the initial SERTM cordoned model, containing 256 zones, to 321 zones for the entire study area, of which 126 zones were within the (detailed) simulation area. The SERTM zones were split based on the proportion of land uses within the zone and by the lower layer super output area (LSOA) spatial definition. Census data was used to identify the proportions of each newly split zone from their donor zone.

For the finer zones where using LSOAs to disaggregate was considered too coarse, zones were split further. Car, LGV and HGV trips were split between the split zones based on land use densities (residential or employment), and where sources of trips are known (such as car parks, supermarkets and business parks) as shown by Google Maps.

As the Isle of Sheppey is represented by a single large SERTM zone, it was further disaggregated into 12 finer zones. These were based on LSOA boundaries, however, where the LSOAs were considered too fine, several zones were aggregated to form the final zone. The main trip generators and attractors within each new SHM zone were reviewed and where observed trip end count data was available, at sources such as stations, car parks and supermarkets, the observed data was applied for replacement. The disaggregated zones are illustrated in Figure 2-1.

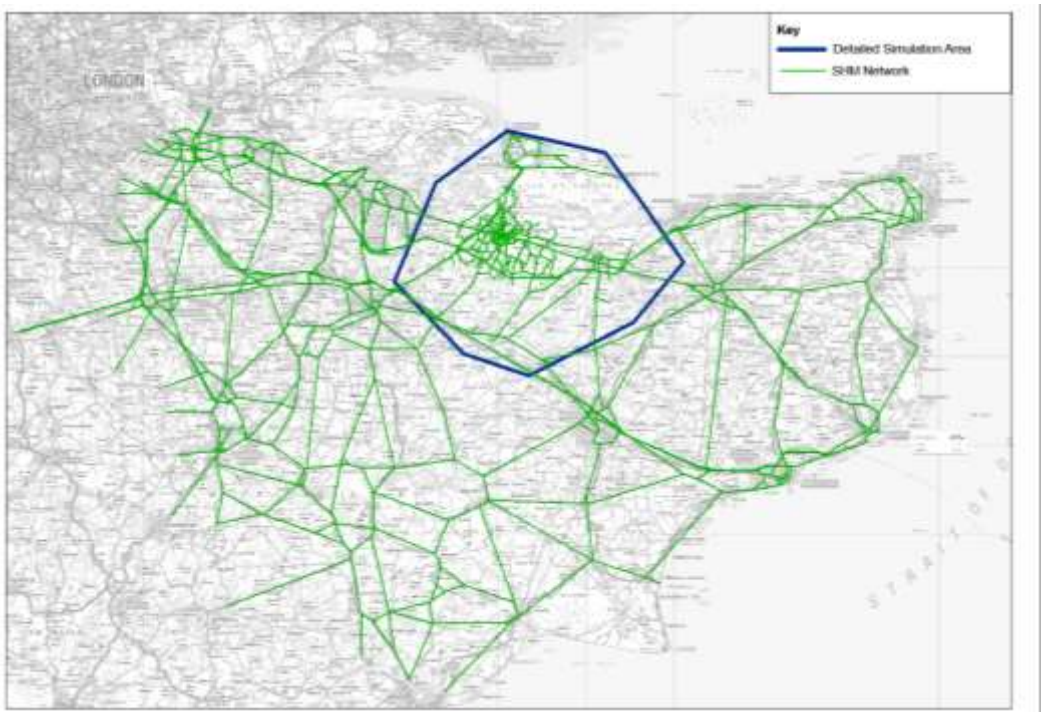
Figure 2-1 SHM zoning system



The base year for the SHM is 2017, and the network structure was enhanced to represent two distinct spatial areas as follows:

- Simulation network (within the Swale Study Area in Figure 2-1): a detailed simulation highway network coded directly from raw data. It covers the proposed residential, employment and commercial centre development sites, and included all A and B roads in the region covering Sittingbourne and Faversham Town Centre and the Isle of Sheppey. Modelling within this area is characterised by the representation of all trip movements, small zones and detailed network representation with junction modelling (including flow metering and blocking back); and
- Buffer network (outside of the SHM simulation area in Figure 2-2 below): it included a skeletal strategic network for the wider region covering the extent of the network to the Kent County boundary using SERTM model network coding. This enabled the accurate routing of most long-distance trips into the core study area. For the network immediately around the simulation area, speed flow curves were used to represent the network characteristics whereas for the rest of the buffer area fixed speeds were used.

Figure 2-2 SHM network



Speed flow curves were applied to all major A-roads, B-roads and other strategically significant major roads (as required) to restrict capacity and to reflect a realistic speed in association with traffic volume. Some examples of SATURN speed flow curves as used within the SATURN model are shown in Table 2-1 below.

Table 2-1 SATURN speed flow curve examples

Road name	No. of lanes	Free-flow speed	Speed at Capacity	Capacity	Power
M2	2	112	45	4860	3.85
A249	2	112	73	4200	2.8
A2 (Boughton bypass)	2	112	73	4200	2.8
M20 weaving sections	3	112	45	5440	3.85
A299 Dual carriageway	2	115	89	4200	2.8

2.3 Modelled time periods

Three representative weekday single hours are modelled that cover the most important periods of traffic flow. The selected modelled time periods for Swale Model were as followed which are also consistent with SERTM:

- AM peak hour: 0800 – 0900.
- Average IP hour: 1000 – 1600; and
- PM Peak hour: 1700 – 1800.

2.4 User class segmentation

The SHM uses 5 User Classes that are consistent with the SERTM user classes. These user classes have been selected to meet current TAG guidance and for suitability for

subsequent forecast demand modelling. Table 2-2 lists the modelled user classes and their associated PCU factor.

Table 2-2 Modelled user classes and PCU factors

User Class	Vehicle Type/ Purpose	PCU factor
1	Car - Employer's Business	1
2	Car - Home-based Work	1
3	Car - Other	1
4	Light Goods Vehicles (LGV)	1
5	Heavy Goods Vehicles (HGV)	2

2.5 Software

The SHM uses SATURN (Simulation and Assignment of Traffic to Urban Road Networks), which satisfies the requirements for modelling highway networks as set out in TAG unit M3-1.

2.6 Assignment procedure and generalised cost parameters

The SATURN assignment procedure uses the 'SATALL' module to iterate between successive loops of 'SATASS' module and 'SATSIM' module. The SATASS model assigns the input user class matrices to the network by Wardrop's first principle of traffic equilibrium using the Frank-Wolfe algorithm. Whereas SATSIM takes the flows derived by SATASS and calculates the revised flow/delay relationships at each junction within the simulated area. These two modules are iterated until the resulting travel times and flows do not change significantly; it is then deemed that the process has 'converged'. Using the combined SATASS-SATSIM routine enables the impact of blocking back and downstream flow metering to be robustly assessed. Further details may be found in the SATURN user manual.

Wardrop user equilibrium is based on the following proposition:

'Traffic arranges itself on congested networks such that the cost of travel on all routes used between each origin-destination pair is equal to the minimum cost of travel and unused routes have equal or greater costs.'

The generalised cost parameters (Value of Time and Vehicle Operating Cost) used in the base model were derived from TAG databook (July 2017), in line with the v1.8 TAG release. The derived values are shown in Table 2-3 and

Table 2-4, which are calculated in 2017 prices.

Table 2-3 Value of time, pence per minute (PPM, 2017 prices, 2017 values)

User Class	PPM		
	AM	IP	PM
Car - Employer's Business	30.49	31.24	30.93
Car - Commuting	20.45	20.78	20.52
Car - Other	14.11	15.03	14.77
LGV	21.55	21.55	21.55
HGV	50.32	50.32	50.32

Table 2-4 Value of vehicle operating cost, pence per kilometre (PPK, 2017 prices, 2017 values)

User Class	PPK (same for all time periods)
Car - Employer's Business	12.05
Car - Commuting	5.51
Car - Other	5.51
LGV	13.19
HGV	39.88

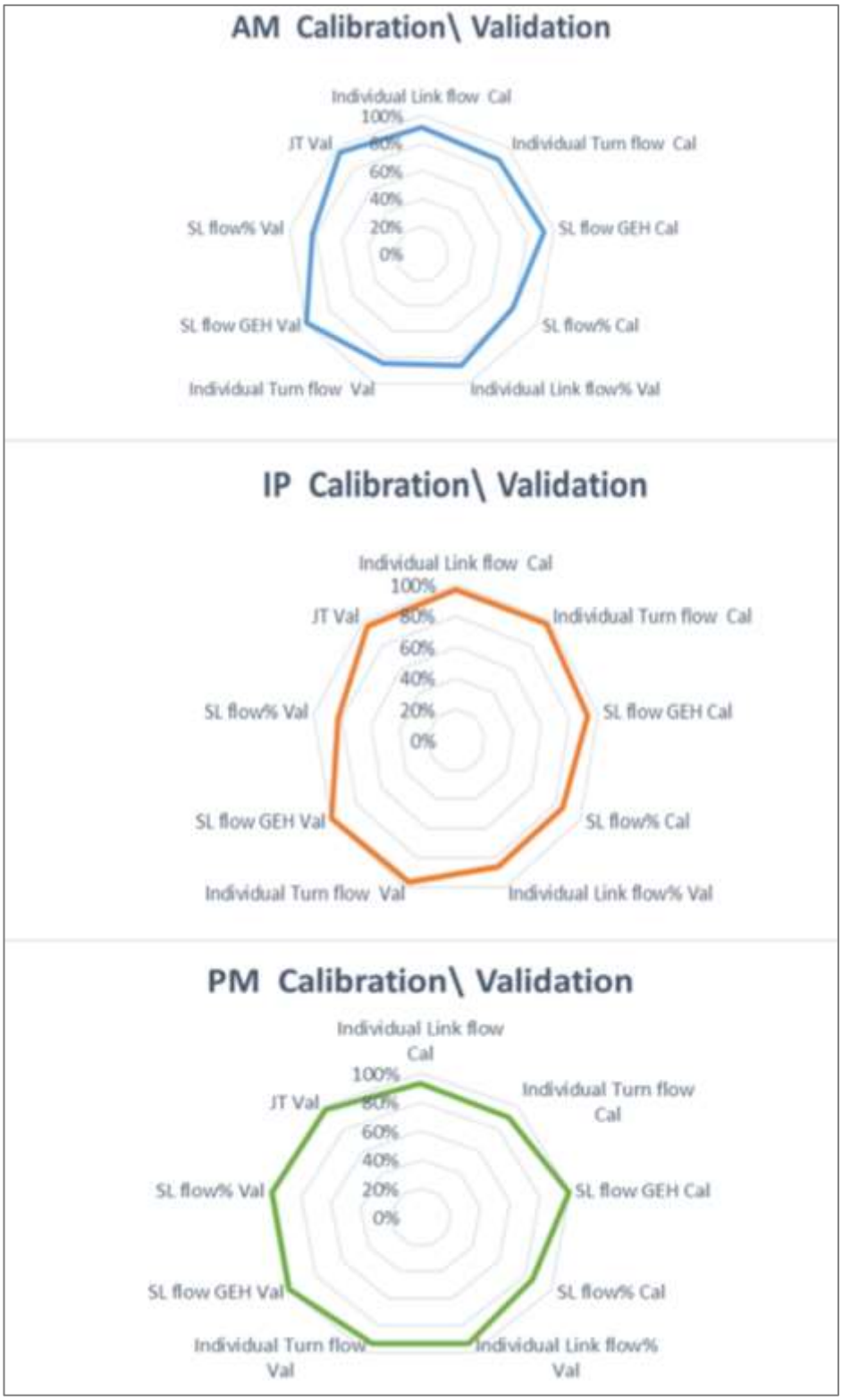
2.7 Model calibration and validation

Figure 2-3 below shows a high-level summary of the top line statistics for each modelled time period. These are displayed as a "spider" graph, where the area of the graph represents the total level of calibration/validation of the model. Analysis of these graphs confirms the above analysis, in that a high level of model calibration and validation performance has been achieved.

Based on this assessment, it is considered that the model is fit for future year traffic forecasting. In summary, the following results of model calibration and validation have been achieved:

- Link calibration greater than 92%.
- Link validation AM = 86%, IP = 92%, PM = 92%.
- Turn calibration greater than 89%.
- Screenline calibration: AM = 83%, IP = 93%, PM = 83%.
- Screenline validation: AM = 83%, IP = 83%, PM = 100%.
- Journey time validation: AM = 96%, IP = 96%, PM = 98%.

Figure 2-3 Topline summary statistics



The SHM has been designed in compliance with current best practice guidance as set out in the Department for Transport's TAG. The performance of the model has been assessed in the two standard fundamental areas: the ability to replicate traffic flows either at screenline or link level across the model area and the ability to reflect observed journey times (which reflect travel costs).

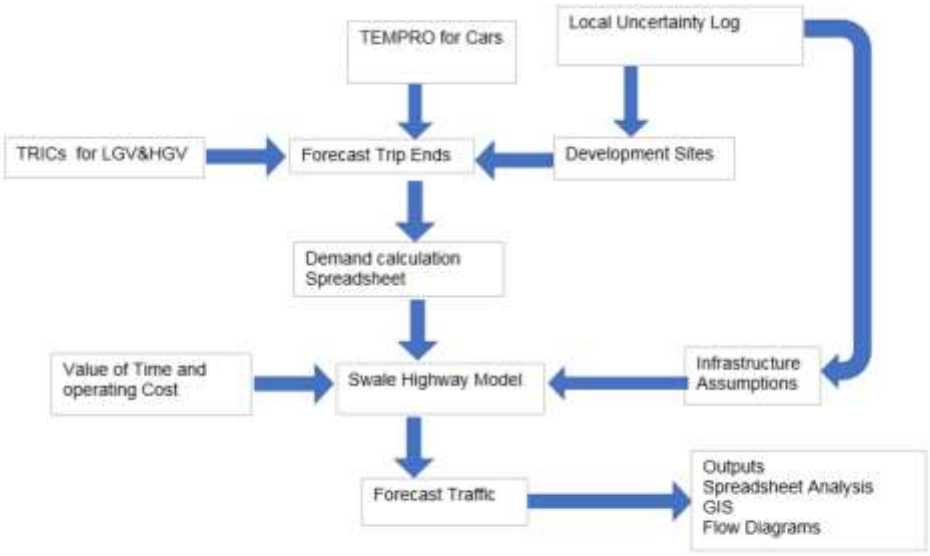
The robustness of the highway model as a forecasting tool was measured by comparing link flows and journey times against observations. The comparisons were benchmarked against TAG calibration and validation standards. Whilst the TAG criteria is missed slightly for a few individual calibration and validation screenlines, the final highway model validates very well against the link flow criteria and modelled journey times exceed TAG acceptability guidance in both the AM and PM peaks. These results were achieved without excessive matrix estimation.

3 Forecast Approach

3.1 Introduction

An overview of the approach for the SHM forecast models can be seen in Figure 3-1 below.

Figure 3-1 Flowchart of the forecasting process



The traffic forecasts account for future proposals for residential and employment developments in the local area and corresponding transport network changes. The forecast scenarios comprise the following:

- A set of transport network changes based on the local uncertainty log.
- Assumptions about changes in values of time and vehicle operating costs in future forecast years.
- A specific set of development assumptions based on the local uncertainty log.
- Application of National Trip End Model (NTEM) growth factors extracted from NTEM7.2 for car trip growth.
- Application of growth of freight traffic from the DfT's Road Transport Forecasts.

3.2 Revised LP traffic forecast

This work commissioned is to develop a refreshed set of SATURN strategic forecast models to examine a range of revised LP options, with model outputs to be provided as an evidence base to support the LP proposals. The key model outputs are aimed to show the differences between a 2038 Reference Case (RC)[1], as adapted to include the identified committed and extant permissions and schemes, and a 2038 Do Something (DS) model. This will help to identify the transport hotspots in the region and design appropriate mitigations to ease traffic congestion.

[1] In previous SHM Traffic Forecast a model with a horizon of year 2037 was developed.

The revised Local Plan is expected to deliver up to around 17,410 dwellings within the period between 2022 and 2037/38. The employment land needs for the same period are expected to be around 750,000m[2]. As part of the commission, an interim model in the forecast 2027 has also been developed to demonstrate the impact of the 5-year from LP adoption.

As agreed with KCC and SBC (and following the feedback from Highways England[2]), several key model assumptions are listed as:

- The RC scenario should include committed development only for any future year assessment. The LP scenario would be all additional development associated with it, including windfalls.
- As the LP is aimed to assess development proposals and not a road scheme, there should not be any overall growth constraint locally, countywide, or regionally. As agreed, the NTEM growth factors were applied to the model external area.
- The TRICs rates were adopted to derive the demand for local housing and employment development.

Following these, the SHM is then updated from the existing reference case models[3], with the following key changes:

- A revised horizon forecast year of 2038, in contrast to the previous forecast year of 2037.
- A set of revised TRICs-based trip rates for developments.
- A new housing development plan for both RC and DS in the year 2027 and 2038.
- A new employment development plan for both RC and DS in the year 2027 and 2038.
- A set of revised committed highway schemes.
- Additional new development zones included for several large settlements.
- Goods vehicle growth for LGV and HGVs was updated by the DfT's 2018 Road Traffic Forecast (RTF 2018)[4].

[2] From the email sent by Nigel Walkden from Highways England on 09 June 2021
[3] The RC has two forecast years of 2027 and 2037. The network of the existing RC models has been recently enhanced by Sweco from the work undertaken for a Traffic Assessment study. In particular, the schemes at M2 J5 and on A249 have been updated with the latest published layout.
[4] Based on rft18-scenario-1-reference.xlsx

4 Uncertainty Log and Forecast Years

4.1 Introduction

As outlined in TAG guidance unit M4, Forecasting and Uncertainty, a core scenario should be developed based on the most unbiased and realistic set of assumptions. Thus, the core scenario will include the following assumptions:

- Inputs categorised as 'near certain' should be included; and
- Inputs categorised as 'more than likely' should be included.

In line with TAG unit M4, an uncertainty log has been developed. As stated in the unit, the purpose of the uncertainty log is to record the central forecasting assumptions that underpin the core scenario and record the degree of uncertainty around these central assumptions. These assumptions will be the basis for developing a set of alternative scenarios.

The uncertainty log deals with local uncertainty about future land use (demand side uncertainty), and transport schemes (supply side uncertainty) which will affect the transport network. The uncertainty relates to the likelihood of a specific scheme or development taking place, as well as the nature and size of the development. Table 4-1 provides the TAG definitions of the uncertainty log classifications.

Table 4-1 Classification of near certain and more than likely schemes as per TAG

Probability of the input	Local authority / development scheme
Near certain: The outcome will happen or there is a high probability that it will happen.	• Intent announced by proponent to regulatory agencies. • Approved development proposals; and • Projects under construction
More than likely: The outcome is likely to happen but there is some uncertainty.	• Submission of planning or consent application imminent. • Development application within the consent process; and • Projects under construction

4.2 Forecast years

The following years have been agreed to the SHM traffic forecast models:

- 2027 – five years into the Swale LP.
- 2038 – the end of the current Swale LP.

4.3 Modelled Scenarios

As briefed in chapter 3, the following scenarios were modelled:

- 2027 Reference Case
- 2027 Do Something
- 2038 Reference Case
- 2038 Do Something

4.4 Uncertainty log

4.4.1 Housing development for RC and DS scenarios

The uncertainty log has been developed by the data provided by KCC and SBC. The total house allocation for each year from the base year 2017 to 2038 for the RC and DS scenarios are shown in Table 4-2 and Table 4-3, respectively. Detailed housing development plans are shown in **Appendix A**.

A summary of the house allocation is given as:

- A number of the Bearing Fruit house development sites don't have planning permission, which is therefore included in the DS instead of the RC scenario.
- The total of 2200 windfall houses are assumed to be allocated from the year 2027. Since they don't have any planning permission, those houses are only included in the DS scenario, proportionally spreading across all developments in Swale.
- A total of 445 houses are proposed for the Faversham Neighbourhood Plan (NP) and the LP for Park Home. They are assumed to be allocated from the year 2027 for the DS scenario, proportionally spreading across all the development sites in Faversham.

In the RC scenarios, there are a total of 6163 and 9225 houses with planning permission by the year 2027 and year 2038, respectively. Additional houses without planning permission, including Bearing Fruit, LP allocations, windfall, and Faversham NP and Park home are included in the DS scenarios. Additional housing development sites with the number of dwellings greater than 500 by the year 2038 are listed as:

- South East Faversham
- Land at Lady Dane Farm
- Land at The Port of Sheerness, Rushenden Road
- Sittingbourne Town Centre
- Teynham Area of Opportunity

Table 4-2 Total housing each year from 2017 to 2038 for the RC scenarios

Planning year	Large PPs	Small PPs	BFs allocations (with planning permission)	BFs allocations (without planning permission)	LP Allocation	Windfalls	Fav NP + Park homes	Total by year	Total Cumulative
2017-2022	2419	13						2432	2432
2022-2023	556	56	110					722	3154
2023-2024	497	8	275					780	3934
2024-2025	441		430					871	4805
2025-2026	318		420					738	5543
2026-2027	260		360					620	6163
2027-2028	251		382					633	6796
2028-2029	131		300					431	7227
2029-2030	131		305					436	7663
2030-2031	131		265					396	8059
2031-2032	91		240					331	8390

2032-2033	32		135					167	8557
2033-2034	1		120					121	8678
2034-2035	1		120					121	8799
2035-2036	246		120					366	9165
2036-2037			60					60	9225
2037-2038			0					0	9225
Total	**5506**	**77**	**3642**	**0**	**0**	**0**	**0**	**9225**	

Table 4-3 Total housing each year from 2017 to 2038 for the DS scenarios

Planning year	Large PPs	Small PPs	BFs allocations (with planning permission)	BFs allocations (without planning permission)	LP Allocation	Windfalls	Fav NP + Park homes	Total by year	Total Cumulative
2017-2022	2419	13						2432	2432
2022-2023	556	56	110	23	30			775	3207
2023-2024	497	8	275	167	75			1022	4229
2024-2025	441		430	244	216			1331	5560
2025-2026	318		420	366	340			1444	7004
2026-2027	260		360	308	375			1303	8307
2027-2028	251		382	237	410	200	35	1515	9822
2028-2029	131		300	165	410	200	35	1241	11063
2029-2030	131		305	149	440	200	35	1260	12323
2030-2031	131		265	60	440	200	35	1131	13454
2031-2032	91		240	81	390	200	35	1037	14491
2032-2033	32		135	115	460	200	35	977	15468
2033-2034	1		120	40	410	200	45	816	16284
2034-2035	1		120		460	200	45	826	17110
2035-2036	246		120		520	200	50	1136	18246
2036-2037			60		520	200	50	830	19076
2037-2038					520	200	45	765	19841
Total	**5506**	**77**	**3642**	**1955**	**6016**	**2200**	**445**	**19841**	

Error! Reference source not found. and **Error! Reference source not found.** show the housing developments for the RC and DS scenarios by the forecast year 2038, respectively.

Figure 4-1 RC housing developments by the year 2038

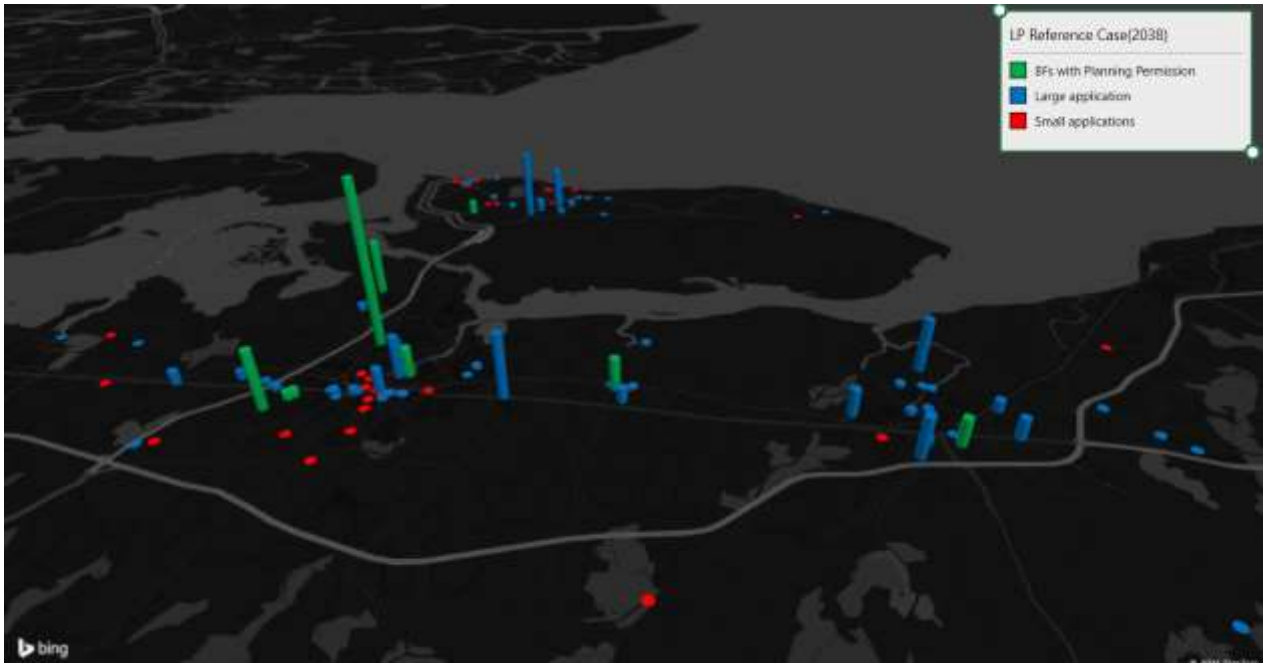
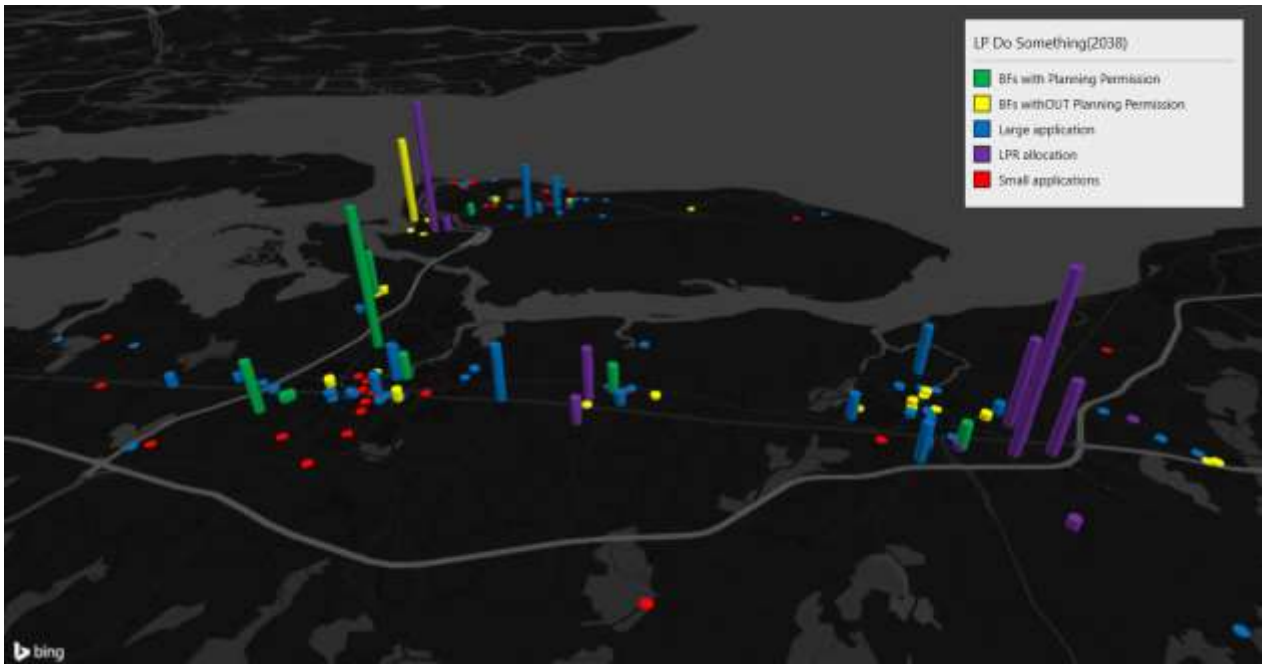


Figure 4-2 DS housing developments by the year 2038



4.4.2 Employment development for RC and DS scenarios

The employment developments for the RC scenario from 2022 to 2038 were inherited from the previous LP 1054 scenario, as shown in Table 4-4. Additional employment sites by the year 2038 for the DS scenarios are proposed, as illustrated in Table 4-5. The employment development in the interim year 2027 is assumed as 50% of its equivalent scenario in the year 2038.

Table 4-4 Swale employment development from 2017 to 2038 for the RC scenarios

Ref	Site name	Employment (sqm)* 2022-2038
1	Faversham site 1	300
2	Faversham site 2	2500
3	Waterham, Favershame	24000
4	West Frognal Lane	42000
5	Lamberhurst Farm	15000
6	Sittingbourne Industrial estate	15000
7	Bobbing site reallocation	30000
8	Wallend Farm Sheppey	10000
Total plan period		**138800**

*It has been agreed that all employments sites will be split into B1:B2:B8 33%:33%:34% except Wallend Farm B1:B8 10%:90%

*Table 4-5 Swale additional employment development from 2017 to 2038 for the DS scenarios**

ID	Type	Site Name	B1 (sqm)	B2 (sqm)	B8 (sqm)	C1 (sqm)	Total
1	Existing committed employment allocations	Ridham and Kemsley, Sittingbourne		72993	72993		145985
2		Neatscourt, Queenborough, Isle of Sheppey	25101	25101	25862		76064
3		Land south of Kemsley Mill	2640	2640	2720		8000
4		Land at West Minster, Sheerness	2475	2475	2550		7500
5		Land at Cowstead Corner, Queenborough	1848	1848	1904	4760	10360
6		Land at Selling Road, Faversham	18000				18000
7		Land at Graveney Road, east of Faversham	2310	2310	2380		7000

8	Proposed allocations in the local plan review Reg 19	SE Fav (Duchy)	33000	33000	34000		100000
9		East Fav (Attwood)	33000	33000	34000		100000
10		Lamberhurst Farm	7227	7227	7446		21900
11		Sittingbourne Town Centre	4950	4950	5100		15000
12		Rushenden South	33000	33000	34000		100000
	Total		**163551**	**218544**	**222954**	**4760**	**609809**

* If no specific land-use information is available, all employments sites will be split into B1:B2:B8 by 33%:33%:34%

4.4.3 Forecast Network Supply

From the uncertainty log, the following transport schemes have been identified as either 'Near certain' or 'More than likely' and have hence been included in the core scenario.

A list of highway schemes was provided by KCC, as illustrated in Figure 4-3. The schemes are differentiated by forecast year and strategic nature. Following a review of the schemes, it was found that some schemes are related to the access road to the local network for a specific development site, as shown in Table 4-6. To maintain an integrated highway network between the RC and DS scenarios, all those schemes have been included in both scenarios[5]. The remaining highway schemes are fully committed and included in both RC and DS scenarios, as shown in Table 4-7. In both tables, a few schemes will not be completed in the year 2027, which were excluded from the interim 2027 forecast models.

[5] If a development site is only related to the DS scenario, no demand will be generated and assigned for the RC scenario.

Figure 4-3 – Network Assumptions

Table 4-6 – Network Assumptions (Development Sites Related)

ID	Title of Development	Details	2027	2038
1	Stones Farm	A2 access only	✓	✓
2	Frognall Lane	A2 access only	✓	✓
3	SW Sittingbourne	Access to Chestnut St, Wises Lane, Borden Lane with link road between	✗	✓
4	NW Sittingbourne	Access to Quinton Road and Grovehurst Road with link road between	✗	✓
5	Iwade Expansion	Access to Grovehurst Road only	✓	✓
7	Crown Quay Redrow	Access to Crown Quay Lane and Eurolink Way	✓	✓
10	Barton Hill Drive	Access to Lower Road and Barton Hill Drive	✓	✓
11	Land off Belgrave Road	Access to Belgrave Road	✓	✓
24	Oare Gravel Works	Access to Ham Road	✓	✓
13	Ospringe Brickworks	Access to Western Link	✓	✓
14	Perry Court	Access to Brogdale Lane and A251	✓	✓
16	Lady Dane Farm	Access to Graveney Road and Love Lane with connecting link	✓	✓
17	Preston Fields	Access to A2 and A251 with connecting (slow) link	✓	✓
18	High St Newington	Access to A2	✓	✓
5	Pond Farm	Access to Grovehurst Road	✓	✓

ID	Title of Development	Details	2027	2038
20	Crown Quay Bellway	Access to Crown Quay Lane	✓	✓
21	Manor Farm	Access to Chestnut Street	✓	✓
22	Newington Eden Meadows	Access to A2 Newington	✓	✓
23	Teynham Station Road	Access to Statio Rd Teynham	✓	✓

Table 4-7 – Network Assumptions (Highway Schemes)

ID	Location	2027	2038
31	A2/A251 Junction Improvements	✓	✓
32	A2/Love Lane Junction Signalisation	✓	✓
33	Spirit of Sittingbourne TC works	✓	✓
40	St Michaels Road/rown Quay Lane Junction Improvements	✓	✓
41	Key St Roundabout Improvements	✓	✓
42	Bobbing Roundabout Improvements	✗	✓
43	Grovehurst Junction Improvements	✓	✓
44	Lower Road/Cowstead Corner Capacity Improvements	✓	✓
46	B2006/Sonora Way Roundabout Capacity Improvements	✓	✓
49	A2/Swanstree Ave Junction Improvements	✗	✓
50	A2/Rectory Rd Junction Improvements	✗	✓
51	Borden Lane/Homewood Mini Roundabout	✗	✓
52	Quinton Road Mini Roundabouts	✓	✓
53	Halfway Road Traffic Lights	✓	✓
54	M2/J5	✓	✓

5 Forecast Demand

5.1 Overview

This chapter summarises the approach adopted to produce reference demand in the future forecast year 2027 and 2038.

Based on the uncertainty log, future car growth was calculated by spatially allocating development trips using the TRICs-based trip rates provided by KCC by area within Swale, and splits by user class derived from NTEM version 7.2. LGV and HGV trip rates were derived from TRICs and LGV/HGV growth factors derived from the Department for Transport (DfT) National Transport Model (NTM) database. A Furness process was then carried out to constrain the growth to NTEM.

5.2 Trip generation and distribution for modelled developments

As agreed with KCC, SBC and Highways England, the car trip rates for housing development were undertaken by TRICs-based values, which are differentiated by two types of geographic locations, one for Swale town centre and the other for Swale rural area, as shown in Table 5-1 for total vehicles[6]. The Swale town centre is defined as for a development site within a mile of Sittingbourne, Faversham, Sheerness and Queenborough. Otherwise, it is assumed to be in the Swale rural area. The trip rates per dwelling for car employer business, car commute, car other, LGV and HGVs in the modelling periods are shown in

[6] Note that the total vehicles include motorcycle, PSV, taxi, car. LGV and OGVs

Table 5-2.

To calculate the trip generation for employment development, the number of jobs for each site was derived based on the existing assumptions of square meters per job by land-use class (e.g., B1, B2 or B8). The methodology applied was based on the guidance outlined in the home and community's agency employment density guide (2015), with the conversion factors shown in Table 5-3. The employment demand was then calculated by the trip rate per job derived from NTEM for cars and TRICS for LGV and HGVs, as shown in

Table 5-4. Peak period trip rates for LGV and HGV were obtained from the TRICs database and converted into peak hour trip rates using the factors found in Table 5-5 below. The trip rates for employment development remain unchanged from the existing RC forecast models.

Table 5-1 Trip rates for Swale LP housing development (total vehicles)

Land Use Class	**TRICS Land Use Type**	**Source**	**Use**	**TOTAL VEHICLE**					
				AM Peak (0800-0900)		Average Inter Peak (1000-1600)		PM Peak (1700-1800)	
				Dep	Arr	Dep	Arr	Dep	Arr
C3 – Dwellings	03-M (mixed private/affordable housing)	TRICS - 8 sites in UK	Swale Town Centre	0.297	0.101	0.121	0.122	0.133	0.274
C3 - Dwellings	03-A (residential/houses privately owned)	TRICS - 8 sites in UK	Swale rural	0.382	0.150	0.144	0.139	0.153	0.367

Table 5-2 Trip rates (per dwelling) for Swale LP housing development (car, LGV and HGVs)

Time Period	Area	Car EB		Car Commute		Car Other		LGV		HGV	
		Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr
AM Peak (0800-0900)	Town centre	0.023	0.003	0.181	0.026	0.068	0.055	0.018	0.011	0.000	0.001
	Rural	0.030	0.005	0.235	0.040	0.089	0.084	0.020	0.017	0.001	0.000
Average Inter Peak (1000-1600)	Town centre	0.005	0.005	0.014	0.019	0.082	0.077	0.016	0.017	0.001	0.001
	Rural	0.006	0.005	0.017	0.022	0.098	0.089	0.021	0.021	0.002	0.002
PM Peak (1700-1800)	Town centre	0.004	0.017	0.018	0.127	0.099	0.105	0.010	0.021	0.000	0.000
	Rural	0.004	0.023	0.021	0.173	0.115	0.143	0.010	0.023	0.000	0.002

Table 5-3 Employment density by land use class

Land Use Class	Details	Sqm per job
A1	Retail	20.00
A1	Retail warehouse	90.00
A2	Finance and professional services	16.00
A3	Restaurants and cafes	20.00
A4	Drinking establishments	20.00
A5	Hot food takeaway	20.00
B1a	Offices	13.00
B1b	R&D space	50.00
B1 c	Light industrial	47.00
B1 mixed	B1 mixed	60.00
B2	Industrial and manufacturing	60.00
B8	Storage and distribution	86.00
Mixed B1-B8	Mixed B1-B8	40.00
C1	Hotels	55.74
C2	Residential institutions	20.00
D1	Non-residential institutions	50.00
D2	Fitness/cinema/visitor/amusement	108.75
SG	Sui Generis	950.00

Table 5-4 Trip rates (per job) for Swale LP employment development (car, LGV and HGVs)

Time Period	Land use class	Car EB		Car Commute		Car Other		LGV		HGV	
		Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr
AM Peak (0800-0900)	B1	0.007	0.019	0.006	0.117	0.014	0.029	0.029	0.036	0.007	0.008
	B2	0.007	0.019	0.006	0.117	0.014	0.029	0.053	0.058	0.023	0.021
	B8	0.007	0.019	0.006	0.117	0.014	0.029	0.041	0.021	0.039	0.029
Average Inter Peak (1000-1600)	B1	0.010	0.009	0.010	0.008	0.034	0.035	0.028	0.029	0.006	0.005
	B2	0.010	0.009	0.010	0.008	0.034	0.035	0.045	0.046	0.019	0.021
	B8	0.010	0.009	0.010	0.008	0.034	0.035	0.026	0.027	0.026	0.028
PM Peak (1700-1800)	B1	0.014	0.006	0.069	0.007	0.042	0.028	0.020	0.014	0.002	0.002
	B2	0.014	0.006	0.069	0.007	0.042	0.028	0.034	0.027	0.010	0.010
	B8	0.014	0.006	0.069	0.007	0.042	0.028	0.032	0.037	0.023	0.033

Table 5-5 Factors applied to convert from peak period to peak hour

Time		TRICs trip rate	Weighted trip weight	Factor applied
AM	7:00-8:00	0.235	-	
	8:00-9:00	0.327	0.472	2.119
	9:00-10:00	0.131	-	
IP	11:00-12:00	-	-	6
PM	16:00-17:00	0.200	-	
	17:00-18:00	0.271	0.375	2.668
	18:00-19:00	0.252	-	

The trip ends have been produced for both RC and DS scenarios, with the following agreed assumptions[7]:

- Since the total number of developments in Swale is projected higher than NTEM for both scenarios, it was assumed that the local growth would be fully fulfilled by the developments. The existing zone trip ends in Swale was kept the same as the base year (i.e. no growth), which means the reference case trip ends were not constrained to NTEM in Swale.
- With no local growth information in the surrounding area, NTEM growths apply to the external zones outside of Swale.
- Any future transport network changes outside of Swale were not included in the forecast models.
- The trip generation was calculated based on the TRICS trip rates with no trip internalisation, work from home adjustment, or mode shift discounts applied.

The future forecast matrices were created through the SATURN Furness process. The Furness process attempts to match the target trip ends for each zone for both Origins and Destinations and it goes through several iterations until the total trip ends are balanced.

[7] The assumptions were based on the conversation with KCC, SBC and Highways England, with a reference to the feedback from Highways England on the LP study for Tunbridge Wells.

Based on the suggestion from Highways England on the LP study for Turnbridge Well, it has been agreed that:

- Origin constraint for modelled AM peak.
- Doubly constraint for modelled Inter Peak.
- Destination constraint for modelled PM peak.

Therefore, it is possible that when there are more new housings (mainly origins in AM peak) than new jobs then the destination trips are factored up accordingly in the process until the trip ends are fully balanced.

The distribution of future developments was based on the existing distribution for the associated zone. In rare occurrences where the base zone was empty, a nearby zone with a similar travel pattern was chosen to distribute the development trips. The same approach has been adopted when development trips were missing in the base year matrices, and in that case, a distribution taken from a nearby similar zone was used. This was likely the case where a new development site was allocated in the post-2022 period, where there was very little other development in the zone (such as for the new settlements). The results were also 'sense checked' for how the model was allocating trips from such a development to the network and adjusted if necessary.

5.3 Matrix Building

5.3.1 Growth Factors

Car background growth factors across the entire modelled area were derived from NTEM and split by purpose and time period. Table 5-6 to Table 5-8 below shows a summary of the NTEM v7.2 growth factors for AM, IP and PM peak, respectively.

Table 5-6 NTEM v7.2 growth factors for AM peak

Area	2017-2027						2017-2038					
	Commute		Emp Business		Other		Commute		Emp Business		Other	
	O	D	O	D	O	D	O	D	O	D	O	D
GB	1.079	1.079	1.082	1.082	1.118	1.118	1.144	1.144	1.150	1.150	1.220	1.220
Bromley	1.043	1.079	1.050	1.084	1.118	1.147	1.080	1.137	1.091	1.148	1.230	1.278
South East	1.075	1.079	1.080	1.083	1.132	1.131	1.129	1.139	1.138	1.147	1.246	1.245
Kent	1.062	1.075	1.070	1.080	1.139	1.140	1.104	1.133	1.120	1.144	1.263	1.268
Ashford	1.110	1.078	1.109	1.083	1.184	1.156	1.197	1.138	1.197	1.149	1.357	1.301
Canterbury	1.106	1.077	1.103	1.081	1.161	1.143	1.164	1.135	1.167	1.146	1.298	1.273
Dartford	1.105	1.079	1.099	1.083	1.170	1.161	1.196	1.139	1.185	1.149	1.333	1.308
Dover	1.072	1.076	1.079	1.080	1.161	1.145	1.127	1.134	1.142	1.145	1.304	1.276
Gravesham	1.070	1.075	1.072	1.079	1.140	1.145	1.123	1.133	1.128	1.144	1.270	1.278
Maidstone	1.076	1.076	1.081	1.081	1.153	1.145	1.125	1.134	1.137	1.146	1.286	1.276
Medway	1.065	1.075	1.072	1.080	1.137	1.137	1.105	1.132	1.121	1.144	1.255	1.262
Sevenoaks	0.996	1.071	1.017	1.077	1.082	1.120	0.997	1.127	1.033	1.139	1.162	1.232
Shepway	1.034	1.074	1.049	1.080	1.123	1.133	1.032	1.129	1.065	1.142	1.212	1.247
Swale	1.045	1.073	1.056	1.078	1.127	1.133	1.068	1.130	1.091	1.141	1.241	1.254
Thanet	1.032	1.073	1.046	1.078	1.110	1.129	1.047	1.129	1.074	1.142	1.209	1.246

Area	2017-2027						2017-2038					
	Commute		Emp Business		Other		Commute		Emp Business		Other	
	O	D	O	D	O	D	O	D	O	D	O	D
Tonbridge and Malling	1.059	1.074	1.067	1.080	1.138	1.139	1.107	1.133	1.122	1.144	1.271	1.268
Tunbridge Wells	1.031	1.073	1.046	1.079	1.115	1.134	1.050	1.129	1.078	1.141	1.222	1.256
Rother	1.069	1.085	1.079	1.090	1.125	1.127	1.139	1.150	1.151	1.160	1.242	1.238

Table 5-7 NTEM v7.2 growth factors for Inter Peak

Area	2017-2027						2017-2038					
	Commute		Emp Business		Other		Commute		Emp Business		Other	
	O	D	O	D	O	D	O	D	O	D	O	D
GB	1.069	1.069	1.078	1.078	1.121	1.121	1.127	1.127	1.143	1.143	1.225	1.225
Bromley	1.060	1.051	1.076	1.073	1.137	1.136	1.110	1.094	1.135	1.130	1.265	1.262
South East	1.069	1.068	1.080	1.080	1.136	1.135	1.121	1.119	1.141	1.141	1.255	1.254
Kent	1.061	1.060	1.076	1.076	1.150	1.148	1.108	1.104	1.135	1.135	1.285	1.282
Ashford	1.081	1.090	1.087	1.089	1.180	1.179	1.146	1.161	1.157	1.161	1.350	1.347
Canterbury	1.080	1.086	1.084	1.086	1.164	1.163	1.133	1.140	1.149	1.149	1.308	1.305
Dartford	1.083	1.085	1.089	1.086	1.166	1.167	1.152	1.156	1.162	1.157	1.322	1.323
Dover	1.065	1.066	1.077	1.079	1.165	1.163	1.115	1.117	1.140	1.142	1.312	1.309
Gravesham	1.067	1.064	1.080	1.077	1.148	1.148	1.121	1.115	1.144	1.139	1.287	1.286
Maidstone	1.066	1.068	1.078	1.079	1.159	1.158	1.116	1.117	1.139	1.141	1.301	1.298
Medway	1.060	1.059	1.075	1.076	1.148	1.145	1.105	1.101	1.134	1.134	1.280	1.274
Sevenoaks	1.030	1.018	1.059	1.057	1.109	1.107	1.061	1.038	1.106	1.104	1.211	1.207
Shepway	1.048	1.043	1.068	1.069	1.139	1.136	1.075	1.061	1.116	1.116	1.250	1.245
Swale	1.053	1.048	1.070	1.070	1.140	1.138	1.092	1.082	1.124	1.125	1.267	1.263
Thanet	1.045	1.038	1.069	1.068	1.130	1.127	1.080	1.064	1.122	1.121	1.249	1.242
Tonbridge and Malling	1.062	1.059	1.074	1.075	1.149	1.148	1.111	1.108	1.135	1.136	1.290	1.288
Tunbridge Wells	1.048	1.040	1.067	1.067	1.136	1.133	1.087	1.071	1.121	1.120	1.262	1.256
Rother	1.070	1.068	1.083	1.085	1.132	1.132	1.139	1.150	1.151	1.160	1.242	1.238

Table 5-8 NTEM v7.2 growth factors for PM peak hour

Area	2017-2027						2017-2038					
	Commute		Emp Business		Other		Commute		Emp Business		Other	
	O	D	O	D	O	D	O	D	O	D	O	D
GB	1.071	1.071	1.080	1.080	1.107	1.107	1.130	1.130	1.146	1.146	1.200	1.200
Bromley	1.074	1.036	1.081	1.054	1.123	1.107	1.130	1.068	1.144	1.097	1.234	1.207
South East	1.072	1.068	1.081	1.078	1.116	1.117	1.126	1.117	1.144	1.137	1.217	1.219
Kent	1.068	1.055	1.078	1.069	1.122	1.125	1.120	1.092	1.140	1.120	1.232	1.236
Ashford	1.073	1.105	1.084	1.104	1.147	1.163	1.129	1.188	1.151	1.188	1.284	1.316
Canterbury	1.072	1.100	1.082	1.097	1.137	1.147	1.126	1.152	1.146	1.160	1.256	1.270

Area	2017-2027						2017-2038					
	Commute		Emp Business		Other		Commute		Emp Business		Other	
	O	D	O	D	O	D	O	D	O	D	O	D
Dartford	1.076	1.098	1.086	1.096	1.147	1.146	1.135	1.183	1.156	1.178	1.283	1.283
Dover	1.068	1.066	1.079	1.077	1.131	1.142	1.121	1.116	1.142	1.139	1.250	1.269
Gravesham	1.070	1.063	1.081	1.073	1.131	1.126	1.126	1.111	1.146	1.130	1.251	1.242
Maidstone	1.069	1.069	1.079	1.079	1.128	1.137	1.122	1.114	1.142	1.135	1.241	1.255
Medway	1.067	1.057	1.077	1.070	1.119	1.122	1.118	1.092	1.139	1.119	1.223	1.228
Sevenoaks	1.060	0.988	1.070	1.021	1.087	1.077	1.109	0.985	1.126	1.040	1.170	1.152
Shepway	1.065	1.028	1.074	1.050	1.110	1.111	1.112	1.020	1.130	1.069	1.197	1.194
Swale	1.064	1.038	1.075	1.057	1.112	1.115	1.115	1.059	1.134	1.095	1.211	1.216
Thanet	1.062	1.022	1.074	1.047	1.104	1.100	1.111	1.031	1.133	1.078	1.198	1.190
Tonbridge and Malling	1.068	1.054	1.077	1.067	1.121	1.126	1.121	1.097	1.139	1.122	1.234	1.245
Tunbridge Wells	1.064	1.023	1.074	1.046	1.108	1.105	1.115	1.037	1.133	1.081	1.208	1.201
Rother	1.077	1.063	1.087	1.079	1.116	1.114	1.137	1.128	1.156	1.150	1.220	1.222

A tiered approach to growth factors has been applied to the car demand. Growth factors have been adopted at a district level for Swale and its hinterland areas in Kent. For the rest of Kent and the external areas, the factors for the entire Kent or GB are applied. This structure is displayed in Figure 5-1.

Figure 5-1 NTEM regions

The goods vehicle growths (LGV and HGV) were updated by the DfT's Road Traffic Forecast 2018 (RTF 2018). The comparisons of growth factors between the Road Traffic Forecast 2015 (RTF 2015, as applied in the previous Swale Traffic Forecasts), and RTF2018 are shown in Table 5-9. It is found that the growth rates with the RTF 2018 are generally less than those from the RTF 2015, especially for LGVs.

Table 5-9 comparisons of goods vehicle growth between RTF15 and RTF18

Vehicle Class	RTF2015 2017-2027	RTF2018 2017-2027	% diff	RTF2015 2017-2038	RTF2018 2017-2038	% diff
LGV	1.260	1.141	-9.4%	1.520	1.310	-13.8%
HGV	1.073	1.036	-3.5%	1.146	1.105	-3.5%

5.3.2 Matrix total comparisons

The comparisons of demand matrix totals in the forecast year 2027 and 2038 by user class and time period for the RC and DS Scenarios are shown in Table 5-10 and Table 5-11, respectively. The existing reference case scenarios[8] in 2027 and 2037 are also presented.

For the RC scenarios, when comparing to the base year, it can be seen that the overall demand increases by approximate 10.3% to 11.7% and 19.2% to 22.6% in the forecast year 2027 and 2038, respectively. The total demand in the DS scenarios is higher than the corresponding RC scenarios, uplifting from the base year by 11.0% to 12.3% in the year 2027 and 21.7% to 24.2% in the year 2038. The total demand for each scenario is less than the equivalent existing RC models because of the revised model assumptions including trip rates, forecast horizon year, goods vehicle growth and housing & employment plan in the RC and DS scenarios.

Overall, the level of demand changes and associated patterns are sensible.

[8] The existing RCs are based on the TRICS rates, without TEMPRO constraints, and the housing and employment forecasts which are superseded by the revised plan as described in section 4.1 and 4.2.

Table 5-10 Total Trip Ends Comparisons year 2027 vs Base Year

AM(8000-0900)

User Class	Base year	Existing RC (2027)	(% Diff to Base Year)	2027 RC	(% Diff to Base Year)	2027 DS	(% Diff)
Car Business	16771	18193	8.5%	17915	6.8%	18045	7.6%
Car Commute	66857	74302	11.1%	72296	8.1%	73133	9.4%
Car Other	89410	102462	14.6%	101392	13.4%	101750	13.8%
LGV	17627	22202	26.0%	20029	13.6%	20247	14.9%
HGV	13636	14729	8.0%	14106	3.4%	14184	4.0%
Total	**204302**	**231888**	**13.5%**	**225738**	**10.5%**	**227360**	**11.3%**

IP (av. 1000:1600)

User Class	Base year	Existing RC (2027)	(% Diff to Base Year)	2027 RC	(% Diff to Base Year)	2027 DS	(% Diff)
Car Business	11907	12840	7.8%	12631	6.1%	12684	6.5%
Car Commute	23408	25047	7.0%	24917	6.4%	25020	6.9%
Car Other	99922	115283	15.4%	114342	14.4%	114802	14.9%
LGV	13925	17538	26.0%	15878	14.0%	16072	15.4%
HGV	12985	13988	7.7%	13432	3.4%	13495	3.9%
Total	**162148**	**184696**	**13.9%**	**181199**	**11.7%**	**182072**	**12.3%**

PM(1700-1800)

User Class	Base year	Existing RC (2027)	(% Diff to Base Year)	2027 RC	(% Diff)	2027 DS	(% Diff)
Car Business	15571	16800	7.9%	16549	6.3%	16650	6.9%
Car Commute	51721	56679	9.6%	55566	7.4%	56183	8.6%
Car Other	108892	123320	13.2%	122250	12.3%	122844	12.8%
LGV	16966	21371	26.0%	19228	13.3%	19401	14.4%
HGV	9042	9748	7.8%	9360	3.5%	9412	4.1%
Total	**202193**	**227919**	**12.7%**	**222953**	**10.3%**	**224491**	**11.0%**

Table 5-11 Total Trip Ends Comparisons year 2038 vs Base Year

AM(8000-0900)							
User Class	**Base year**	**Existing RC (2037)**	**(% Diff)**	**2038 RC**	**(% Diff)**	**2038 DS**	**(% Diff)**
Car Business	16771	19225	14.6%	18716	11.6%	19144	14.1%
Car Commute	66857	79818	19.4%	75805	13.4%	78779	17.8%
Car Other	89410	113436	26.9%	111939	25.2%	113146	26.5%
LGV	17627	26805	52.1%	22821	29.5%	23376	32.6%
HGV	13636	15643	14.7%	14992	9.9%	15151	11.1%
Total	**204302**	**254927**	**24.8%**	**244274**	**19.6%**	**249596**	**22.2%**
IP (av. 1000:1600)							
User Class	**Base year**	**Existing RC (2037)**	**(% Diff)**	**2038 RC**	**(% Diff)**	**2038 DS**	**(% Diff)**
Car Business	11907	13515	13.5%	13197	10.8%	13335	12.0%
Car Commute	23408	26239	12.1%	26037	11.2%	26356	12.6%
Car Other	99922	128354	28.5%	127168	27.3%	128630	28.7%
LGV	13925	21175	52.1%	18136	30.2%	18640	33.9%
HGV	12985	14886	14.6%	14271	9.9%	14405	10.9%
Total	**162148**	**204169**	**25.9%**	**198809**	**22.6%**	**201366**	**24.2%**
PM(1700-1800)							
User Class	**Base year**	**Existing RC (2037)**	**(% Diff)**	**2038 RC**	**(% Diff)**	**2038 DS**	**(% Diff)**
Car Business	15571	17660	13.4%	17257	10.8%	17587	12.9%
Car Commute	51721	60302	16.6%	58058	12.3%	60225	16.4%
Car Other	108892	135412	24.4%	133890	23.0%	135852	24.8%
LGV	16966	25797	52.1%	21842	28.7%	22327	31.6%
HGV	9042	10367	14.7%	9956	10.1%	10065	11.3%
Total	**202193**	**249538**	**23.4%**	**241003**	**19.2%**	**246056**	**21.7%**

6 Forecast Supply

6.1 Introduction

This section summarises the assumptions applied in the development of the forecast networks.

6.2 Reference Case Network

The schemes included in the forecast models in the year 2038 can be seen in Figure 6-1, which illustrates the network structure changes (coloured blue indicates new links being added and red for existing links being removed or modified).

In addition, a total of 11 new zones, as shown in Figure 6-2, have been included in the forecast models for several LP large development zones so that the traffic movements can be robustly presented. Those include the Land at North West Sittingbourne, South East Faversham, Land west of Barton Hill Drive, Land at Lady Dane Farm, and Land West of Frognal Lane etc. The total number of zones in the SHM forecast models is 332.

Figure 6-1 Network changes between the base year and RC 2038 scenario

Figure 6-2 New development zones

6.3 Generalised cost

Cost changes have been calculated for each forecast year. The highway trip costs comprise time, distance and charge impacts. The Value of Time (VoT) and Vehicle Operating Cost (VOC) vary by journey purpose and vary by forecast year to represent changes in fuel costs and income. Changes in fuel costs, vehicle efficiency and values of time have been taken from the TAG data book July 2017. These have been used to calculate the forecast year values of time (expressed as pence per minute in SATURN) and operating costs (expressed as pence per kilometre in SATURN). Table 6-1 and details the highway generalised cost coefficients used for 2027 and 2038 in pence per minute (PPM) and pence per kilometre (PPK).

Table 6-1 Value of time, pence per minute (PPM, 2010 prices, 2027/2038 values)

User Class	PPM					
	2027			2038		
	AM	IP	PM	AM	IP	PM
Car - Employer's Business	35.32	36.19	35.83	43.16	44.22	43.78
Car - Commuting	23.69	24.07	23.77	28.94	29.41	29.04
Car - Other	16.34	17.41	17.11	19.97	21.27	20.91
LGV	24.96	24.96	24.96	30.50	30.50	30.50
HGV	58.29	58.29	58.29	71.22	71.22	71.22

Table 6-2 Value of vehicle operating cost, pence per kilometre (PPK, 2010 prices, 2027/2038 values)

User Class	PPK (same for all time periods)	
	2027	2038
Car - Employer's Business	12.00	11.88
Car - Commuting	5.43	5.28
Car - Other	5.43	5.28
LGV	13.77	13.81
HGV	45.34	47.78

6.4 Forecast network calibration

During the development of future forecast networks, a review process was undertaken including:

- Review the completeness of the network around the forecast year schemes to ensure that the modelled and designed representations were appropriate.
- Reviewed the directionality and connectivity of the proposed network changes around scheme locations.
- Sense check on the flow and delay changes between the base, RC and DS scenarios, carrying out Select Link Analysis in Saturn to ensure traffic rerouting is sensible.

From these checks, minor amendments to the scheme coding were identified. In accordance with these checks any identified issues were then incorporated in the network development process.

7 Model Results

Forecast Network Overall Performance**Error! Not a valid bookmark self-reference.**, Table 7-2 and Table 7-3 compare the assignment network performance statistics between the base year, RC and DS scenario in the year 2027 and 2038 for AM peak, Inter peak and PM peak hour respectively, including:

- Total travel time, PCU-hours: The sum of all time taken for all vehicles to travel across the simulation network for all link and junctions
- Total travel distance, PCU-kms: The sum of all distance travelled in the simulation network
- Simulation network speed, kph: Defined by total simulation distance / total simulation time

More detailed network performance measure results can be found in **Appendix B**.

Table 7-1 Network performance for the base year, RC and DS in the AM peak hour

Metrics	2017	2027				2038			
	Base	RC	% diff	DS	% diff	RC	% diff	DS	% diff
Simulation network Speed, kph	66.6	63.6	-4.5%	62.3	-6.5%	61.7	-7.4%	54.6	-18.0%
Total travel time, PCU hrs	51350	58608.5	14.1%	59328	15.5%	63672	24.0%	67159.2	30.8%
Total travel distance, PCU kms	3303786.5	3633791.5	10.0%	3664347.8	10.9%	3937167.5	19.2%	4040004.5	22.3%

Table 7-2 Network performance for the base year , RC and DS in the Inter peak hour

Metrics	2017	2027				2038			
	Base	RC	% diff	DS	% diff	RC	% diff	DS	% diff
Simulation network Speed, kph	72.3	72	-0.4%	71.4	-1.2%	71.1	-1.7%	68.8	-4.8%
Total travel time, PCU hrs	38139.6	42886	12.4%	43186.8	13.2%	46971.4	23.2%	48022.9	25.9%
Total travel distance, PCU kms	2511537.3	2780634.8	10.7%	2798003.3	11.4%	3045779.8	21.3%	3101266	23.5%

Table 7-3 Network performance for the base year, RC and DS in the PM peak hour

Metrics	2017	2027				2038			
	Base	RC	% diff	DS	% diff	RC	% diff	DS	% diff
Simulation network Speed, kph	66.8	64.4	-3.6%	62.9	-5.8%	61.5	-7.9%	54	-19.2%
Total travel time, PCU hrs	51568.7	58657.2	13.7%	59426.9	15.2%	63853.3	23.8%	67630.7	31.1%
Total travel distance, PCU kms	3286032.5	3610026	9.9%	3642969.8	10.9%	3906627.5	18.9%	4024208	22.5%

An analysis of the information has the following findings:

- The overall average speeds are highest in the base year and decreases in the future years. The lowest average speeds are observed in the 2038 AM and PM peak period in the DS scenarios.
- In all time periods, the total travel time and travel distance increases from base year to future years and is highest in 2038. This reflects the levels of total distance travelled increase across modelled scenarios and forecast years.
- Overall, the patterns of the network statistics changes are consistent across modelling time periods, forecast years, and between RC and DS scenarios.

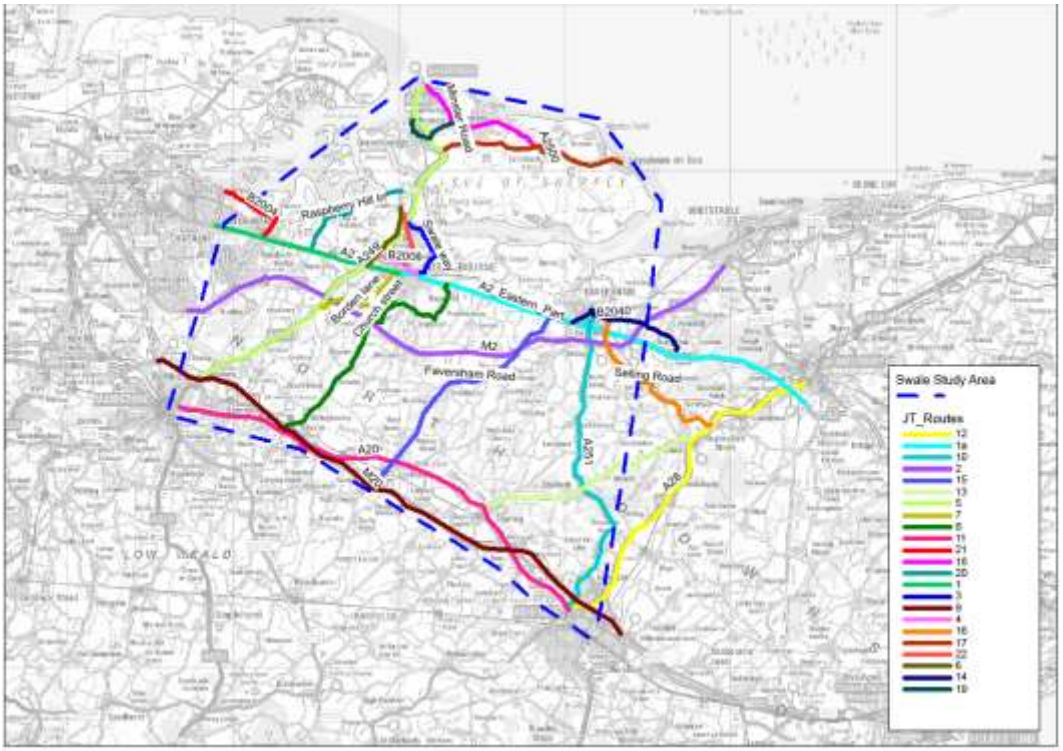
7.1 Journey Times

Journey time analysis along 22 selected routes as shown in Figure 7-1 was carried out for the RC and DS scenarios in the year 2027 and 2038 to compare against the base year. Meanwhile, the journey time for four additional routes (8 by direction, as shown in **Appendix C**) has also been extracted, as:

- Sheppey to M2 J7 via M2 near Canterbury (R51 & R52)
- Sheppey to M2 J7 via A2 through Sittingbourne (R53 & R53)
- Sheppey to M20/A249 near Maidstone (R55 & R56)
- Faversham to A2/A2050 near Canterbury (R57 & R58)

The results are given in **Appendix C**.

Figure 7-1 Swale highway model TrafficMaster-based journey time routes



An analysis of the journey time results shows the following trends:

- Overall, comparing to the base year, journey time increases on most routes in the year 2027 and 2037 RC scenario and increases further in the corresponding DS scenarios which reflects the level of additional demand related to the LP developments.
- For AM scenarios, there are large increases along:
  - R31 Selling Road NB (+8% in 2038 RC and +91% in 2038 DS).
  - R31 Selling Road SB (+11% in 2038 RC and +36% in 2038 DS).
  - R34 A2500 WB (+28% in 2038 RC and +48% in 2038 DS).
  - R1a A2_EB (Eastern Part) (+10% in 2038 RC and +33% in 2038 DS).
  - R1a A2_WB (Eastern Part) (+11% in 2038 RC and +27% in 2038 DS).
  - R53 Sheppey to M2 J7 via A2 EB(+3% in 2038RC and +28% in 2038DS).

- R53 Sheppey to M2 J7 via A2 WB (+8% in 2038RC and +29% in 2038DS).
- R57 Faversham to A2/A2050 EB (+17% in 2038RC and +71% in 2038DS).
  R58 Faversham to A2/A2050 EB (+44% in 2038RC and +83% in 2038DS).
- The journey time along Sheppey to M2 J7 via M2 EB (R51 & R52) and Sheppey to M20/A249 SB (R55 & R56) showed some reduction or marginal increase in the year 2027 and 2038 RC and DS scenarios, due to the M2 J5 improvement scheme.

- A similar pattern is found in the IP, to a much smaller extent.
- For PM, there are large increases along:
  - R28 B2040 WB (+29% in 2038 RC and +98% in 2038 DS).
  - R31 Selling Road NB (+9% in 2038 RC and +81% in 2038 DS).
  - R31 Selling Road SB (+9% in 2038 RC and +44% in 2038 DS).
  - R1a A2_EB (Eastern Part) (+10% in 2038 RC and +33% in 2038 DS).
  - R54 Sheppey to M2 J7 via A2 WB (+10% in 2038 RC and +33% in 2038 DS).
  - R53 Sheppey to M2 J7 via A2 EB (+10% in 2038RC and +57% in 2038DS).
  - R57 Faversham to A2/A2050 EB (+27% in 2038RC and +49% in 2038DS).
    R58 Faversham to A2/A2050 EB (+38% in 2038RC and +112% in 2038DS).

In summary, the journey time results reveal the following travel condition changes between Swale and its neighbouring authorities:

- By the year 2038, the travel time between Sheppey and Canterbury increases marginally, just over 11% in the PM peak in the RC scenario, whereas in the DS scenario the travel condition would become very congested, with the journey time increase by more than 13 minutes (+49%) for the WB traffic travelling along the M2 and 19 minutes (+57%) along the A2 in the PM peak, when comparing to the base year.
- Similar travel pattern is also found for travelling between Sheppey and Maidstone along A249 corridor but to a lesser extent, with journey time increased by around 8 minutes from the base year for the NB traffic in the DS scenario in the PM peak in 2038.
- The travel condition between the Sittingbourne and Gillingham in Medway along the A2 corridor has less affected by the future demand growth, with journey time increase by less than 10% in both AM and PM peak in 2038 above the base year.
- Heavy delay is found for the traffic travelling between Sittingbourne and Canterbury along the A2 corridor through the M2J7, with the most significant travel time increased by more than 12 minutes (+40%) for the EB traffic in the PM peak in 2038, when comparing to the base year.
- For the through traffic along the M2 and A299 Thanet Way, the most significant increase is found for the WB traffic in the PM peak in 2038, with the journey time increase by more than 13 minutes (+33%) over the base year.

7.2 Traffic Flows

Figure 7-2, Figure 7-3, and Figure 7-4 show the comparisons of the modelled total actual flow in the core area around Sittingbourne, Faversham and Isle of Sheppey between the 2037 RC and the base year in the AM peak, Inter Peak and PM peak, respectively, with green bars showing an increase in modelled flow and blue bars for a decrease.

Overall, it is found that traffic flow increases on most key roads in the region, including M2, M20, A249 and A2. It is also revealed that there is a level of traffic decrease on the

A249 SB from M2 J5 to M20 J7 in the AM peak and PM peak in the 2037 RC scenario. An investigation showed this is due to the traffic rerouting following the M2 and A229 corridor to avoid the excessive delay at A249 SB approach arm at M20 J7 gyratory, as well as the reduced congestion at M2 J5 with the improvement scheme in place.

The comparisons of the modelled total actual flow in the core area between the 2037 RC and the DS scenarios in the AM peak, Inter Peak and PM peak are shown in Figure 7-5, Figure 7-6, and Figure 7-7, respectively. Overall, traffic increases on most local roads in the DS scenarios, comparing to the RC scenarios.

The total flow comparisons between the base year and the forecast year 2027 are given in **Appendix D**. The results are consistent with those between the base year and the year 2038 but to a lesser extent.

Figure 7-2 Actual flow(PCUs) comparison between 2038 RC and base year-AM Peak

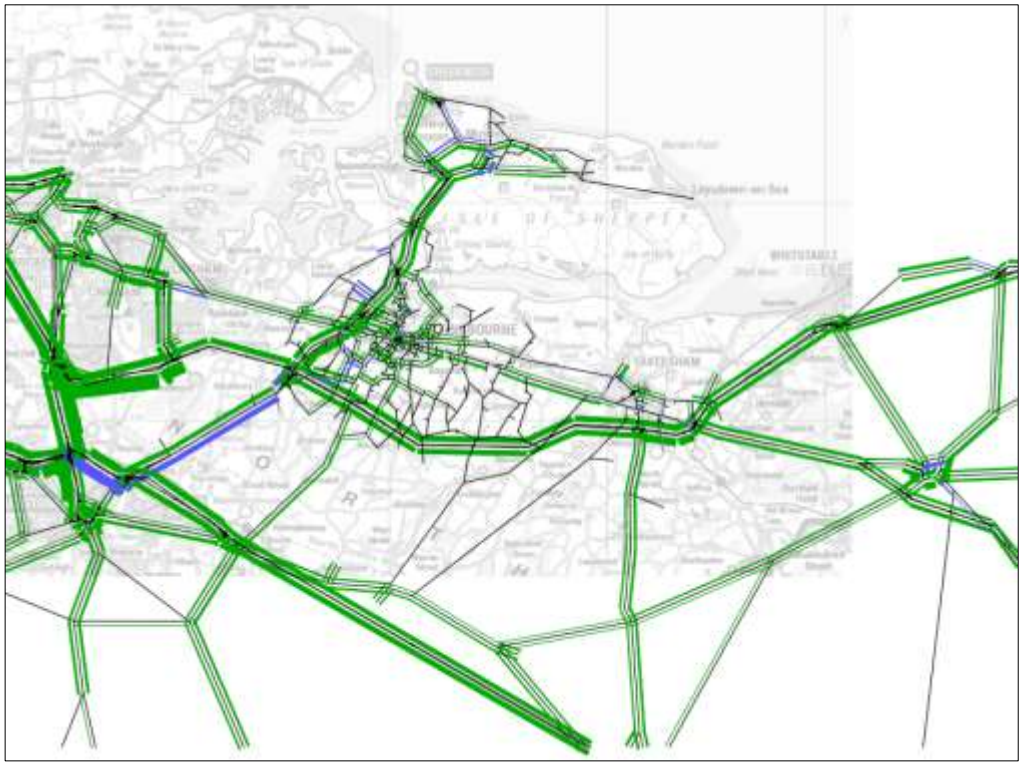


Figure 7-3 Actual flow(PCUs) comparison between 2038 RC and base year-Inter Peak

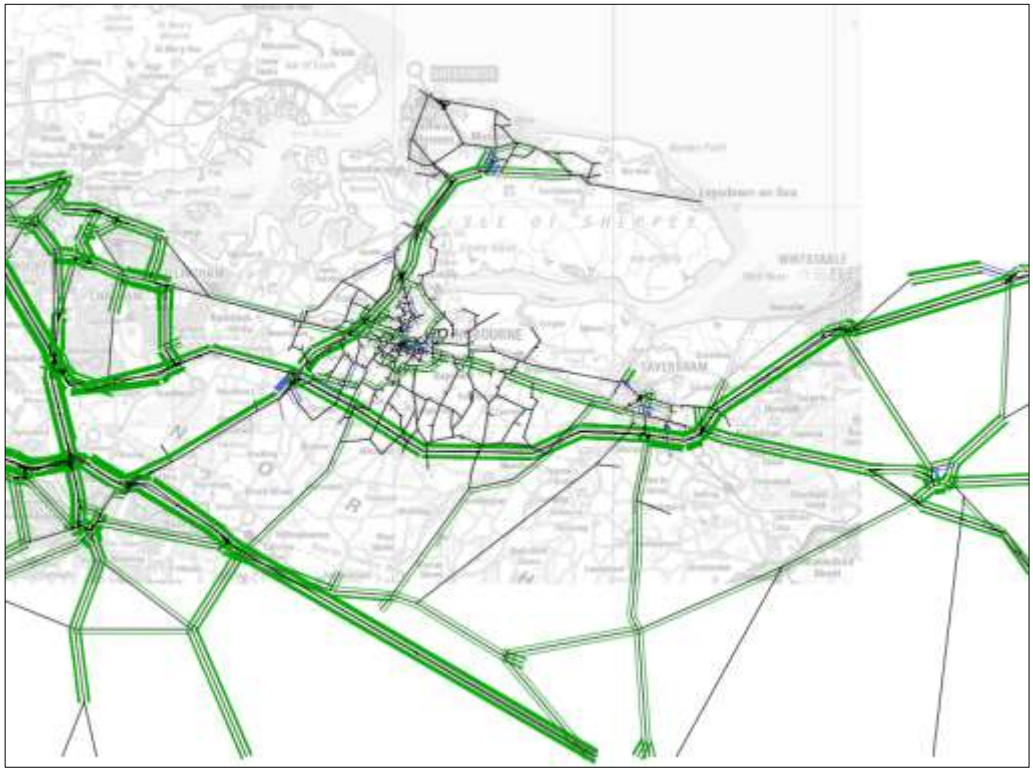


Figure 7-4 Actual flow(PCUs) comparison between 2038 RC and base year-PM Peak

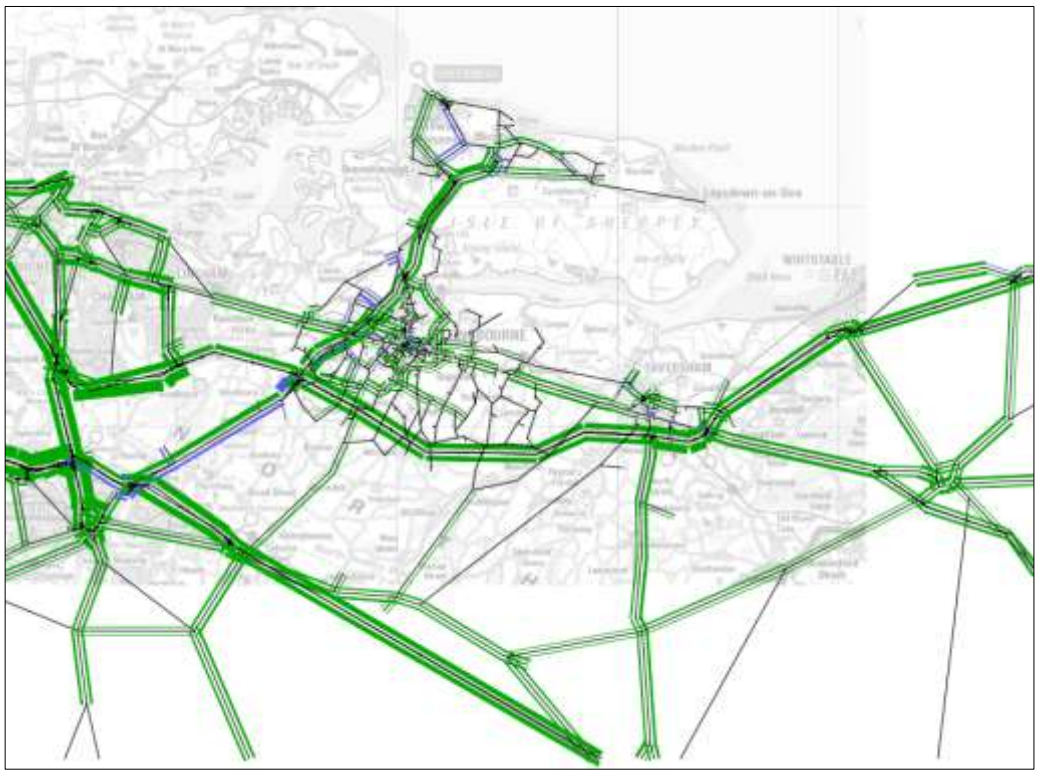


Figure 7-5 Actual flow(PCUs) comparison between 2038 RC and DS Scenario- AM Peak

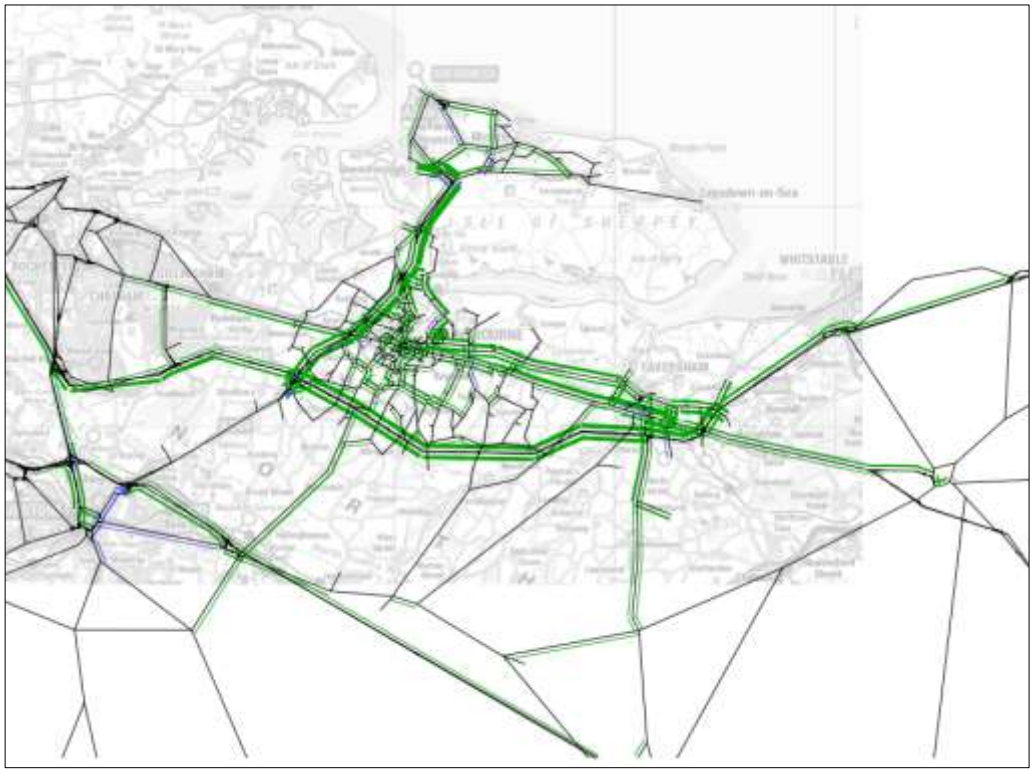


Figure 7-6 Actual flow(PCUs) comparison between 2038 RC and DS Scenario-Inter Peak

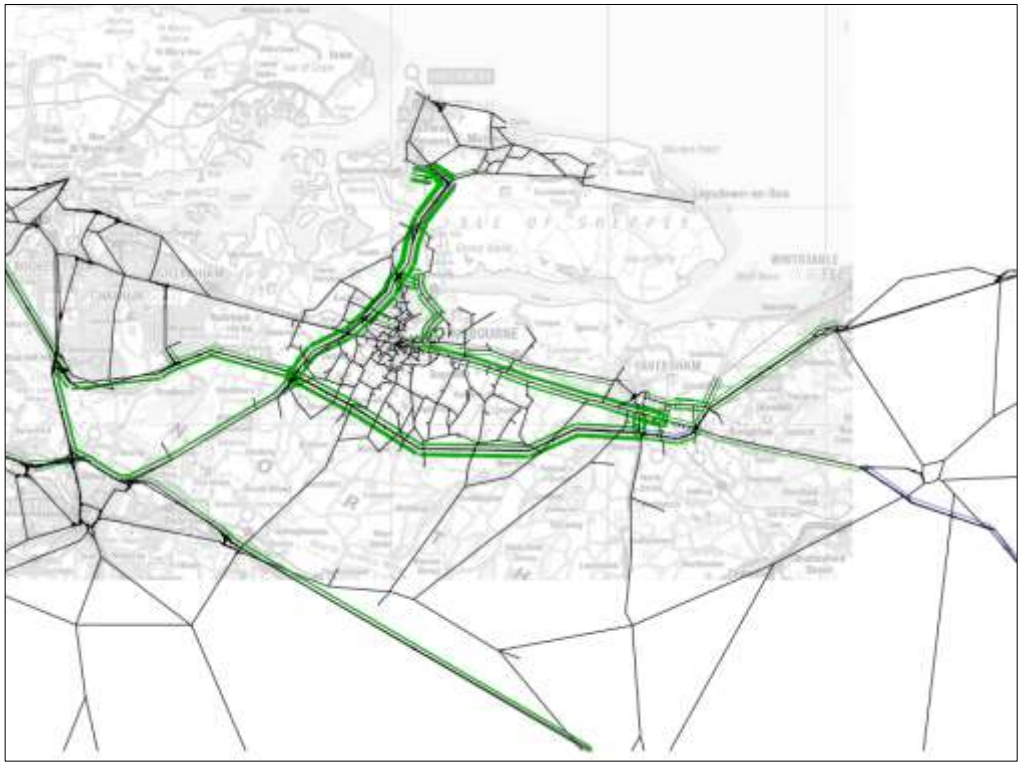


Figure 7-7 Actual flow(PCUs) comparison between 2038 RC and DS Scenario- PM Peak

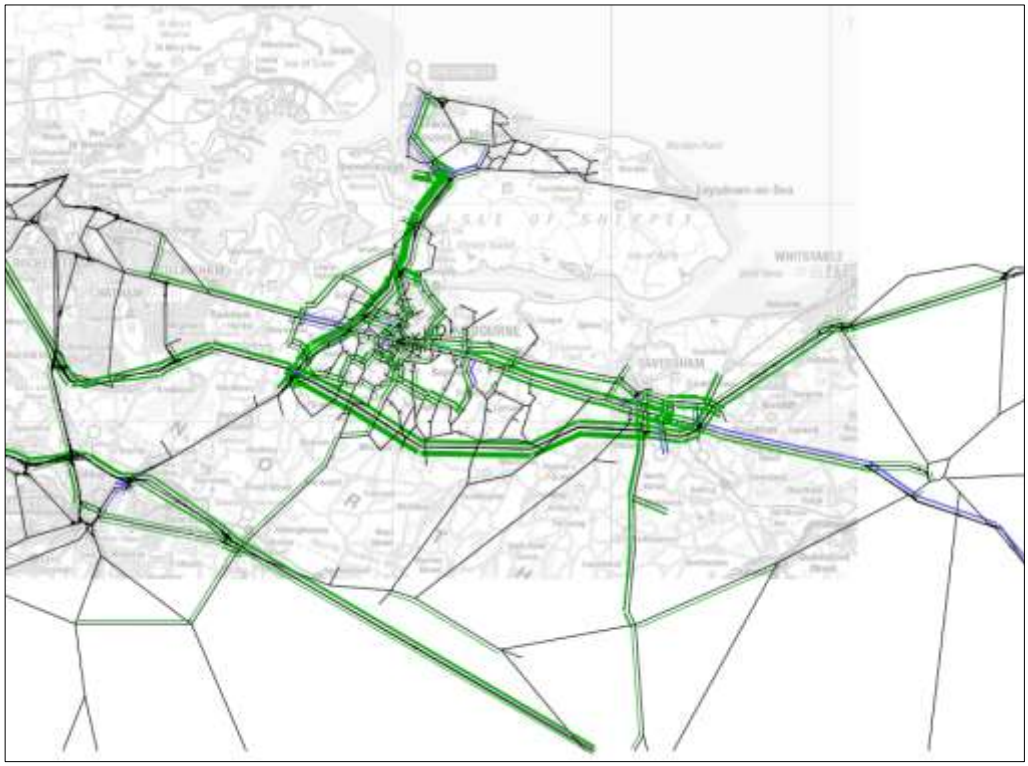


Figure 7-8 to Figure 7-16 show the total flows (in PCUs) on key roads in Sittingbourne, Faversham and Sheppey areas in the base year 2017, 2038 RC, and 2038 DS scenarios. On most roads, the flows are highest in the year 2038 DS scenarios.

The flow results of the stick diagram in the forecast year 2027 are presented in **Appendix E**.

Figure 7-8 Flows on key roads in Sittingbourne AM

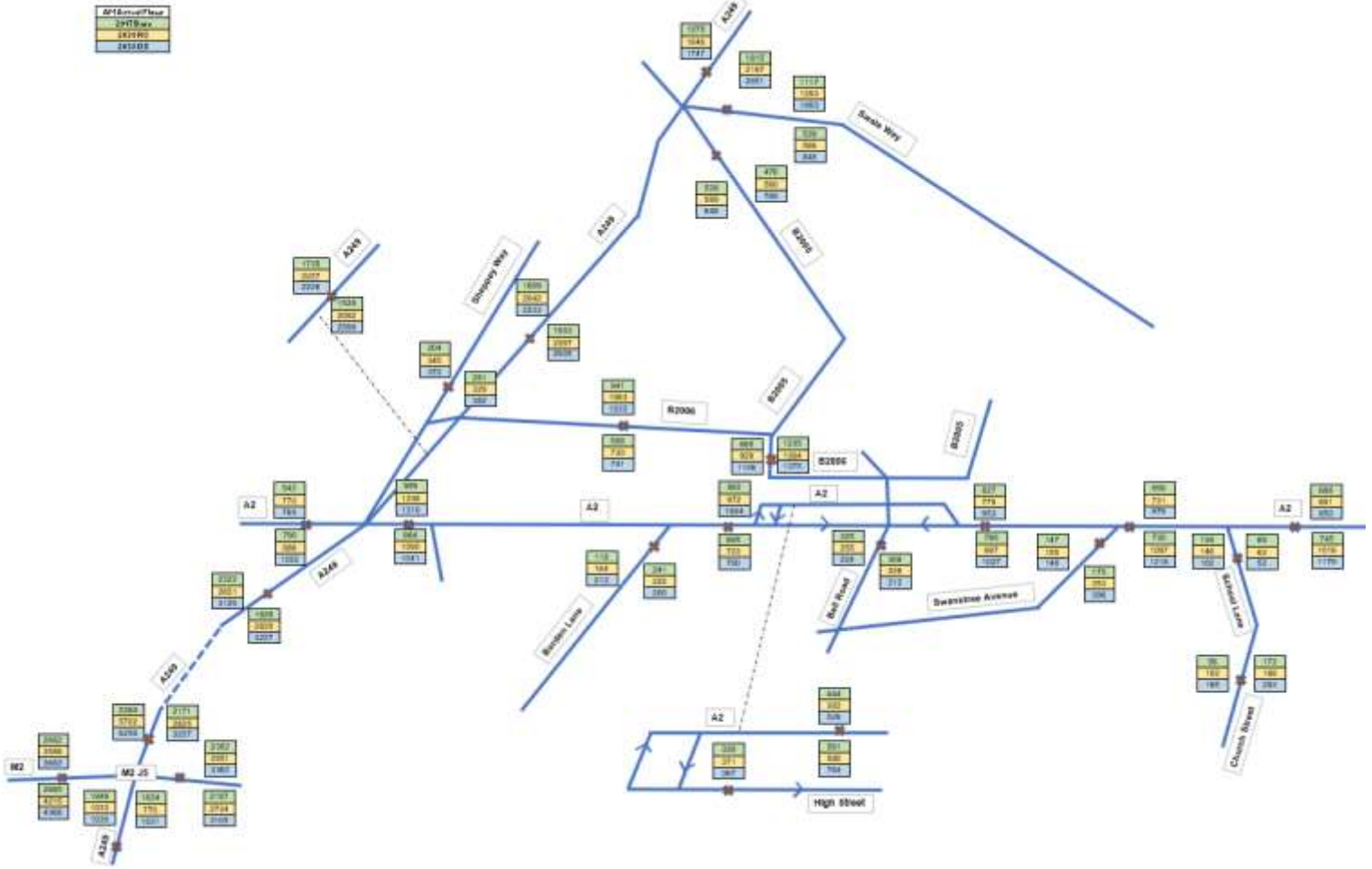


Figure 7-9 Flows on key roads in Faversham AM

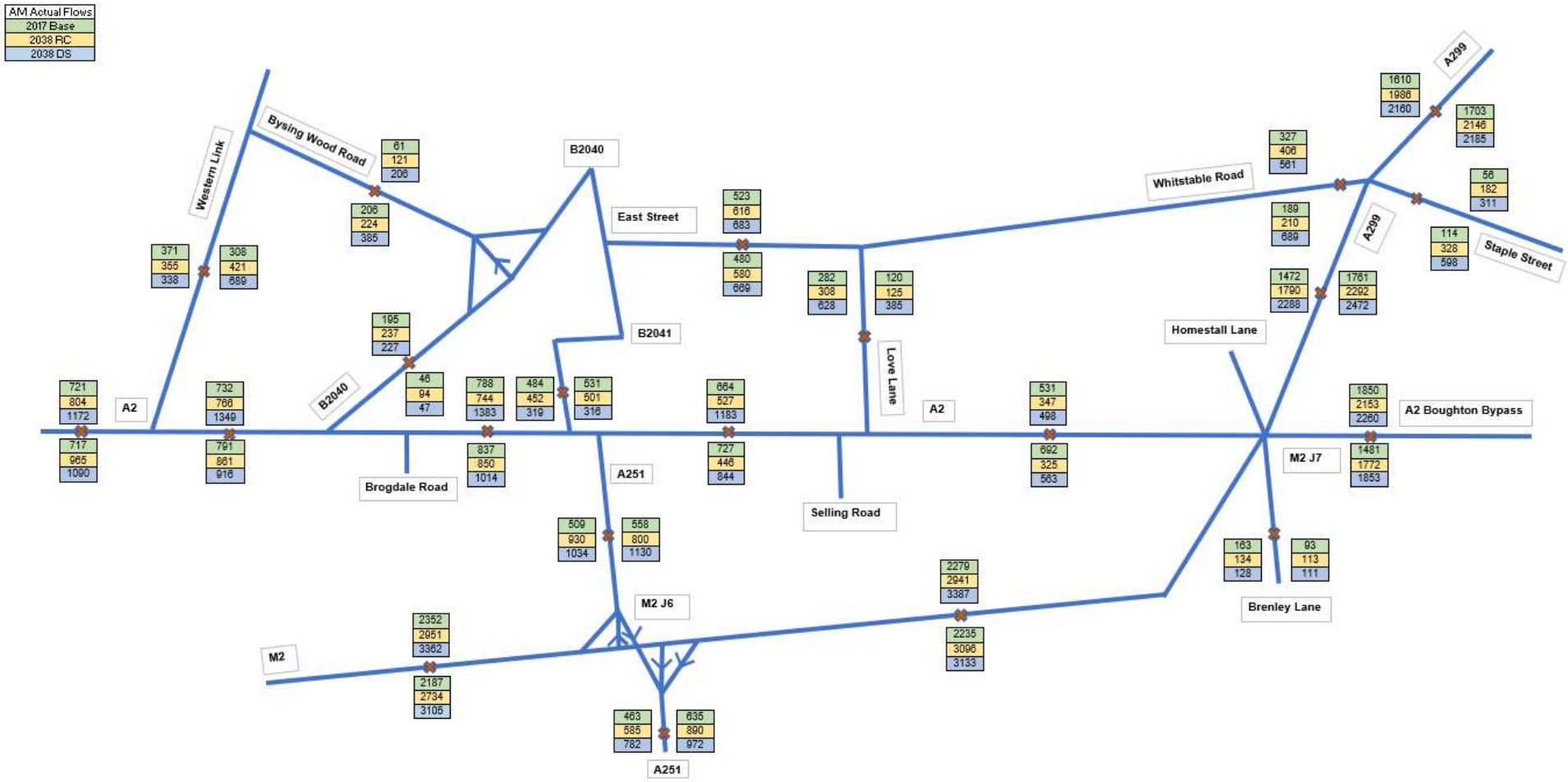


Figure 7-10 Flows on key roads in Isle of Sheppey AM

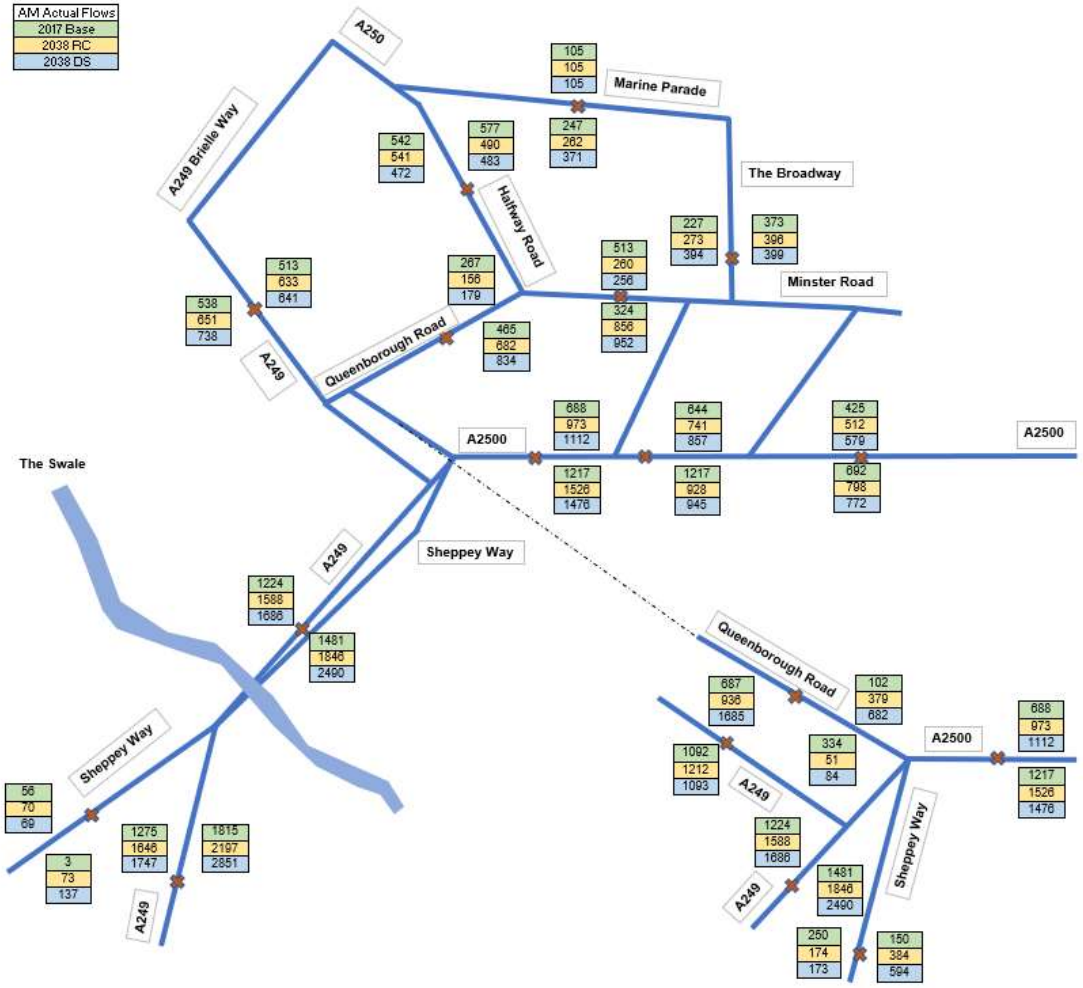


Figure 7-11 Flows on key roads in Sittingbourne Inter Peak

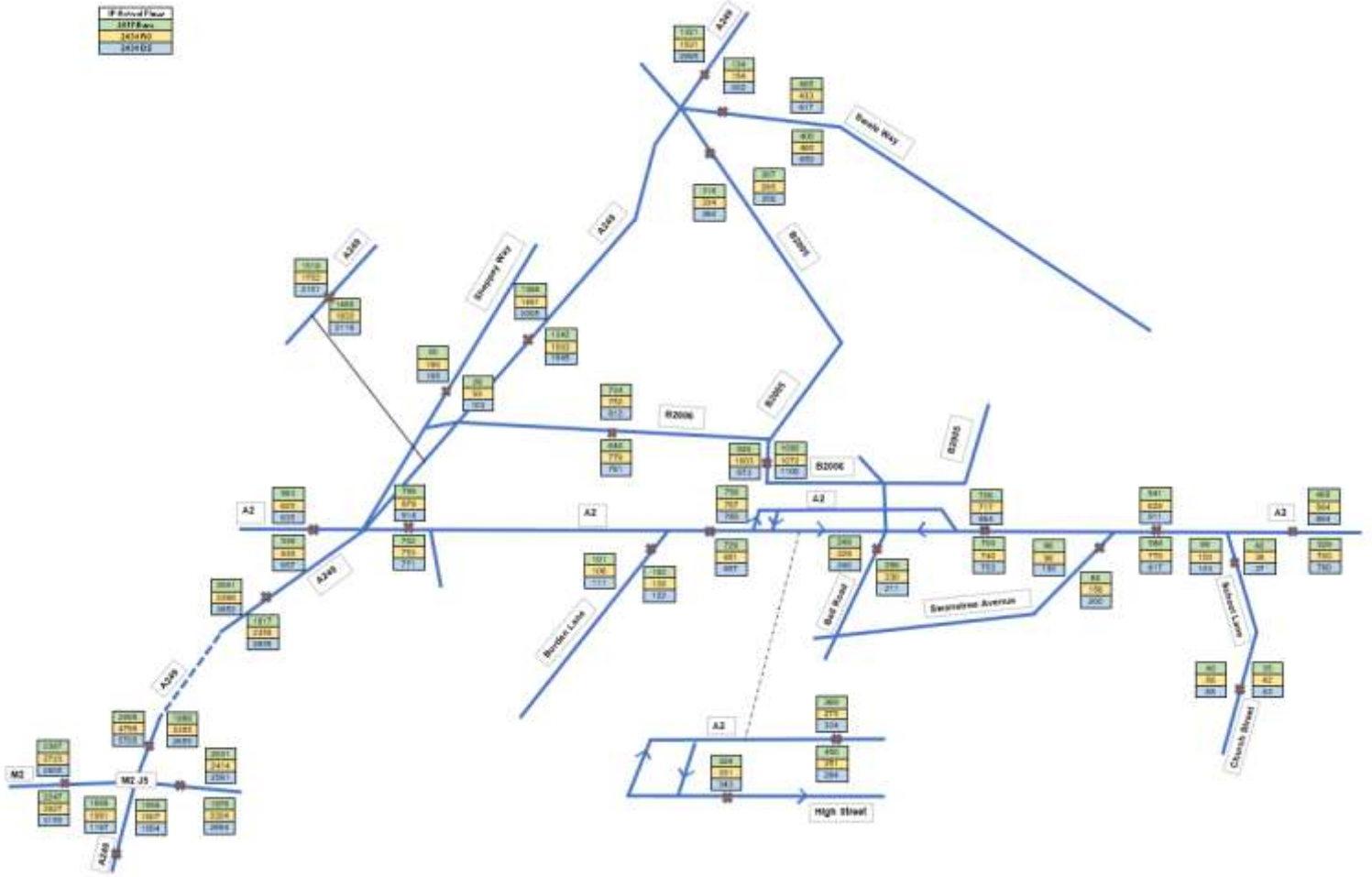


Figure 7-12 Flows on key roads in Faversham Inter Peak

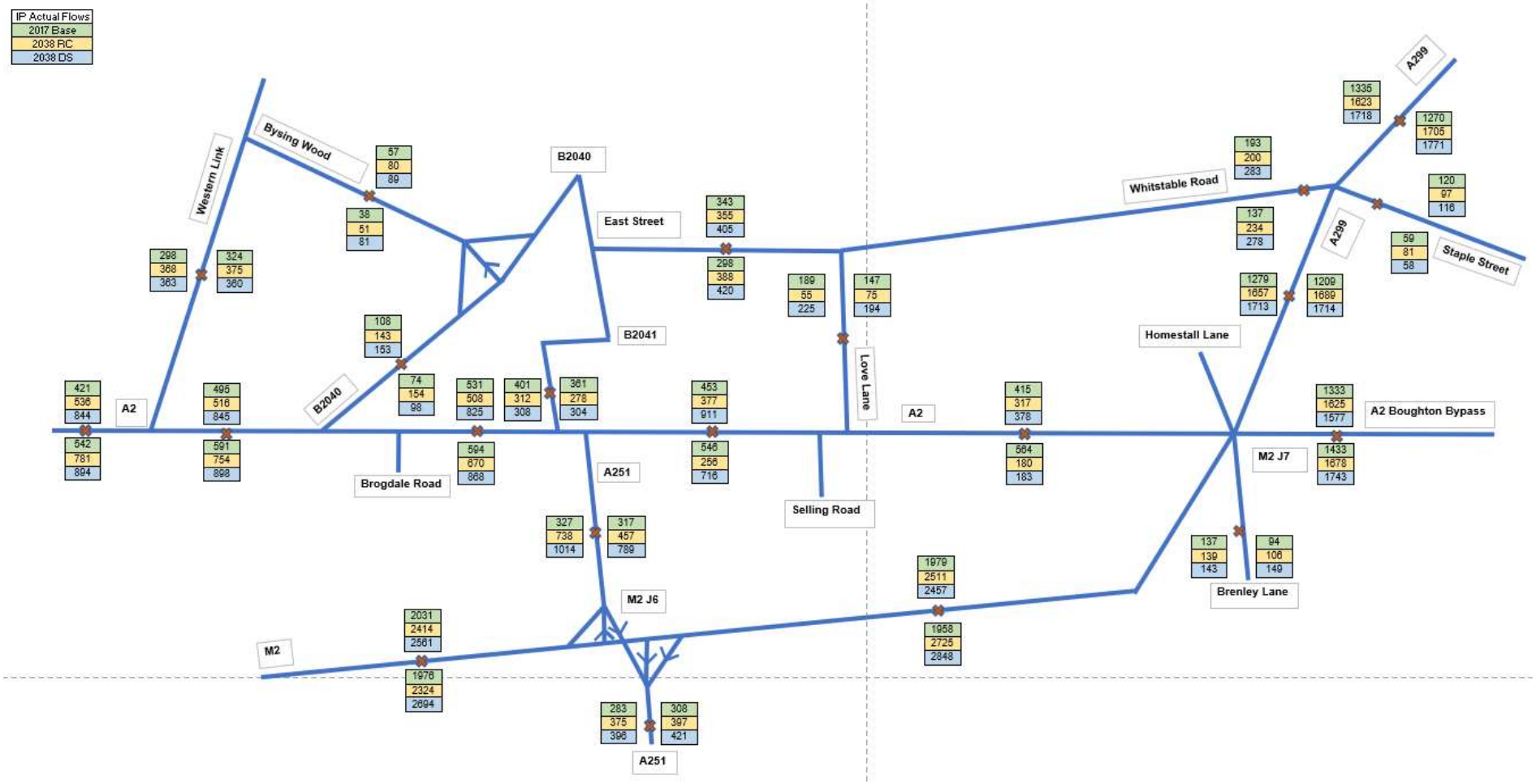


Figure 7-13 Flows on key roads in Isle of Sheppey Inter Peak

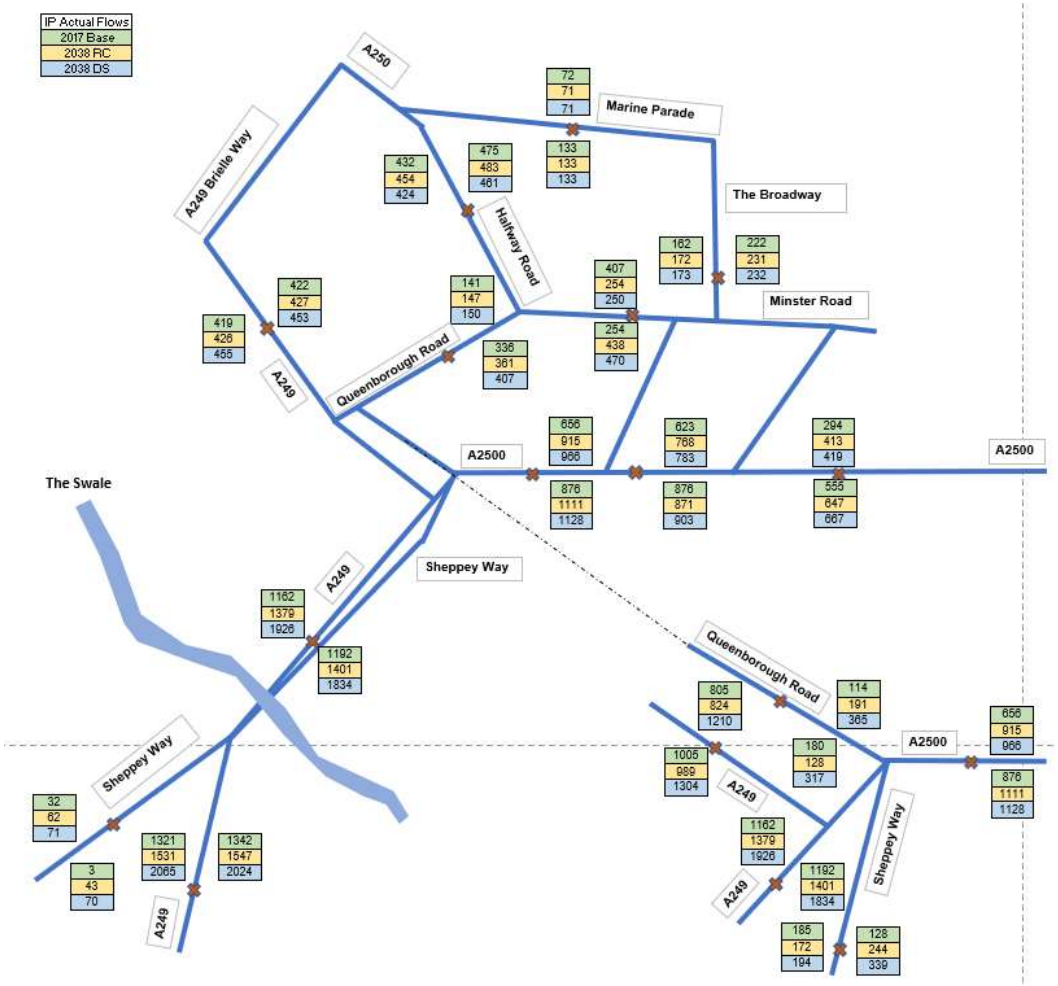


Figure 7-14 Flows on key roads in Sittingbourne PM

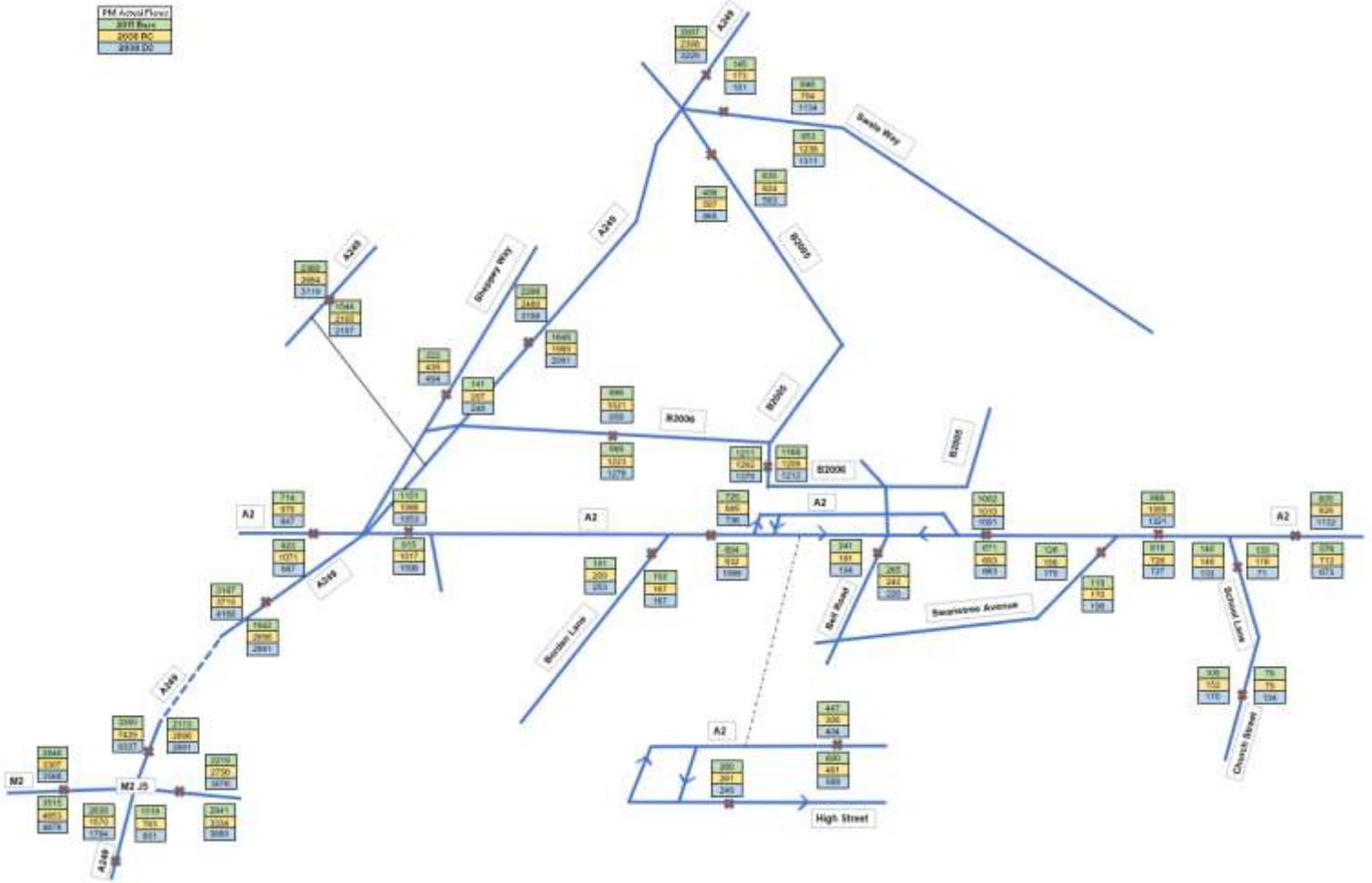


Figure 7-15 Flows on key roads in Faversham PM

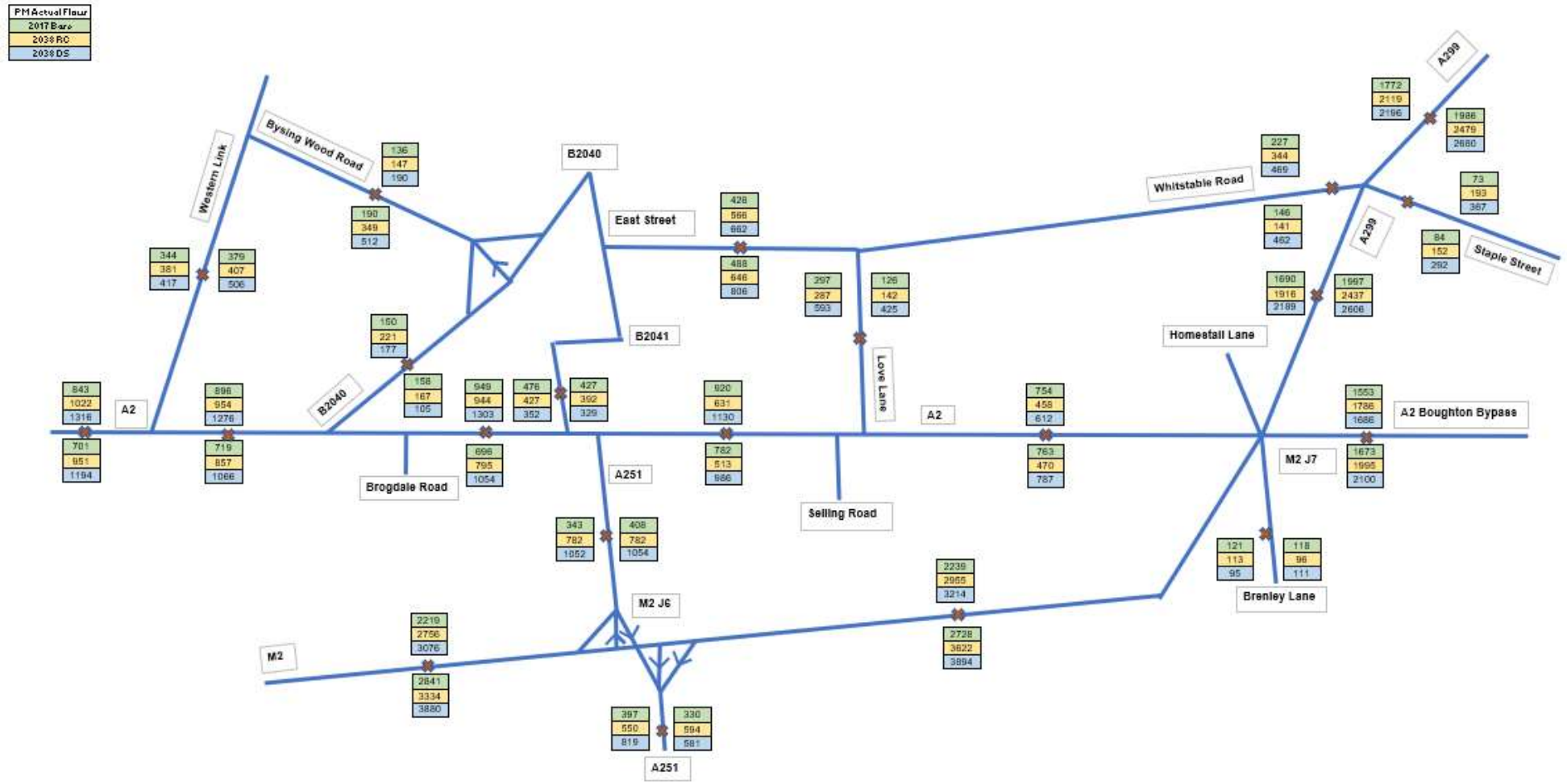
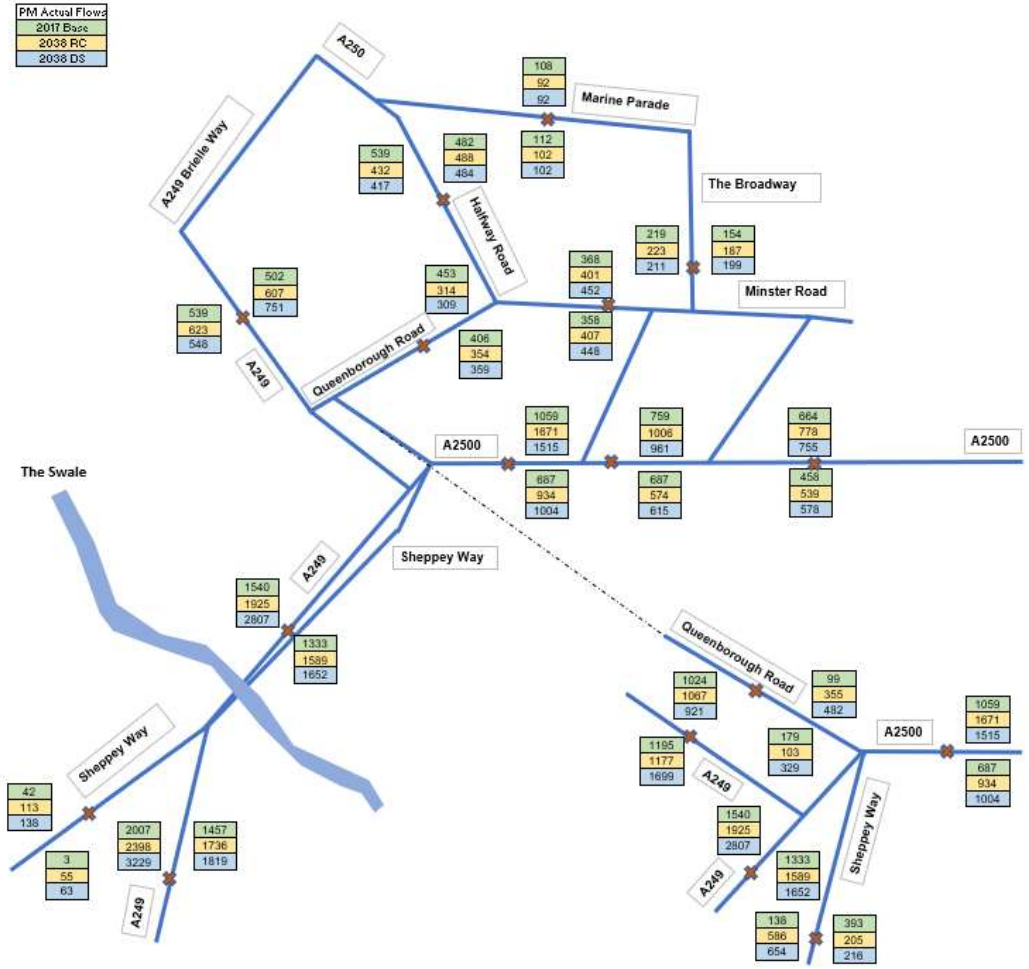


Figure 7-16 Flows on key roads in Isle of Sheppey PM



7.3 Network Delays and Congestions

Volume over Capacity ratio (V/C, also known as Degree of Saturation) can provide a useful indication of network delays and congestions at key junctions and links. Figure 7-17 below shows the locations of the 85 junctions with the V/C analysis.

Figure 7-17 Junctions within the model for V/C analysis

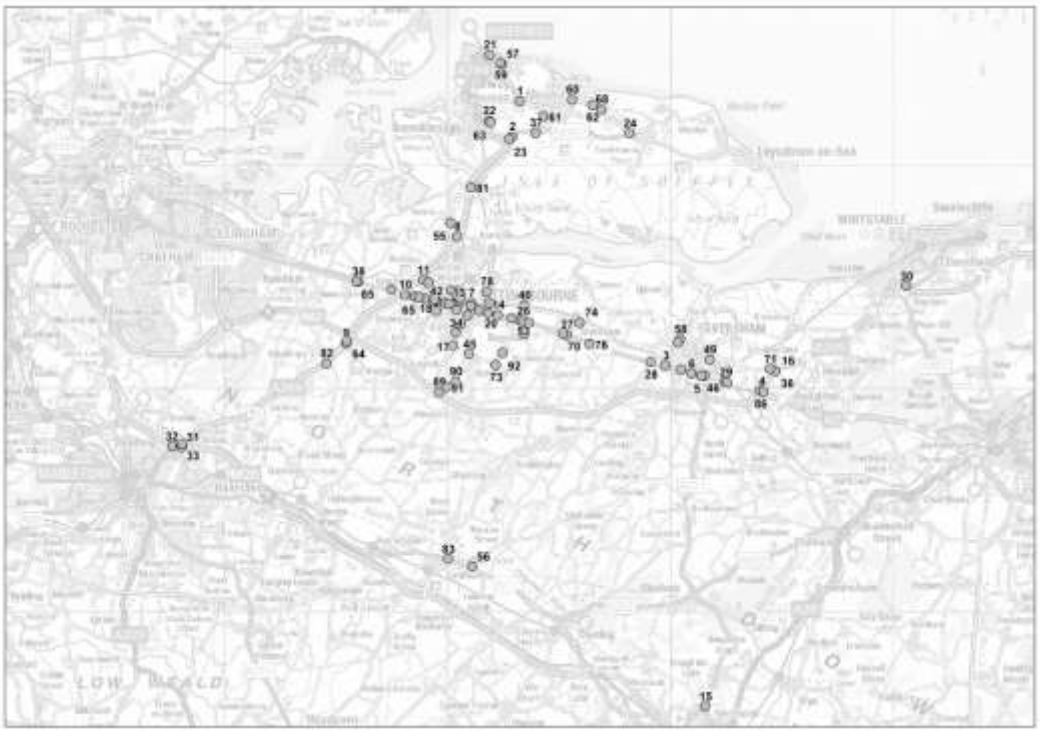


Table 7-4 and Table 7-5 show a summary of the congestion (weighted V/C% and highest V/C% respectively) comparisons in the AM and PM peak across the scenarios in a tabular form with different colours representing degree of congestions as defined below:

- Overloaded (>100%)
- Above practical capacity (95-100%)
- At practical capacity (90-95%)
- Exceeding capacity threshold (85-90%)
- Approaching capacity threshold (80-85%)
- Below 80% capacity.

A review of the results found that a few junctions (most of them along the A2 corridor between A249 and M2 J7) in the DS scenarios in the AM and PM peak in 2038 show heavy delays mainly due to the significant demand growth from the LTP developments in the area.

The heat diagrams in **Appendix F** show the degree of saturations for the 85 key junctions in Swale in the base year 2017, the forecast 2027 and 2038 in the AM and PM peak hours.

Table 7-4 Summary of the congestions (weighted V/C%)

JunctionID	Description	Weighted Junction V/C									
		Base Year		2027RC		2027DS		2038RC		2038DS	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Minster Road/ A250 Halfway Road	80.9	77.2	82.9	84.3	84.0	85.0	89.5	87.1	102.5	86.5
2	A250 Lower Road/Sheppey Way	68.2	48.6	74.6	73.6	77.2	78.1	80.5	86.3	88.4	101.4
3	A2 London Road/Western Link	51.0	54.5	57.5	65.3	64.6	73.9	58.4	66.2	84.5	91.4
4*	M2 J7	68.4	74.2	63.4	66.0	66.5	65.3	67.4	65.6	78.4	73.3
5	A2/A251 Ashford Road	45.0	40.6	66.0	64.3	79.3	77.1	68.5	65.7	92.7	91.7
6	A2/Brogdale Road	45.3	46.3	44.3	48.9	51.5	55.9	45.2	49.6	71.6	70.7
7	B2006 Eurolink Way/Crown Quay Lane	58.2	61.6	61.2	67.1	67.0	70.3	63.0	67.6	74.2	75.2
8*	Grovehurst/ Swale Way/B2005	62.6	66.6	28.9	33.2	31.8	37.3	34.6	37.7	43.6	47.4
9*	M2 J5	81.6	91.8	32.7	41.8	37.9	48.0	37.2	49.9	54.6	74.7
10*	A2 Key Street/A249	59.0	72.3	64.5	70.7	67.8	72.5	73.3	78.7	83.6	80.1
11*	A249/B2006	49.6	58.6	59.4	72.2	68.1	77.2	50.9	60.1	62.2	67.1
12	A2 Canterbury Road/Murston Road/Rectory Road	68.4	72.8	74.8	69.5	78.4	73.0	71.1	79.0	78.4	85.2
13	A2 Dover Street/Milton Road	45.5	51.8	71.3	76.1	74.0	77.9	72.7	76.4	83.4	83.9
14	A2 Canterbury Road/Swanstree Avenue	67.5	63.3	64.5	60.8	68.4	64.7	69.0	62.5	76.4	71.5
15	A2042 Faversham Road/Trinity Road	79.2	68.5	92.1	77.6	93.1	78.3	102.1	86.3	103.3	88.7
16	A299 Thanet Way/Staple St	47.6	55.6	49.8	61.7	51.0	63.7	56.6	67.1	59.0	72.0
17	Tunstall Rd/Woodstock Rd	50.0	32.4	64.3	54.6	65.3	57.6	66.1	57.2	72.6	70.2
18	A2 London Road/Wises Lane	54.2	54.5	61.5	54.6	62.9	55.1	65.3	56.0	67.2	57.7
19	B2006/ B2005	68.0	81.1	74.1	83.4	75.3	84.7	75.7	86.1	80.6	88.7
20	A2 St Michael's Road/East Street	52.1	56.3	54.3	58.5	57.6	62.4	56.0	56.0	65.7	59.8
21	A250 Millenium Way/High Street	70.9	69.9	73.3	79.2	73.6	80.7	74.0	84.5	74.7	87.5
22	A249 Brielle Way /B2007	33.6	47.4	39.3	46.1	40.2	46.5	41.4	48.2	42.5	51.3
23	A249/A2500	69.0	62.9	63.5	78.5	69.9	80.3	66.8	84.0	90.8	98.9
24	Lower Road/East Church Road	39.2	49.2	44.7	51.3	45.8	51.8	50.2	50.5	55.9	49.6
25	B2006 Staplehurst Road/Chalkwell Road	49.9	62.0	59.1	68.7	60.1	70.0	60.0	73.0	58.5	73.4
26	A2 London Road/Hempstead Lane	56.5	55.6	77.3	67.8	76.7	75.9	77.3	74.4	80.2	79.2
27	A2 London Road/Station Road (Teynham)	34.7	33.4	41.3	41.1	48.3	54.5	41.6	42.9	71.6	77.9
28	A2 London Road/Faversham Road	37.4	40.3	47.0	51.4	51.8	58.0	47.5	52.6	61.3	68.1
29	A2 Canterbury Road/Selling Road	33.6	44.2	21.4	29.6	37.6	42.5	23.8	30.5	63.3	64.9
30	A299 Thanet Way/Clapham Hill	4.0	4.1	4.5	4.8	4.9	4.9	4.7	5.2	5.7	5.9
31*	M20 J7	95.0	99.7	92.4	95.7	92.7	96.1	93.4	99.3	97.3	101.8
32	M20J7 Onslip WB	82.0	63.2	60.5	57.6	60.6	57.8	64.6	58.2	64.9	58.0
33	M20J7 Offslip EB	58.3	82.9	65.4	89.7	65.3	90.1	70.8	90.8	71.0	91.2
34	Gore Court Road/Bell Road/Park Avenue	45.7	35.2	53.2	42.6	54.8	44.1	55.0	45.4	62.7	57.2
35	Bell Road/Capel Road/Brenchley Road	46.2	37.8	52.4	41.2	53.8	42.7	53.1	42.6	57.7	47.8
36	A299 Thanet Way/Whitstable Road	49.3	51.8	42.3	50.6	45.6	51.9	47.2	50.3	62.3	58.5
37	A2500 Lower Road/Barton Hill Drive	82.3	79.9	68.0	76.3	68.9	76.7	69.0	81.7	69.9	74.6
38	A2 High Street/Church Lane (Newington)	35.6	38.0	41.5	67.8	44.3	69.4	46.1	67.7	54.7	65.8
39	B2006 Mill Way/ExitCarpark	69.9	83.2	74.4	85.4	76.5	85.7	76.8	85.9	85.7	88.0
40	Church Road/Lomas Road	26.1	52.9	30.3	60.9	38.0	67.1	32.5	59.9	60.0	68.5
41	Bell Road/Stanhope Avenue	78.9	69.6	77.1	69.2	79.1	72.4	78.0	70.4	80.6	75.8
42	A2 London Road/Adelaide Drive	47.9	43.6	52.3	41.8	55.2	42.7	55.4	43.4	66.9	47.0
43	B2006/Sonora Way	57.3	66.6	68.5	75.7	70.7	76.9	75.7	82.6	80.6	87.0
44	Borden Lane/Homewood Avenue	61.0	57.6	63.1	54.1	64.0	55.7	47.3	44.8	50.9	52.8
45	Cromer Road/Highsted Road	43.7	31.6	46.0	44.8	51.3	51.2	47.9	49.3	71.0	74.6
46	A2 Canterbury Road/B2041	58.0	55.5	49.9	51.8	59.4	58.9	51.2	53.8	76.4	72.9
47	A2 St Michael's Road/Crown Quay Lane	73.8	73.4	68.0	62.7	73.9	64.3	69.4	63.4	81.4	69.6
48	A2 London Road/Hawthorn Road	68.6	56.6	60.2	49.6	62.6	50.6	62.3	51.0	70.9	55.5
49	East Street/B2040 (Faversham)	59.4	59.6	70.2	81.9	80.5	87.2	77.2	85.8	88.4	97.7
50	A2/Westlands Avenue	45.3	49.5	50.0	49.5	50.2	49.6	51.1	50.4	50.4	51.7
51	A2/Chalkwell Road	45.9	39.5	55.1	40.4	57.1	42.4	56.9	42.7	62.9	52.6
52	A2/Burley Road	57.9	51.1	69.7	50.0	72.6	52.9	70.7	53.3	73.7	64.9
53	A2/School Lane	42.2	51.2	47.0	54.5	49.9	59.8	49.8	54.9	56.6	60.6
54	A2/B2040 South Road	47.2	52.6	51.8	57.9	58.1	63.6	52.3	58.6	75.0	73.0
55	Sheppey Way/Grovehurst Road	22.7	20.1	19.7	13.2	21.3	13.7	25.3	17.8	28.5	17.2
56	A20 Ashford Road/Hubbards Hill	33.0	30.9	35.8	34.4	36.2	35.3	38.6	37.4	40.2	39.4
57	Invicta Road/Cavour Rd Sheppey	13.2	25.3	12.9	27.7	12.8	27.6	12.8	27.6	13.4	25.8
58	Western Link Road/Bysing Wood Road	29.0	29.5	26.6	27.1	26.5	27.4	26.7	26.2	38.5	31.3
59	Cavour Road/Alma Road Sheppey	15.1	21.3	6.4	24.2	6.3	23.7	6.1	24.0	6.1	20.9
60	Minster Road/Back Lane Sheppey	25.9	16.0	38.6	21.0	41.3	21.3	47.2	23.6	53.5	23.4
61	Barton Hill Drive/Plover Road	33.7	25.3	43.7	39.2	44.0	39.1	37.1	39.1	35.5	37.5

JunctionID	Description	Weighted Junction V/C									
		Base Year		2027RC		2027DS		2038RC		2038DS	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
62	Chequers Road/Elm Lane	20.0	16.5	27.5	20.7	27.5	21.3	30.9	23.7	36.7	22.7
63	A250/Queenborough Road	26.5	23.5	32.1	36.0	28.5	37.4	36.2	32.6	52.2	41.7
64	M2J5 on-slip NB	58.2	72.5	68.4	75.0	66.4	74.9	73.0	74.8	68.4	75.5
65	A2/Sandford Road	54.0	58.8	58.8	58.7	58.9	58.9	60.0	59.0	59.9	59.7
66	A2/Staplehurst Road	46.2	45.1	50.9	43.6	51.6	43.7	52.3	44.9	58.2	47.7
67	Staplehurst Road/Gadby Road	15.0	10.1	14.4	9.9	15.1	9.7	14.6	10.1	18.7	11.2
68	Chequers Road/East Church Road	20.1	17.1	27.7	21.5	27.6	22.1	31.0	24.7	36.7	23.6
69	A2/Panteny Road	32.6	30.7	40.1	37.5	45.1	40.7	42.1	38.4	51.5	45.6
70	A2/Lynsted Lane	38.9	38.7	42.8	43.8	44.3	46.1	42.8	46.3	47.6	54.1
71	Whitstable Road/Head Hill	48.0	30.7	50.8	36.8	60.2	43.8	53.0	41.5	91.3	73.6
72	A2/Love Lane	30.7	41.8	41.9	49.2	51.8	57.9	42.2	52.3	73.9	82.5
73	Church Street/Connecting Road	19.0	15.8	22.0	22.0	23.9	26.1	23.0	25.1	34.3	51.2
74	The Crescent/Conyer Road	8.3	8.5	7.0	8.9	9.2	9.1	7.3	9.0	17.1	13.2
75	Western Link/Bysing Wood Road W	17.3	16.3	16.6	15.6	17.1	16.9	16.4	15.9	21.1	21.6
76	A2/Lewson Street	33.2	35.5	41.0	45.1	46.1	52.1	42.2	46.8	52.9	61.7
77	Tonge Road/Church Road	38.0	36.6	47.1	43.8	54.5	48.2	50.1	48.4	60.6	61.0
78	Castle Road/Dolphin Road	42.8	48.5	53.5	56.4	63.5	62.0	57.9	61.6	80.3	69.9
79	Eurolink Way/Milton Road	70.9	66.8	71.5	73.0	73.1	73.8	72.4	73.8	77.6	76.0
80	Park Road/Albany Road	53.0	47.6	61.2	56.9	66.0	61.3	66.2	58.3	77.8	67.7
81	Sheppey Way/Old Ferry Road	18.1	29.2	21.5	33.8	23.4	35.0	23.3	36.2	31.7	37.5
82	A249/S Green	51.0	61.2	51.3	71.6	51.5	72.8	54.2	73.4	54.8	74.0
83	A20 Ashford Road/ Faversham Road	58.6	57.9	69.4	67.2	69.9	68.3	77.2	76.0	82.4	81.4
84	A2/Rook Lane	36.7	43.2	40.7	53.8	42.3	55.1	44.3	55.2	49.0	50.0
85	A2/Bull Lane	36.5	38.4	36.7	41.8	38.5	43.0	41.1	43.9	49.2	51.1

** Junction was coded as exploded roundabout in SATURN model. Junction V/C was calculated based on the traffic data of all approaching arms.*

Table 7-5 Summary of the congestions (highest V/C%)

		Highest Junction V/C									
JunctionID	Description	Base Year		2027RC		2027DS		2038RC		2038DS	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Minster Road/ A250 Halfway Road	104.7	94.2	104.3	99.8	104.5	100.2	103.9	107.1	104.4	104.4
2	A250 Lower Road/Sheppey Way	93.5	56.9	103.2	89.8	104.6	95.2	109.8	106.2	118.4	119.6
3	A2 London Road/Western Link	57.2	62.8	66.3	72.9	71.2	83.4	66.7	74.9	95.8	99.1
4*	M2 Junction 7	101.3	103.0	97.7	105.3	96.3	105.1	91.3	103.8	107.7	110.5
5	A2/A251 Ashford Road	77.1	48.2	68.7	66.5	81.0	85.4	73.2	70.3	104.4	107.5
6	A2/Brogdale Road	49.2	51.8	48.8	49.8	54.5	61.9	50.1	52.1	108.7	111.5
7	B2006 Eurolink Way/Crown Quay Lane	73.0	73.0	77.5	74.6	79.5	79.9	78.4	74.8	87.9	91.1
8*	Grovehurst/ Swale Way/B2005	86.4	90.0	34.2	40.1	34.9	48.6	43.5	44.3	49.9	59.3
9*	M2 Junction 5	110.6	103.2	45.3	48.1	50.2	52.4	49.4	61.5	67.8	89.2
10*	A2 Key Street/A249	68.2	103.7	69.0	89.0	76.2	94.6	82.9	98.2	101.3	107.3
11*	A249/B2006	61.5	61.5	68.8	75.2	81.8	81.8	59.1	70.6	75.0	95.4
12	A2 Canterbury Road/Murston Road/Rectory Road	96.4	95.2	102.5	101.1	105.0	102.6	101.0	98.8	109.9	105.7
13	A2 Dover Street/Milton Road	49.2	68.3	95.9	91.4	96.5	92.4	95.3	89.2	99.8	96.5
14	A2 Canterbury Road/Swanstree Avenue	84.8	71.8	87.0	82.3	87.9	87.4	86.9	88.4	92.1	101.0
15	A2042 Faversham Road/Trinity Road	106.3	93.8	122.1	100.2	122.0	100.3	136.6	110.3	136.5	111.4
16	A299 Thanet Way/Staple St	47.7	55.6	53.4	64.1	55.0	66.5	60.7	70.1	62.6	76.7
17	Tunstall Rd/Woodstock Rd	66.3	37.6	91.6	68.0	93.4	73.7	95.1	70.9	101.6	85.5
18	A2 London Road/Wises Lane	81.9	68.2	71.1	67.0	70.3	62.6	74.0	70.4	75.3	65.6
19	B2006/ B2005	91.9	90.6	97.3	94.5	97.8	95.1	98.3	97.2	99.0	99.0
20	A2 St Michael's Road/East Street	57.9	65.6	64.2	68.3	65.7	74.7	66.6	63.2	76.8	71.8
21	A250 Millenium Way/High Street	90.4	80.6	95.2	92.4	95.5	93.4	95.8	99.9	95.5	97.6
22	A249 Brielle Way /B2007	38.6	89.5	47.4	77.3	47.4	75.2	47.7	80.0	48.2	81.9
23	A249/A2500	94.9	77.2	86.1	102.7	89.5	103.5	87.9	110.5	103.6	114.0
24	Lower Road/East Church Road	66.9	74.3	80.3	65.1	82.4	68.9	91.2	66.6	96.2	67.5
25	B2006 Staplehurst Road/Chalkwell Road	65.9	70.5	73.6	73.7	75.7	74.2	74.4	78.5	72.3	87.2
26	A2 London Road/Hempstead Lane	73.7	78.7	100.6	96.0	101.1	100.4	100.4	97.9	109.6	101.9
27	A2 London Road/Station Road (Teynham)	46.1	36.1	49.9	49.5	77.5	71.5	50.7	45.4	101.7	100.3
28	A2 London Road/Faversham Road	39.7	50.2	53.4	65.9	63.7	89.6	53.3	67.8	95.1	104.3
29	A2 Canterbury Road/Selling Road	37.4	47.1	23.7	30.5	55.5	64.2	31.2	35.1	108.1	107.2
30	A299 Thanet Way/Clapham Hill	14.4	15.1	16.2	17.4	17.2	17.9	17.1	19.0	20.0	20.7
31*	M20 Junction 7	111.1	112.5	120.0	120.0	121.0	119.9	121.1	120.2	124.7	120.7
32	M20J7 Onslip WB	86.5	69.2	65.5	58.1	65.5	58.6	68.0	61.5	68.2	61.7
33	M20J7 Offslip EB	70.4	97.1	78.7	99.8	78.6	100.0	85.3	100.0	85.5	100.0
34	Gore Court Road/Bell Road/Park Avenue	52.5	39.0	62.1	49.2	65.5	52.3	64.9	52.3	74.7	67.2
35	Bell Road/Capel Road/Brenchley Road	54.6	43.3	66.4	49.7	69.9	52.4	66.8	50.5	79.3	57.3
36	A299 Thanet Way/Whitstable Road	81.7	81.5	45.5	54.7	48.6	56.4	51.0	54.1	67.8	63.7
37	A2500 Lower Road/Barton Hill Drive	91.6	101.3	83.2	97.0	82.4	97.4	82.4	103.5	78.2	93.9
38	A2 High Street/Church Lane (Newington)	42.4	43.8	51.9	92.8	55.3	95.1	55.8	90.9	78.8	88.2
39	B2006 Mill Way/ExitCarpark	83.7	96.1	82.7	98.1	84.8	98.5	85.7	99.1	93.2	102.1
40	Church Road/Lomas Road	42.5	77.5	48.5	89.1	62.9	101.6	53.2	90.1	100.3	112.1
41	Bell Road/Stanhope Avenue	93.8	90.5	93.4	94.0	94.9	94.7	94.3	95.4	100.3	99.4
42	A2 London Road/Adelaide Drive	62.4	53.2	70.8	55.6	77.3	59.3	73.2	60.7	86.7	76.7
43	B2006/Sonora Way	65.4	78.4	76.0	88.7	77.2	88.4	88.6	92.3	93.3	100.2
44	Borden Lane/Homewood Avenue	75.4	67.9	78.6	67.3	80.4	70.6	56.5	52.5	62.9	68.4
45	Cromer Road/Highsted Road	56.3	40.5	59.8	56.6	65.3	64.3	63.2	62.5	83.9	99.4
46	A2 Canterbury Road/B2041	102.1	85.1	65.7	57.5	83.3	66.5	67.2	64.7	111.6	95.3
47	A2 St Michael's Road/Crown Quay Lane	89.0	83.1	90.5	77.8	92.6	77.6	92.3	80.1	94.0	82.3
48	A2 London Road/Hawthorn Road	94.0	67.1	65.3	60.2	70.1	60.4	68.1	62.0	79.7	63.9
49	East Street/B2040 (Faversham)	71.1	72.2	79.9	92.9	91.1	100.4	88.0	96.4	100.6	119.1
50	A2/Westlands Avenue	46.4	53.0	61.6	51.9	59.4	52.0	63.6	51.1	53.3	53.9
51	A2/Chalkwell Road	68.8	40.4	90.8	43.2	95.4	45.1	91.9	45.2	101.5	57.8
52	A2/Burley Road	70.1	63.3	88.0	57.7	92.6	62.9	89.7	59.7	92.5	71.2
53	A2/School Lane	50.5	66.9	73.8	70.2	75.3	74.5	77.7	69.8	90.3	104.2
54	A2/B2040 South Road	58.4	76.0	95.9	98.2	92.6	95.1	95.3	97.4	102.9	90.3
55	Sheppey Way/Grovehurst Road	28.4	21.8	25.2	15.3	27.4	16.0	32.1	20.7	36.7	18.9
56	A20 Ashford Road/Hubbards Hill	37.1	35.9	39.7	40.2	40.3	40.7	43.0	43.0	45.7	44.7

57	Invicta Road/Cavour Rd Sheppey	17.1	27.3	17.0	29.9	17.0	29.8	17.0	29.8	17.8	27.9
58	Western Link Road/Bysing Wood Road	32.3	33.0	41.6	41.8	40.4	41.9	41.7	40.7	58.1	44.6
59	Cavour Road/Alma Road Sheppey	15.9	28.9	7.1	33.0	7.3	32.3	7.1	32.5	7.8	27.2
60	Minster Road/Back Lane Sheppey	34.9	17.7	50.7	23.0	54.0	23.2	60.0	26.7	66.2	25.4
61	Barton Hill Drive/Plover Road	44.5	29.1	53.9	51.3	53.7	51.1	42.2	48.3	37.7	43.6
62	Chequers Road/Elm Lane	23.8	19.6	33.6	25.3	33.4	26.0	37.4	29.1	43.7	27.7
63	A250/Queenborough Road	32.8	31.4	38.0	44.8	35.0	46.3	42.0	42.7	65.7	48.6
64	M2J5 on-slip NB	75.1	93.5	78.0	86.9	77.1	89.0	83.4	89.2	82.5	91.2
65	A2/Sandford Road	54.2	64.8	59.2	63.2	59.4	63.2	61.2	61.3	63.8	61.0
66	A2/Staplehurst Road	60.8	45.6	74.3	45.4	76.0	45.4	74.3	47.3	96.9	60.9
67	Staplehurst Road/Gadby Road	27.9	12.5	26.5	12.4	28.0	12.1	26.8	12.6	33.7	13.6
68	Chequers Road/East Church Road	23.7	20.1	33.4	25.9	33.3	26.6	37.3	29.8	43.6	28.4
69	A2/Panteny Road	37.4	39.0	52.7	77.7	71.1	86.7	59.5	84.8	100.7	106.9
70	A2/Lynsted Lane	43.2	46.2	45.5	40.3	45.3	51.8	44.5	52.0	71.8	99.8
71	Whitstable Road/Head Hill	78.2	48.0	77.1	60.5	101.0	70.6	83.6	62.8	175.0	118.1
72	A2/Love Lane	35.9	51.1	62.2	54.3	63.5	59.4	58.1	61.8	96.0	99.8
73	Church Street/Connecting Road	30.8	21.3	33.1	28.5	33.7	32.2	34.4	31.3	44.0	66.7
74	The Crescent/Conyer Road	10.4	9.5	10.7	10.3	13.7	11.4	10.8	11.1	19.5	15.2
75	Western Link/Bysing Wood Road W	21.5	19.7	18.5	18.6	17.2	18.6	18.6	17.7	69.7	22.0
76	A2/Lewson Street	34.2	37.5	44.4	58.8	56.8	86.4	46.5	67.3	79.0	108.3
77	Tonge Road/Church Road	58.9	40.3	84.9	45.8	100.3	51.0	90.3	52.1	101.2	91.1
78	Castle Road/Dolphin Road	50.3	69.6	66.8	83.7	83.0	91.9	71.8	92.0	104.6	102.6
79	Eurolink Way/Milton Road	90.8	83.9	88.9	87.9	89.7	87.8	88.8	86.8	94.7	88.9
80	Park Road/Albany Road	54.4	57.3	70.7	63.1	78.8	65.3	78.9	65.6	80.5	76.1
81	Sheppey Way/Old Ferry Road	19.1	35.4	23.2	39.1	26.3	39.8	26.4	48.0	39.4	50.8
82	A249/S Green	89.5	72.7	57.9	86.0	58.0	87.6	62.2	88.4	62.5	89.1
83	A20 Ashford Road/ Faversham Road	68.1	72.7	98.0	78.8	95.9	80.7	98.8	91.7	103.6	99.9
84	A2/Rook Lane	42.4	44.2	42.1	55.1	44.9	55.7	47.5	57.4	54.8	52.9
85	A2/Bull Lane	41.3	40.7	40.0	52.6	42.7	56.5	45.0	58.1	53.1	61.3

* Junction was coded as exploded roundabout in SATURN model. Junction V/C was calculated based on the traffic data of all approaching arms.

8 Conclusions

This report documents how the SHM future year traffic forecasts were developed to produce the forecast of travel demand for the forecast year 2027 and 2038 RC and the DS scenario for the revised local plan proposal. For the forecasting matrices, the future car growth was calculated by spatially allocating development trips from the uncertainty log using trip rates derived from agreed TRICs rates and LGV and HGV growth derived using DfT's Road Traffic Forecast growth and trip rates from TRICS. The traffic demand forecast has been based on unconstrained growth, as agreed with Highways England, KCC and SBC. The forecast networks were developed based on TAG uncertainty log principles, provided by KCC.

In summary, the modelling above was carried out in line with TAG and based on a validated base model. The forecasts described above appear to show sensible results that inform how the reference case and additional LP developments would impact the local highway network and its surrounding area in future years.

The evidence and outputs from the forecast models are deemed suitable and provide a comparison base for evaluating alternative Local Plan, identifying appropriate mitigation packages, and assessing individual development proposals consistently and transparently.

Appendix A

Appendix A- 1 Swale housing development for RC scenario

Type	App	Address	Parish	Proposal	2017-2027	2017-2038
Large application	14/501588	Land at Stones Farm, The Street	Bapchild	O/L for 550-600 houses	480	600
Large application	18/500258	Hill Farm, Bobbing Hill	Bobbing	20 dwellings	20	20
Large application	17/506010	Southlands, Rook Lane	Bobbing	74 Suite (replacement) Care Home	74	74
Large application	18/501428	Land adj. Bull Lane	Boughton	Erection of 16 Dwellings	16	16
Large application	19/505114	R/O 142-146 The Street	Boughton	PN for COU of 2 Agri builds to 5 x dwellings	5	5
Large application	16/504575	Land East of Ham Road	Faversham	O/L for residential (up to 35 Dwellings)	35	35
Large application	16/508709	Former Oil Depot, Abbey Wharf, Standard Quay	Faversham	Erection of 10 dwellings	10	10
Large application	18/506283	Ospringe Brickworks (Southern area), Sumpter Way	Faversham	Res matts of 14/502729 for 123 dwellings	123	123
Large application	16/508627	7 High Street	Minster	Dem build & erect 8 flats	8	8
Large application	15/502694	Elm Tree Inn, Lower Road	Minster	COU for former pub to 10 flats	10	10
Large application	15/507059	Land north of Plover Road	Minster	O/L for Residential Development	97	97
Large application	16/506181	Sheppey Court, Halfway Road	Minster	Renovation of Grade 2 listed building to provide 6 dwellings. Construction of 33 terraced dwellings.	39	39
Large application	16/508117	The Slips, Scocles Road	Minster	O/L for up to 62 dwellings	62	62
Large application	13/1455	Parcels D,E,F&G, Thistle Hill	Minster	O/L pp for up to 431 dwellings	150	431
Large application	18/503855	Land off Plover Road	Minster	O/L for residential development (approx. 25 dwellings)	25	25
Large application	18/503135	Land west of Barton Hill Drive	Minster	O/L Dev of up to 700 dwellings	340	700
Large application	14/502540	The Water Tower, Trinity Road	Sheerness	Convert to 29 flats and maisonettes	29	29
Large application	18/500437	Cadet Centre ATC, Granville Place	Sheerness	Demolition of hall, new 3 storey build of 5 x two bed maisonettes	5	5
Large application	18/503339	Land r/o Telephone Exchange, Wood Street/Milennium Way	Sheerness	16 Special Supported Living Apartments (C3 use)	16	16
Large application	17/506024	25-29 London Road	Sittingbourne	PN for Cou of office building to 22 flats	22	22
Large application	16/505280	East Hall Farm, East Hall Lane	Sittingbourne	Up to 33 dwellings (Outline)	33	33
Large application	14/505440	(Site 3) Spirit of Sittingbourne Site, St Michael's Road	Sittingbourne	65 apartments	0	65
Large application	14/505440	(Site 2) Spirit of Sittingbourne site, St Michael's Road	Sittingbourne	88 flats	0	88
Large application	14/505440	(Site 1) Spirit of Sittingbourne, St Michael's Road	Sittingbourne	62 flats	0	62

Large application	17/504335	Sutton House, 5 London Road	Sittingbourne	Rear extension and change of use to provide 6 residential apartments	6	6
Large application	18/505929	R/O 54-76 Oak Road	Sittingbourne	Erect 6 houses (in two terraces of 3)	6	6
Large application	18/505791	Brenchley House, 75-77 High Street	Sittingbourne	COU of 1st and 2nd flr offices to 7 x resid units	7	7
Large application	19/505180	Economic House, 25-29 London Road	Sittingbourne	PN for COU of office building to 35 flats	35	35
Large application	17/500727	Manor Farm, Key Street	Sittingbourne	O/L for 50 dwellings	50	50
Large application	19/503553	125 London Road	sittingbourne	Dem ex dwell and erect 2 builds consisting of 10 flats (1x4 & 1x6)	10	10
Large application	16/507639	Railway Tavern, Lower Road, Barrow Green	Teynham	OL - dem of property and erect 7 dwells	7	7
Large application	16/503808	The Orchard, Holywell Lane	Upchurch	Residential use of the site by any gyspy or traveller - up to 4 static caravans and up to 2 touring caravans	6	6
Large application	06/1448	Conyer Brickworks	Conyer	24 dwellings	24	24
Large application	16/506316	The Old School, London Road	Dunkirk	3 x two storey terraced, 2 x two storey semi's	5	5
Large application	00/1235	UPPER BRENTS SHIPYARD	Faversham	Rev of app layout unit 1, 18 and 20 to 29 to prov 11 bus uni	5	5
Large application	16/505060	Almshouses, South Road	Faversham	Conversion of existing bedsits & one bed flats to mix of bedsits, flats & maisonettes (loss of numbers)	7	46
Large application	16/505790	23a Preston Street	Faversham	COU from A2 to 6 apartments (NB: Only 4 will be built due to subsequent app). CHECK!	6	6
Large application	16/503847	10-11 Market Street	Faversham	Alterations to 1st flr & new 2nd flr ext to provide 13 flats	13	13
Large application	18/501048	Land at Lady Dane Farm, Love Lane	Faversham	Approval of reserved matters for 196 proposed dwellings	196	196
Large application	17/502604	Ospringe Brickworks (Northern area) Sumpter Way	Faversham	Res Matts for 127 dwellings	127	127
Large application	17/506603	Land at Perry Court, London Road	Faversham	Res Matts for 310 dwellings	310	310
Large application	14/0257	North of Oare Rd & South of Ham Rd	Faversham	375 Dwellings	375	375
Large application	16/508643	Land north of Graveney Road	Faversham	72 houses and 33 flats	105	105
Large application	17/502521	Adj 9 Ashford Road	Faversham	Dem of retail and erect 9 dwellings	9	9
Large application	16/506644	Brogdale Place, Brogdale Road	Faversham	R/M for 63 dwells	63	63
Large application	18/505418	Phase 1, Oare Mineral Works, Ham Road	Faversham	Res Matts of 14/0257 for 113 dwellings	113	113
Large application	19/501612	Standard House, Standard Quay	Faversham	Dem of ind builds & garages, erect 6 dwellings	6	6
Large application	18/500283	Adj Sheppey Academy East, Admirals Walk	Halfway	31 dwellings	31	31
Large application	15/505190	Former Silver Sands Nursery, Staple Street	Hernhill	14 Passivhouse houses	14	14
Large application	06/0750	Phase 3, Land adj Thistle Hill Way	Minster	Res Matts for 31 dwellings	31	31
Large application	13/0909	97-101 Wards Hill Rd	Minster	5 DETACHED DWELLINGS	5	5
Large application	16/505623	117 Chequers Road	Minster	9 dwellings	9	9
Large application	17/506294	Scocles Farm, Scocles Road	Minster	Demolish agricultural buildings, erection of 8, 3 & 4 bed houses	7	7
Large application	05/1197	Boundary Close	Minster	17 Dwellings	17	17

Large application	16/501266	99 High Street and land to the North	Newington	124 new dwellings	124	124
Large application	15/501089	Moons of Selling, Grove Road	Selling	Dem of comm buildings/ erect 5 new dwellings	5	5
Large application	14/0334	Adj 105 Marine Parade	Sheerness	Dem of garages and erect 5 houses & 9 flats	14	14
Large application	16/507853	Victoria Working Men's Club, Broadway	Sheerness	Erection of 8 flats	8	8
Large application	11/0170	Land r/o 51 High Street	Sittingbourne	Construct of 10 flats & 3 houses. Ext of time of 05/0935	13	13
Large application	16/507181	31 London Road	Sittingbourne	Conv Doc Surgery to 5 flats & 5 new to rear	10	10
Large application	16/507877	Land West of Crown Quay Lane	Sittingbourne	405 dwellings	383	383
Large application	18/502555	1-3 High Street	Sittingbourne	PN for COU from office to 7 residential units (flats)	7	7
Large application	18/503615	4 Bell Road	Sittingbourne	COU from retail(with part demolition) with ext to provide 9 flats	9	9
Large application	18/504222	Cookham Shaw, Maidstone Road	Sittingbourne	Var of cond of 11/1493 to allow 5 static & 1 touring caravans	5	5
Large application	15/502912	Milton Pipes, Cooks Lane	Sittingbourne	Dem of ex builds & dev 162 houses & 80 flats	242	242
Large application	19/502164	Land adj. Telephone Exchange, Albany Road	Sittingbourne	Erect 4 storey block of 9 flats	9	9
Large application	01/0623	Lydbrook Close	Sittingbourne	Residential re-development of site (49 dwellings)	49	49
Large application	16/507779	Land at Lower Road	Teynham	Erect 8 x 3bed dwellings	8	8
Large application	18/503697	Land at Station Road	Teynham	Dem of 56 & 58 Station Road and erect 130 dwellings	130	130
Large application	16/505788	Barton Court, New Road	Minster	Alt and Ext to provide 70 bedrooms (C2)	70	70
Large application	19/505675	The Island Res Home, 114 Leysdown Road	Leysdown	6 Additional Care Bedrooms (C2)	6	6
Large application	17/501926	Little Oyster, Seaside Avenue	Minster	RM for 50 bedroom extension to care home (C2)	50	50
Large application	19/501160	Coleshall Farm, Ferry, Road	Iwade	RM for 60 bed care home (C2)	60	60
Large application	18/503057	Land ar Perry Court, Ashford Road	Faversham	66 bed care home (C2)	66	66
Large application	15/510309	Borden Lodge, 2A Borden Lane	Sittingbourne	COU private dwelling to retirement apartments 1x 2 bed unit and 6x 1bed units (C2)	7	7
Large application	16/508519	Hanningfield Retirement Home, 99 London Road	Sittingbourne	Additional bedrooms to retirement home (C2)	7	7
Large application	17/500825	Land adjacent to Crescent House, Gills Terrace	Upchurch	5 x 4 bedroom houses	5	5
Small applications	18/505147	Builders Yard, Woodgate Lane	Borden	PN to COU from B8 to 3 x dwellings	3	3
Small applications	20/500051	Greystone, Bannister Hill	Borden	2 detached dwellings	2	2
Small applications	19/500060	Digswell, Lower Hartlip Road	Hartlip	PN for COU of 2 premises (from B1c) to 4 dwellings	4	4
Small applications	17/501207	Monkshill Farm, Monkshill Road	Hernhill	PN for COU form agric build to 2 dwellings	2	2
Small applications	19/504334	The Vista, Bay View Gardens	Leysdown	O/L for 2no. dwellings	2	2
Small applications	17/500392	177 Wards Hill Road	Minster	2 detached dwellings to replace existing	2	2

Small applications	17/505785	Gespa, Augustine Road, Minster	Minster	Sub division of plot to facilitate the construction of an additional dwelling	1	1
Small applications	18/506585	Land adj. Emdale, Sexburga Drive	Minster	Erection of 2 dwellings	2	2
Small applications	18/504307	R/O 343 Minster Road	Minster	Two detached dwellings	2	2
Small applications	19/500378	Land adj. 1 Western Avenue, Halfway	Minster	2 detached houses to replace workshop/store	2	2
Small applications	18/502932	172 Scarborough Drive	Minster	4 detached dwellings	4	4
Small applications	17/504960	Vicarage Yard, The Street	Newnham	COU of stable to dwelling	1	1
Small applications	19/502706	Land at Karussel, Mutton Lane	Ospringe	O/L for dem of garage & erect 1 dwelling	1	1
Small applications	18/501872	Land adj Napier Hotel, 1 Alma Road	Sheerness	Construction of 2 X 2 bed dwellings	2	2
Small applications	18/502952	30 Alma Road	Sheerness	Part dem vacant shop & flat and erect 3 x resid units	3	3
Small applications	18/503631	Victory Inn, 13 Railway Road	Sheerness	COU from pub to 4 dwellings	4	4
Small applications	18/504976	1-3 Hope Street	Sheerness	3 x Flats (above newly built shop)	3	3
Small applications	19/501871	9-11 Queenborough Road, Halfway	Sheerness	Demolish unit, erect 3 flats	3	3
Small applications	19/505424	33-35 Victoria Street	Sheerness	Dem of ex building and erect 3 terr houses	3	3
Small applications	14/505098	45 - 47 Staplehurst Road	Sittingbourne	Dem of comm builds and erect 2 x semi-det buildings	2	2
Small applications	17/502405	5 Park Avenue	Sittingbourne	New dwelling	1	1
Small applications	18/501124	137 Park Road	Sittingbourne	3 x 1 bed apartments	3	3
Small applications	18/502533	1b Bayford Road	Sittingbourne	Dem of ex building and erect 3 flats	3	3
Small applications	16/507371	88 William Street	Sittingbourne	2 x 3 bed det houses	2	2
Small applications	19/500622	Pembury Court, Pembury Street	Sittingbourne	Creation of 4 additional dwellings (to be part of existing block)	4	4
Small applications	18/501726	Land between 119A and 121A High Street	Sittingbourne	Erection of building with 2 flats on upper floor	2	2
Small applications	18/503616	2 Arthur Street	Sittingbourne	Convert ex. dwelling into 3 dwellings	3	3
Small applications	19/502978	2 Charlotte Street	Sittingbourne	Demolish outbuilding construct 2x1 bed flats	2	2
Small applications	19/502867	Brenchley House, 75-77 High Street	Sittingbourne	COU of GF offices to 2 x resid units	2	2
Small applications	17/504179	152-154 Station Road	Teynham	New build of 2 retail units & 3 flats over	3	3
Small applications	20/500404	Tunstall CoE Primary, Tunstall Road	Tunstall	Conversion of school to 1 dwelling (check only 1 on site!)	1	1
Small applications	16/506986	116 Oak Lane	Upchurch	Dem dwell erect 2x3bed & 1x4bed dwells	3	3
BFs with Planning Permission	MU1 (ST4)	Land at North West Sittingbourne	Sittingbourne		380	1500
BFs with Planning Permission	MU13(ST4)	SW Sittingbourne	Sittingbourne		176	540
BFs with Planning Permission	MU13(ST4)	SW Sittingbourne	Sittingbourne		22	68
BFs with Planning Permission	MU13(ST4)	SW Sittingbourne	Sittingbourne		22	68

BFs with Planning Permission	A9 (ST4)	Crown Quay Lane, Sittingbourne (Phase II)	Sittingbourne		205	267
BFs with Planning Permission	A13 (ST4)	Belgrave Road	Minster/Halfway		140	140
BFs with Planning Permission	A16 (ST4)	Preston Fields, Salters Lane	Faversham		140	250
BFs with Planning Permission	MU4 (ST4)	Land at Frognal Lane, Teynham	Teynham		250	300
BFs with Planning Permission	A17 (ST4)	Land east of Iwade	Iwade		190	440
BFs with Planning Permission	A17 (ST4)	Land south east of Iwade (Pond Farm)	Iwade		70	70
Total					**6163**	**9225**

Appendix A- 2 Swale housing development for DS scenario (in addition to RC)

Type	App	Address	Parish	2017-2027	2017-2038
BFs withOUT Planning Permission	A21.1 (ST4)	Land north of Key Street	Sittingbourne	30	30
BFs withOUT Planning Permission	MU2 (ST4)	Land at North East Sittingbourne	Sittingbourne	106	106
BFs withOUT Planning Permission	A20.2 (ST4)	152 Staplehurst Road	Sittingbourne	0	75
BFs withOUT Planning Permission	A20.4 (ST4)	35 High Street, Milton Regis	Sittingbourne	0	10
BFs withOUT Planning Permission	A20.1 (ST4)	Orbital, Staplehurst Road	Sittingbourne	60	60
BFs withOUT Planning Permission	Regen 1 (ST4)	Land at The Bell Centre, Bell Road	Sittingbourne	120	120
BFs withOUT Planning Permission	A20.11 (ST4)	The Foundry, Rushenden Road	Queenborough	15	37
BFs withOUT Planning Permission	A21.6 (ST4)	Nil Desperandum, Alsager Avenue	Queenborough	22	22
BFs withOUT Planning Permission	A20.10 (ST4)	Manor Road	Queenborough	0	6
BFs withOUT Planning Permission	Regen 2 (ST4)	West Street, Queenborough	Queenborough	0	80
BFs withOUT Planning Permission	Regen 2 (ST4)	South of Queenborough Creek	Queenborough	80	380
BFs withOUT Planning Permission	Regen 2 (ST4)	West of Rushenden Road	Queenborough	160	379
BFs withOUT Planning Permission	Regen 2 (ST4)	Former Istil Mill Site	Queenborough	180	240
BFs withOUT Planning Permission	A20.9 (ST4)	Halfway Houses Primary School	Minster/Halfway	0	60
BFs withOUT Planning Permission	A20.8 (ST4)	Preston Skreens, Minster Road	Minster/Halfway	12	12
BFs withOUT Planning Permission	SW/034	Weston Works Brent Hill	Faversham	40	40
BFs withOUT Planning Permission	A20.7 (ST4)	Faversham Police Station	Faversham	12	12
BFs withOUT Planning Permission	SSPP02	Ordnance Wharf, Flood Lane	Faversham	11	11

BFs withOUT Planning Permission	SSPP08/10	Standard Quay / Fentimans Yard	Faversham	7	7
BFs withOUT Planning Permission	A20.6 (ST4)	Bysingwood Primary School	Faversham	0	15
BFs withOUT Planning Permission	MU6	Land at Lady Dane Farm Phase II	Faversham	60	60
BFs withOUT Planning Permission	SSPP06	South East Coast Oil Services	Faversham	16	16
BFs withOUT Planning Permission	SSPP09	Standard House	Faversham	5	5
BFs withOUT Planning Permission	SSPP05/04	Swan Quay/Frank and Whittome Belvedere Road	Faversham	10	10
BFs withOUT Planning Permission	A21.11 (ST4)	Land off Colonels Lane	Boughton	15	15
BFs withOUT Planning Permission	A21.12 (ST4)	Land south of Colonels Lane	Boughton	6	6
BFs withOUT Planning Permission	A21.14 (ST4)	Land adj Mayfield, London Road	Teynham	13	13
BFs withOUT Planning Permission	A21.15 (ST4)	Land at Barrow Green Farm	Teynham	30	30
BFs withOUT Planning Permission	A21.10 (ST4)	North of High Street, Eastchurch	Eastchurch	15	15
BFs withOUT Planning Permission	A20.13 (ST4)	Iwade Fruit and Produce	Iwade	21	21
BFs withOUT Planning Permission	A17 (ST4)	North of Iwade village	Iwade	62	62
LPR allocation		South East Faversham	Faversham	133	1,645
LPR allocation		South East Faversham	Faversham	57	705
LPR allocation		Land at Lady Dane Farm	Faversham	150	600
LPR allocation		Land at Graveney Road, East of Faversham	Faversham	210	240
LPR allocation		Preston Fields, Canterbury Road, Faversham	Faversham	70	70
LPR allocation		Land at The Port of Sheerness, Rushenden Road	Rushenden	0	680
LPR allocation		Land at The Port of Sheerness, Rushenden Road	Rushenden	0	170
LPR allocation		Land East of Selling Road (2)	Selling	90	90
LPR allocation		Sittingbourne Town Centre _S1	Sittingbourne	38	130
LPR allocation		Sittingbourne Town Centre _S2	Sittingbourne	29	98
LPR allocation		Sittingbourne Town Centre _S3	Sittingbourne	45	151
LPR allocation		Sittingbourne Town Centre _S4	Sittingbourne	20	66
LPR allocation		Sittingbourne Town Centre _S5	Sittingbourne	28	96
LPR allocation		Sittingbourne Town Centre _S6	Sittingbourne	16	53
LPR allocation		Sittingbourne Town Centre _S7	Sittingbourne	27	90
LPR allocation		Sittingbourne Town Centre _S8	Sittingbourne	13	43
LPR allocation		Sittingbourne Town Centre _S9	Sittingbourne	16	53
LPR allocation		Sittingbourne Town Centre _between s1 and s2	Sittingbourne	9	32
LPR allocation		Sittingbourne Town Centre _between s7 and s8	Sittingbourne	11	37
LPR allocation		Land at Barrow Green Farm, Lower Road (A21.15)	Teynham	2	26
LPR allocation		Land at Barrow Green Farm, London Road	Teynham	6	87
LPR allocation		Land West of Frognal Lane	Teynham	35	549

LPR allocation		Land adj. Mayfield, London Road (A21.14)	Teynham	1	11
LPR allocation		Land at Cellar Hill	Lynsted with Kingsdown	1	10
LPR allocation		Land at Claxfield Road (Site 1)	Lynsted with Kingsdown	10	157
LPR allocation		Land at Claxfield Road (Site 2)	Lynsted with Kingsdown	1	13
LPR allocation		Land south of Dover Castle Inn, A2 London Road/Cellar Hill	Lynsted with Kingsdown	3	44
LPR allocation		Land South of London Road/West of Lynsted Lane	Lynsted with Kingsdown	3	52
LPR allocation		Former Garden Hotel	Boughton under Blean	16	16
Windfall					2200
Fav NP+Park homes					445
Total				**2144**	**10616**

Appendix B

Appendix B - 1 Network performance for base, RC and DS in the AM peak hour in year 2027 and 2038

Metrics	Area	2017	2027				2038			
		Base	RC	% diff	DS	% diff	RC	% diff	DS	% diff
Transient queues (PCU hours)	Simulation	909.5	1098.8	20.8%	1244.8	36.9%	1250.5	37.5%	1845.4	102.9%
	Buffer	47.3	64.6	36.6%	73.3	55.0%	95	100.8%	133.3	181.8%
	Total	956.8	1163.5	21.6%	1318.1	37.8%	1345.5	40.6%	1978.7	106.8%
Over-capacity queues (PCU hours)	Simulation	255.1	387.1	51.7%	431.3	69.1%	578.7	126.9%	1558	510.7%
	Buffer	0	0	N/A	0	N/A	0	N/A	0	N/A
	Total	255.1	387.1	51.7%	431.3	69.1%	578.7	126.9%	1558	510.7%
Link cruise time (PCU hours)	Simulation	8328.6	9746.9	17.0%	10175.7	22.2%	10688.4	28.3%	12280.5	47.4%
	Buffer	41103.6	46530.9	13.2%	46622.1	13.4%	50214	22.2%	50494.6	22.8%
	Buffer centroid conn	705.9	780.1	10.5%	780.7	10.6%	845.5	19.8%	847.4	20.0%
	Total	50138.1	57057.9	13.8%	57578.6	14.8%	61747.8	23.2%	63622.5	26.9%
Total travel time (PCU hours)	Simulation	9493.2	11232.8	18.3%	11851.8	24.8%	12517.6	31.9%	15683.9	65.2%
	Buffer	41150.9	46595.6	13.2%	46695.4	13.5%	50309	22.3%	50627.9	23.0%
	Buffer centroid conn	705.9	780.1	10.5%	780.7	10.6%	845.5	19.8%	847.4	20.0%
	Total	51350	58608.5	14.1%	59328	15.5%	63672	24.0%	67159.2	30.8%
Travel distance (PCU KM)	Simulation	632270.4	714642	13.0%	738518.5	16.8%	772432.6	22.2%	855886	35.4%
	Buffer	2639620	2883895	9.3%	2890548.3	9.5%	3126529.5	18.4%	3145827	19.2%
	Buffer centroid conn	31896	35254.7	10.5%	35281	10.6%	38205.6	19.8%	38291.6	20.1%
	Total	3303786.5	3633791.5	10.0%	3664347.8	10.9%	3937167.5	19.2%	4040004.5	22.3%
Average Speed (kph)	Simulation	66.6	63.6	-4.5%	62.3	-6.5%	61.7	-7.4%	54.6	-18.0%
	Buffer	64.1	61.9	-3.4%	61.9	-3.4%	62.1	-3.1%	62.1	-3.1%
	Buffer centroid conn	45.2	45.2	0.0%	45.2	0.0%	45.2	0.0%	45.2	0.0%
	Total	64.3	62	-3.6%	61.8	-3.9%	61.8	-3.9%	60.2	-6.4%
Total trips loaded (PCUs)		204291.6	225727.6	10.5%	227349.5	11.3%	244263.4	19.6%	249585.6	22.2%

Appendix B - 2 Network performance for base, RC and DS in the Inter peak hour in year 2027 and 2038

Metrics	Area	2017	2027				2038			
		Base	RC	% diff	DS	% diff	RC	% diff	DS	% diff
Transient queues (PCU hours)	Simulation	514.6	566.6	10.1%	603.9	17.4%	614.1	19.3%	776	50.8%
	Buffer	14	12.9	-7.9%	13.8	-1.4%	19.6	40.0%	23.5	67.9%
	Total	528.6	579.5	9.6%	617.6	16.8%	633.6	19.9%	799.5	51.2%
Over-capacity queues (PCU hours)	Simulation	0	105.9	N/A	118.7	N/A	153.6	N/A	226.6	N/A
	Buffer	0	0	N/A	0	N/A	0	N/A	0	N/A
	Total	0	105.9	N/A	118.7	N/A	153.6	N/A	226.6	N/A
Link cruise time (PCU hours)	Simulation	5891.2	6595	11.9%	6808.5	15.6%	7211.3	22.4%	7900	34.1%
	Buffer	31160	34975.7	12.2%	35012.1	12.4%	38277.5	22.8%	38401.6	23.2%
	Buffer centroid conn	559.8	629.8	12.5%	629.9	12.5%	695.2	24.2%	695.2	24.2%
	Total	37611	42200.6	12.2%	42450.5	12.9%	46184.1	22.8%	46996.7	25.0%
Total travel time (PCU hours)	Simulation	6405.8	7267.5	13.5%	7531.1	17.6%	7979.1	24.6%	8902.6	39.0%
	Buffer	31174	34988.6	12.2%	35025.8	12.4%	38297.1	22.8%	38425.1	23.3%
	Buffer centroid conn	559.8	629.8	12.5%	629.9	12.5%	695.2	24.2%	695.2	24.2%
	Total	38139.6	42886	12.4%	43186.8	13.2%	46971.4	23.2%	48022.9	25.9%
Travel distance (PCU KM)	Simulation	463202.4	523434.7	13.0%	537610.9	16.1%	567490.4	22.5%	612368.2	32.2%
	Buffer	2023045.5	2228742	10.2%	2231933.5	10.3%	2446879.3	21.0%	2457488.5	21.5%
	Buffer centroid conn	25289.5	28458.2	12.5%	28458.7	12.5%	31410	24.2%	31409.2	24.2%
	Total	2511537.3	2780634.8	10.7%	2798003.3	11.4%	3045779.8	21.3%	3101266	23.5%
Average Speed (kph)	Simulation	72.3	72	-0.4%	71.4	-1.2%	71.1	-1.7%	68.8	-4.8%
	Buffer	64.9	63.7	-1.8%	63.7	-1.8%	63.9	-1.5%	64	-1.4%
	Buffer centroid conn	45.2	45.2	0.0%	45.2	0.0%	45.2	0.0%	45.2	0.0%
	Total	65.9	64.8	-1.7%	64.8	-1.7%	64.8	-1.7%	64.6	-2.0%
Total trips loaded (PCUs)		162136.8	181188.6	11.8%	182055	12.3%	198798.4	22.6%	201335.7	24.2%

Appendix B - 3 Network performance for base, RC and DS in the PM peak hour in year 2027 and 2038

Metrics	Area	2017	2027				2038			
		Base	RC	% diff	DS	% diff	RC	% diff	DS	% diff
Transient queues (PCU hours)	Simulation	923.5	1114.7	20.7%	1244	34.7%	1292.9	40.0%	1933.2	109.3%
	Buffer	65	64.4	-0.9%	70.1	7.8%	96.3	48.2%	118.8	82.8%
	Total	988.6	1179.2	19.3%	1314	32.9%	1389.2	40.5%	2052.1	107.6%
Over-capacity queues (PCU hours)	Simulation	191.6	277.9	45.0%	337.3	76.0%	533	178.2%	1537.3	702.3%
	Buffer	0	0	N/A	0	N/A	0	N/A	0	N/A
	Total	191.6	277.9	45.0%	337.3	76.0%	533	178.2%	1537.3	702.3%
Link cruise time (PCU hours)	Simulation	8159.2	9556.8	17.1%	10014.1	22.7%	10544.8	29.2%	12262.2	50.3%
	Buffer	41546.3	46889.4	12.9%	47006.9	13.1%	50569.5	21.7%	50960.7	22.7%
	Buffer centroid conn	683	754	10.4%	754.6	10.5%	816.9	19.6%	818.5	19.8%
	Total	50388.6	57200.2	13.5%	57775.5	14.7%	61931.2	22.9%	64041.3	27.1%
Total travel time (PCU hours)	Simulation	9274.4	10949.4	18.1%	11595.4	25.0%	12370.7	33.4%	15732.7	69.6%
	Buffer	41611.4	46953.8	12.8%	47076.9	13.1%	50665.8	21.8%	51079.5	22.8%
	Buffer centroid conn	683	754	10.4%	754.6	10.5%	816.9	19.6%	818.5	19.8%
	Total	51568.7	58657.2	13.7%	59426.9	15.2%	63853.3	23.8%	67630.7	31.1%
Travel distance (PCU KM)	Simulation	619285.9	704685.2	13.8%	729281.6	17.8%	760862.4	22.9%	849684.9	37.2%
	Buffer	2635892	2871273	8.9%	2879592.5	9.2%	3108856.5	17.9%	3137542.8	19.0%
	Buffer centroid conn	30854.6	34068	10.4%	34095.4	10.5%	36908.6	19.6%	36980.4	19.9%
	Total	3286032.5	3610026	9.9%	3642969.8	10.9%	3906627.5	18.9%	4024208	22.5%
Average Speed (kph)	Simulation	66.8	64.4	-3.6%	62.9	-5.8%	61.5	-7.9%	54	-19.2%
	Buffer	63.3	61.2	-3.3%	61.2	-3.3%	61.4	-3.0%	61.4	-3.0%
	Buffer centroid conn	45.2	45.2	0.0%	45.2	0.0%	45.2	0.0%	45.2	0.0%
	Total	63.7	61.5	-3.5%	61.3	-3.8%	61.2	-3.9%	59.5	-6.6%
Total trips loaded (PCUs)		202190.1	222950.5	10.3%	224488.4	11.0%	241000.3	19.2%	246053.4	21.7%

Appendix C

Appendix C- 1 Journey time (seconds) comparison in the AM Peak

Map	Route	Route Name	2017	2027RC	%Diff (2027RC-2017)	2027DS	%Diff (2027RC-2017)	2038RC	%Diff (2038RC-2017)	2038DS	%Diff (2038DS-2017)
1	R1	A2_EB	1112	1148	3%	1158	4%	1166	5%	1195	8%
1	R2	A2_WB	1040	1068	3%	1070	3%	1083	4%	1108	7%
2	R3	M2_EB	1373	1442	5%	1465	7%	1498	9%	1605	17%
2	R4	M2_WB	1391	1524	10%	1551	12%	1597	15%	1682	21%
3	R5	Swale Way NB	414	425	3%	431	4%	427	3%	458	11%
3	R6	Swale Way SB	435	444	2%	457	5%	457	5%	512	18%
4	R7	B2006 EB	431	489	13%	509	18%	511	19%	590	37%
4	R8	B2006 WB	306	318	4%	322	5%	326	6%	340	11%
5	R9	A249 NB	1107	1069	-3%	1074	-3%	1085	-2%	1105	0%
5	R10	A249 SB	1652	1485	-10%	1515	-8%	1514	-8%	1758	6%
6	R11	Sheppey Way NB	327	315	-4%	316	-4%	317	-3%	319	-3%
6	R12	Sheppey Way SB	348	350	1%	351	1%	359	3%	404	16%
7	R13	Borden Lane NB	504	533	6%	548	9%	566	12%	612	21%
7	R14	Borden Lane SB	489	490	0%	491	0%	491	1%	495	1%
8	R15	Church Street NB	1255	1257	0%	1264	1%	1269	1%	1393	11%
8	R16	Church Street SB	1247	1214	-3%	1215	-3%	1216	-2%	1263	1%
9	R17	M20 EB	1149	1287	12%	1293	12%	1353	18%	1377	20%
9	R18	M20 WB	1152	1326	15%	1324	15%	1334	16%	1337	16%
10	R19	A251 AM NB	1363	1547	13%	1557	14%	1648	21%	1687	24%
10	R20	A251 AM SB	1350	1333	-1%	1351	0%	1351	0%	1652	22%
11	R21	A20 EB	1631	1671	2%	1673	3%	1697	4%	1717	5%
11	R22	A20 WB	1743	1801	3%	1802	3%	1820	4%	1835	5%
12	R23	A28 NB	1578	1592	1%	1592	1%	1595	1%	1597	1%
12	R24	A28 SB	1550	1566	1%	1565	1%	1566	1%	1566	1%
13	R25	A252 EB	747	756	1%	757	1%	762	2%	763	2%
13	R26	A252 WB	803	814	1%	818	2%	824	3%	832	4%
14	R27	B2040 EB	498	501	1%	517	4%	511	3%	583	17%
14	R28	B2040 WB	512	565	10%	588	15%	568	11%	794	55%
15	R29	Faversham Road NB	966	898	-7%	927	-4%	918	-5%	1094	13%
15	R30	Faversham Road SB	997	941	-6%	921	-8%	957	-4%	1031	3%
16	R31	Selling Road NB	231	247	7%	255	10%	250	8%	442	91%
16	R32	Selling Road SB	224	249	11%	258	15%	249	11%	305	36%
17	R33	A2500 EB	716	705	-2%	709	-1%	713	0%	728	2%
17	R34	A2500 WB	767	852	11%	879	15%	981	28%	1134	48%
18	R35	Minster Road EB	1036	1044	1%	1050	1%	1046	1%	1036	0%
18	R36	Minster Road WB	925	960	4%	967	5%	999	8%	1141	23%
19	R37	Queenborough Road EB	419	447	7%	457	9%	454	8%	511	22%
19	R38	Queenborough Road WB	362	364	1%	366	1%	376	4%	385	6%
21	R41	B2004 EB	525	525	0%	525	0%	525	0%	525	0%
21	R42	B2004 WB	525	525	0%	525	0%	525	0%	526	0%
22	R43	Grovehurst SB	406	430	6%	431	6%	433	7%	436	8%
22	R44	Grovehurst NB	388	386	-1%	387	0%	388	0%	392	1%
1a	R1a	A2_EB(Eastern Part)	1940	2086	8%	2167	12%	2141	10%	2581	33%
1a	R2a	A2_WB(Eastern Part)	1861	2040	10%	2108	13%	2073	11%	2360	27%
23	R51	Sheppey to M2 J7 via M2 EB	1791	1584	-12%	1617	-10%	1634	-9%	1904	6%
23	R52	Sheppey to M2 J7 via M2 WB	1504	1523	1%	1541	2%	1562	4%	1641	9%
24	R53	Sheppey to M2 J7 via A2 EB	2101	2164	3%	2266	8%	2158	3%	2685	28%
24	R54	Sheppey to M2 J7 via A2 WB	2071	2230	8%	2272	10%	2227	8%	2673	29%
25	R55	Sheppey to M20/A249 SB	1652	1485	-10%	1515	-8%	1514	-8%	1758	6%
25	R56	Sheppey to M20/A249 NB	1101	1064	-3%	1068	-3%	1079	-2%	1099	0%
26	R57	Faversham to A2/A2050 EB	669	756	13%	789	18%	781	17%	1146	71%
26	R58	Faversham to A2/A2050 WB	510	669	31%	721	41%	732	44%	935	83%

Appendix C- 2 Journey time (seconds) comparison in the Inter Peak

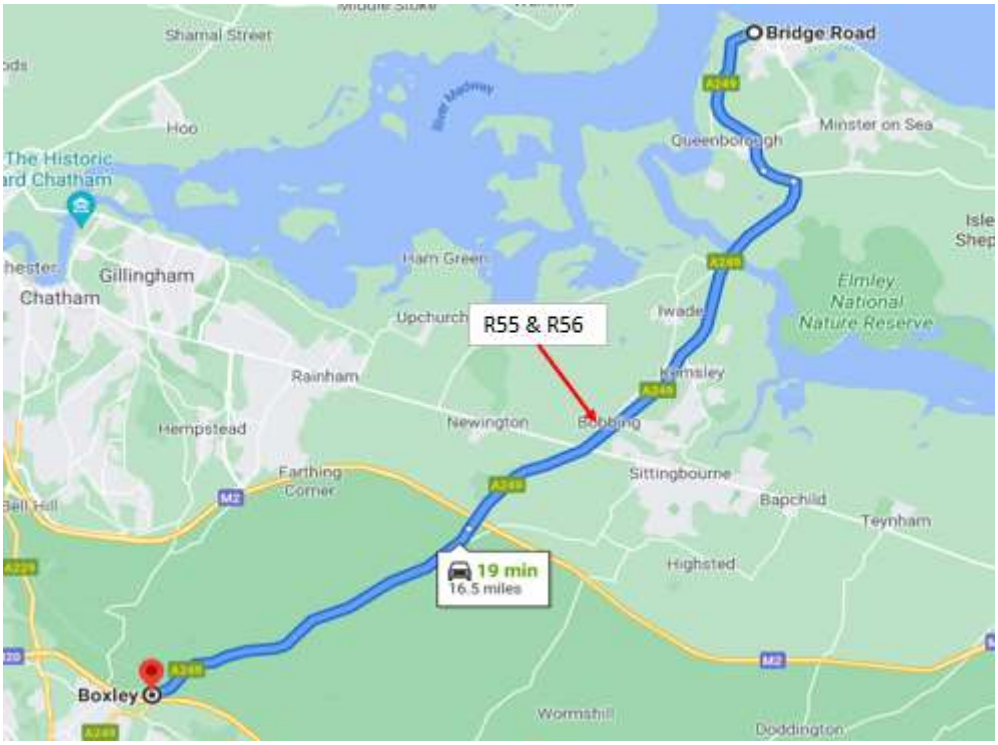
Map	Route	Route Name	2017	2027RC	%Diff (2027RC-2017)	2027DS	%Diff (2027RC-2017)	2038RC	%Diff (2038RC-2017)	2038DS	%Diff (2038DS-2017)
1	R1	A2_EB	1061	1083	2%	1083	2%	1086	2%	1088	3%
1	R2	A2_WB	1028	1040	1%	1040	1%	1044	2%	1045	2%
2	R3	M2_EB	1333	1357	2%	1363	2%	1376	3%	1393	5%
2	R4	M2_WB	1367	1405	3%	1412	3%	1439	5%	1489	9%
3	R5	Swale Way NB	408	412	1%	416	2%	413	1%	420	3%
3	R6	Swale Way SB	409	413	1%	416	2%	414	1%	420	3%
4	R7	B2006 EB	370	421	14%	427	15%	425	15%	444	20%
4	R8	B2006 WB	311	319	3%	318	2%	325	4%	324	4%
5	R9	A249 NB	1068	1036	-3%	1043	-2%	1046	-2%	1079	1%
5	R10	A249 SB	1277	1333	4%	1366	7%	1364	7%	1481	16%
6	R11	Sheppey Way NB	326	313	-4%	313	-4%	314	-4%	314	-4%
6	R12	Sheppey Way SB	334	333	0%	333	0%	335	0%	336	1%
7	R13	Borden Lane NB	488	505	3%	505	3%	508	4%	509	4%
7	R14	Borden Lane SB	481	484	1%	484	1%	486	1%	487	1%
8	R15	Church Street NB	1244	1214	-2%	1215	-2%	1215	-2%	1217	-2%
8	R16	Church Street SB	1242	1208	-3%	1208	-3%	1208	-3%	1208	-3%
9	R17	M20 EB	1148	1152	0%	1153	0%	1153	0%	1167	2%
9	R18	M20 WB	1149	1167	2%	1169	2%	1221	6%	1221	6%
10	R19	A251 AM NB	1212	1309	8%	1310	8%	1463	21%	1468	21%
10	R20	A251 AM SB	1247	1287	3%	1289	3%	1290	3%	1301	4%
11	R21	A20 EB	1592	1613	1%	1614	1%	1630	2%	1631	2%
11	R22	A20 WB	1653	1692	2%	1694	2%	1709	3%	1708	3%
12	R23	A28 NB	1569	1573	0%	1573	0%	1574	0%	1574	0%
12	R24	A28 SB	1548	1555	0%	1555	0%	1555	1%	1555	1%
13	R25	A252 EB	734	737	0%	738	0%	741	1%	741	1%
13	R26	A252 WB	761	770	1%	770	1%	776	2%	778	2%
14	R27	B2040 EB	444	482	8%	482	9%	482	8%	484	9%
14	R28	B2040 WB	473	547	16%	572	21%	553	17%	710	50%
15	R29	Faversham Road NB	951	870	-9%	874	-8%	872	-8%	890	-6%
15	R30	Faversham Road SB	981	840	-14%	841	-14%	845	-14%	845	-14%
16	R31	Selling Road NB	227	243	7%	245	8%	243	7%	249	10%
16	R32	Selling Road SB	223	255	14%	262	17%	256	14%	270	21%
17	R33	A2500 EB	703	698	-1%	698	-1%	704	0%	706	0%
17	R34	A2500 WB	720	734	2%	736	2%	743	3%	748	4%
18	R35	Minster Road EB	892	888	0%	891	0%	892	0%	892	0%
18	R36	Minster Road WB	867	877	1%	874	1%	879	1%	877	1%
19	R37	Queenborough Road EB	402	446	11%	448	12%	445	11%	449	12%
19	R38	Queenborough Road WB	361	371	3%	371	3%	371	3%	372	3%
21	R41	B2004 EB	525	525	0%	525	0%	525	0%	525	0%
21	R42	B2004 WB	525	525	0%	525	0%	525	0%	525	0%
22	R43	Grovehurst SB	391	426	9%	426	9%	426	9%	428	10%
22	R44	Grovehurst NB	387	379	-2%	379	-2%	379	-2%	380	-2%
1a	R1a	A2_EB(Eastern Part)	1842	1875	2%	1893	3%	1881	2%	2053	12%
1a	R2a	A2_WB(Eastern Part)	1739	1791	3%	1799	3%	1805	4%	1841	6%
23	R51	Sheppey to M2 J7 via M2 EB	1638	1498	-9%	1509	-8%	1517	-7%	1623	-1%
23	R52	Sheppey to M2 J7 via M2 WB	1455	1460	0%	1470	1%	1481	2%	1550	7%
24	R53	Sheppey to M2 J7 via A2 EB	1969	1964	0%	1976	0%	1955	-1%	2084	6%
24	R54	Sheppey to M2 J7 via A2 WB	1961	1991	2%	2012	3%	1997	2%	2192	12%
25	R55	Sheppey to M20/A249 SB	1277	1333	4%	1366	7%	1364	7%	1481	16%
25	R56	Sheppey to M20/A249 NB	1063	1030	-3%	1037	-2%	1040	-2%	1073	1%
26	R57	Faversham to A2/A2050 EB	505	578	14%	581	15%	582	15%	595	18%
26	R58	Faversham to A2/A2050 WB	506	611	21%	620	22%	618	22%	715	41%

Appendix C- 3 Journey time (seconds) comparison in the PM Peak

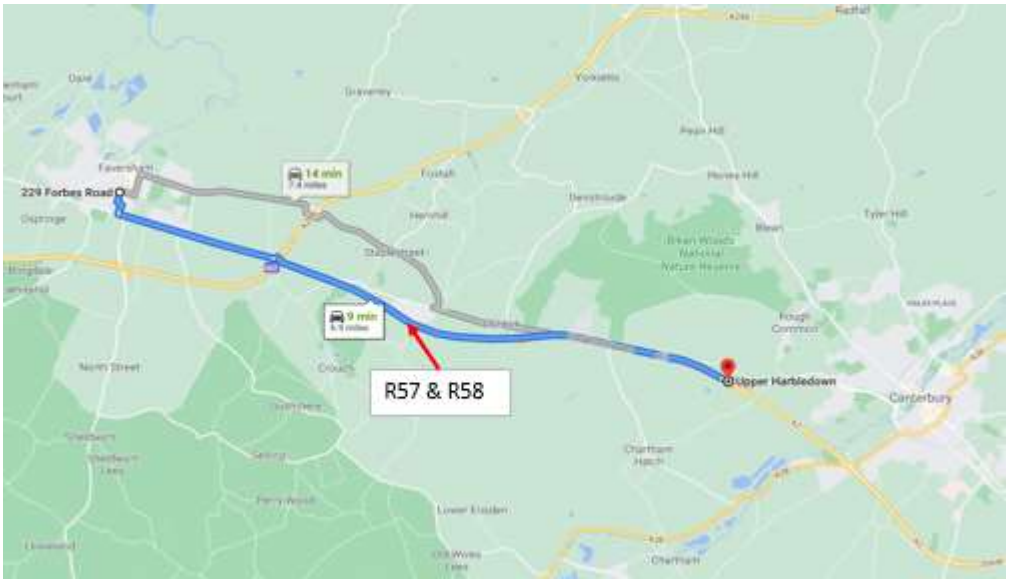
Map	Route	Route Name	2017	2027RC	%Diff (2027RC-2017)	2027DS	%Diff (2027RC-2017)	2038RC	%Diff (2038RC-2017)	2038DS	%Diff (2038DS-2017)
1	R1	A2_EB	1091	1151	5%	1160	6%	1166	7%	1177	8%
1	R2	A2_WB	1198	1119	-7%	1132	-6%	1138	-5%	1304	9%
2	R3	M2_EB	1397	1459	4%	1471	5%	1498	7%	1662	19%
2	R4	M2_WB	1479	1661	12%	1708	15%	1775	20%	1968	33%
3	R5	Swale Way NB	432	447	4%	463	7%	467	8%	560	30%
3	R6	Swale Way SB	412	419	2%	422	2%	423	3%	437	6%
4	R7	B2006 EB	427	467	9%	492	15%	469	10%	568	33%
4	R8	B2006 WB	354	372	5%	377	7%	393	11%	459	30%
5	R9	A249 NB	1216	1159	-5%	1187	-2%	1185	-3%	1695	39%
5	R10	A249 SB	1648	1557	-6%	1575	-4%	1712	4%	1811	10%
6	R11	Sheppey Way NB	329	314	-4%	315	-4%	317	-4%	318	-3%
6	R12	Sheppey Way SB	349	344	-1%	345	-1%	352	1%	364	4%
7	R13	Borden Lane NB	500	519	4%	522	4%	528	6%	560	12%
7	R14	Borden Lane SB	525	488	-7%	489	-7%	490	-7%	498	-5%
8	R15	Church Street NB	1249	1224	-2%	1236	-1%	1227	-2%	1455	16%
8	R16	Church Street SB	1244	1212	-3%	1212	-3%	1212	-3%	1217	-2%
9	R17	M20 EB	1152	1196	4%	1205	5%	1264	10%	1329	15%
9	R18	M20 WB	1147	1260	10%	1268	11%	1292	13%	1286	12%
10	R19	A251 AM NB	1364	1554	14%	1564	15%	1670	22%	1715	26%
10	R20	A251 AM SB	1258	1296	3%	1305	4%	1313	4%	1375	9%
11	R21	A20 EB	1627	1720	6%	1722	6%	1746	7%	1758	8%
11	R22	A20 WB	1681	1734	3%	1737	3%	1754	4%	1767	5%
12	R23	A28 NB	1530	1549	1%	1549	1%	1550	1%	1550	1%
12	R24	A28 SB	1467	1486	1%	1486	1%	1487	1%	1487	1%
13	R25	A252 EB	766	774	1%	777	1%	781	2%	787	3%
13	R26	A252 WB	768	778	1%	783	2%	792	3%	808	5%
14	R27	B2040 EB	497	506	2%	519	4%	521	5%	569	14%
14	R28	B2040 WB	532	626	18%	686	29%	640	20%	1055	98%
15	R29	Faversham Road NB	974	926	-5%	1000	3%	947	-3%	1250	28%
15	R30	Faversham Road SB	988	865	-12%	860	-13%	880	-11%	917	-7%
16	R31	Selling Road NB	237	260	10%	265	12%	259	9%	428	81%
16	R32	Selling Road SB	231	251	8%	258	12%	251	9%	334	44%
17	R33	A2500 EB	825	784	-5%	784	-5%	853	3%	771	-7%
17	R34	A2500 WB	698	707	1%	710	2%	717	3%	725	4%
18	R35	Minster Road EB	967	1064	10%	1080	12%	1219	26%	1156	20%
18	R36	Minster Road WB	859	857	0%	858	0%	854	-1%	863	0%
19	R37	Queenborough Road EB	448	516	15%	528	18%	664	48%	619	38%
19	R38	Queenborough Road WB	365	363	-1%	363	-1%	361	-1%	356	-2%
21	R41	B2004 EB	525	525	0%	525	0%	525	0%	525	0%
21	R42	B2004 WB	525	525	0%	525	0%	525	0%	525	0%
22	R43	Grovehurst SB	400	439	10%	440	10%	441	10%	450	12%
22	R44	Grovehurst NB	393	388	-1%	390	-1%	391	-1%	405	3%
1a	R1a	A2_EB(Eastern Part)	1883	2020	7%	2119	13%	2085	11%	2626	40%
1a	R2a	A2_WB(Eastern Part)	1804	1932	7%	1971	9%	1973	9%	2311	28%
23	R51	Sheppey to M2 J7 via M2 EB	1761	1640	-7%	1667	-5%	1819	3%	1980	12%
23	R52	Sheppey to M2 J7 via M2 WB	1615	1653	2%	1712	6%	1724	7%	2402	49%
24	R53	Sheppey to M2 J7 via A2 EB	2083	2189	5%	2260	8%	2303	11%	2693	29%
24	R54	Sheppey to M2 J7 via A2 WB	2036	2155	6%	2271	12%	2241	10%	3201	57%
25	R55	Sheppey to M20/A249 SB	1648	1557	-6%	1575	-4%	1712	4%	1811	10%
25	R56	Sheppey to M20/A249 NB	1209	1151	-5%	1178	-3%	1176	-3%	1686	39%
26	R57	Faversham to A2/A2050 EB	544	673	24%	680	25%	693	27%	812	49%
26	R58	Faversham to A2/A2050 WB	515	697	35%	728	41%	713	38%	1092	112%

Appendix C- 4 Journey time routes R51-54 between Sheppey and M2 J7

Appendix C- 5 Journey time routes R55-56 between Sheppey and M20/A249

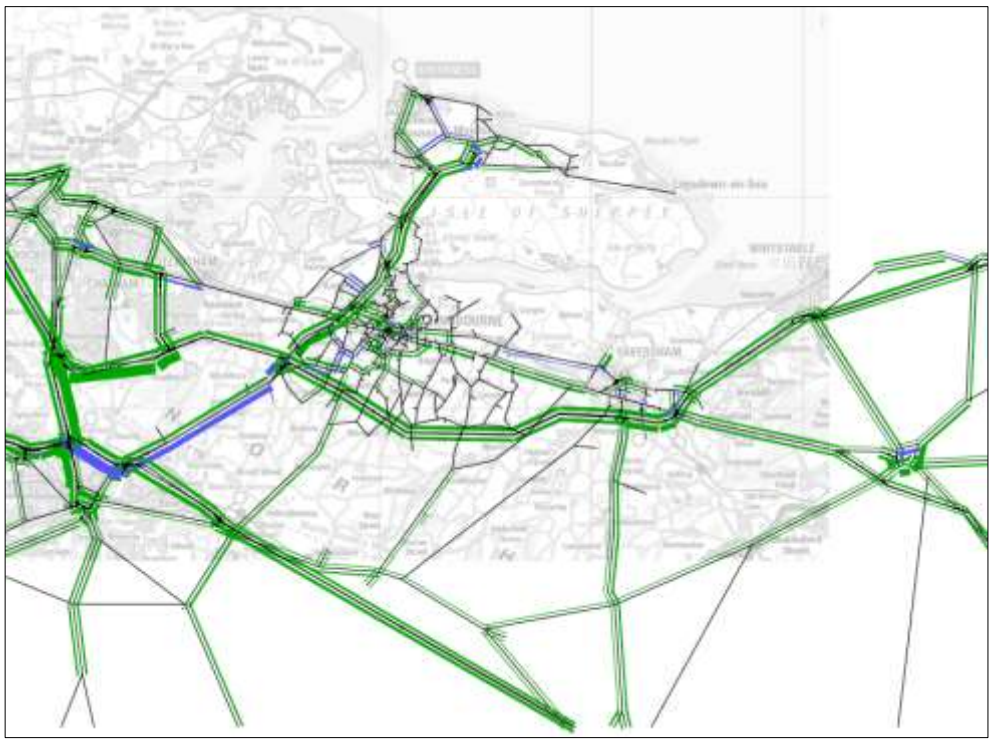


Appendix C- 6 Journey time routes R57-58 between Faversham to A2/A2050

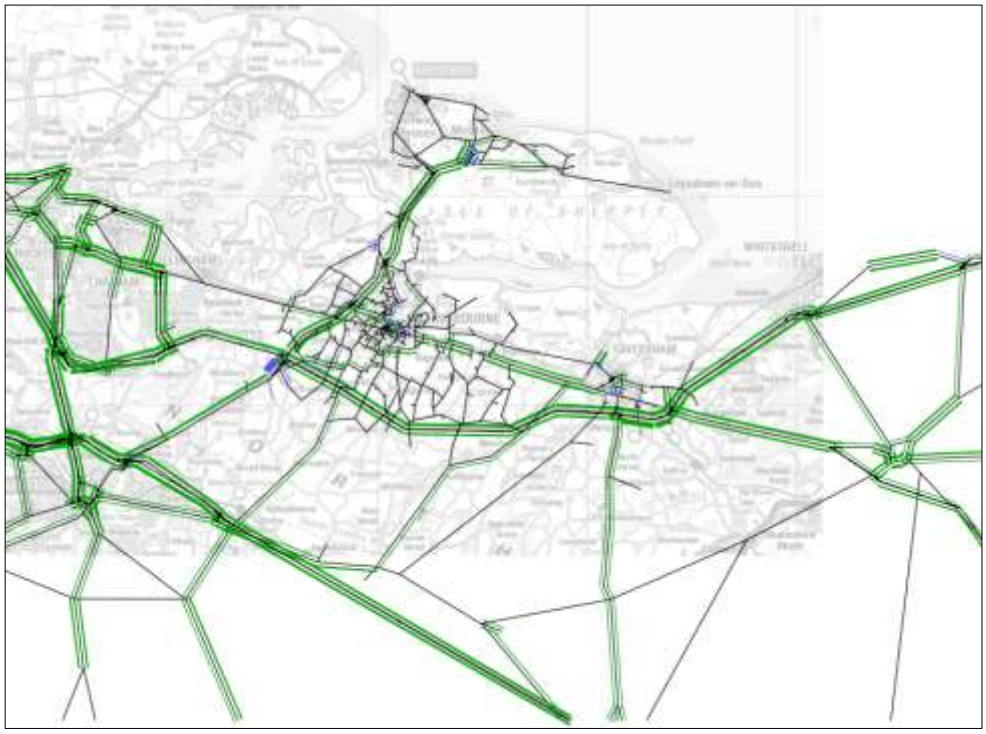


Appendix D

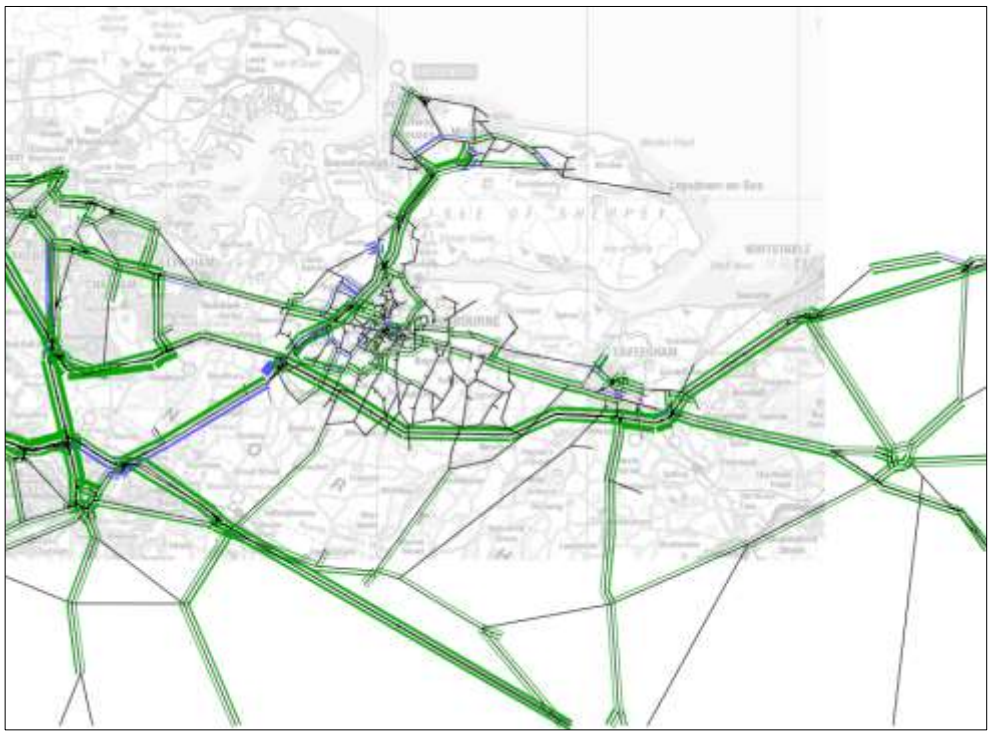
Appendix D- 1 Actual flow (PCUs) comparison between 2027 RC and base year-AM Peak



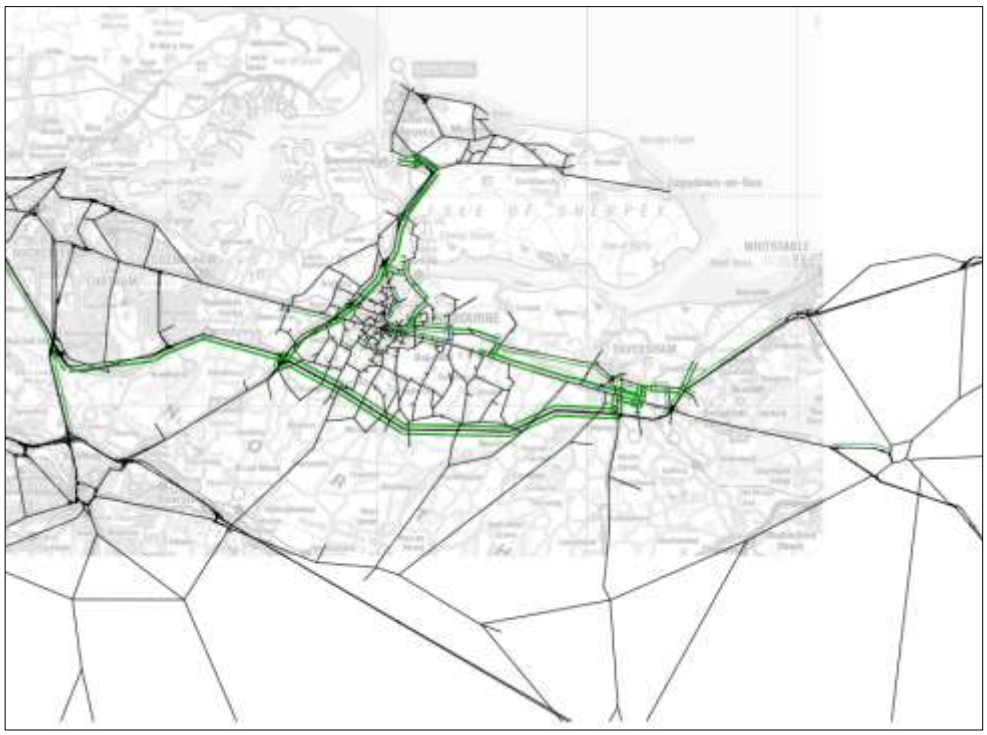
Appendix D- 2 Actual flow (PCUs) comparison between 2027 RC and base year-Inter Peak



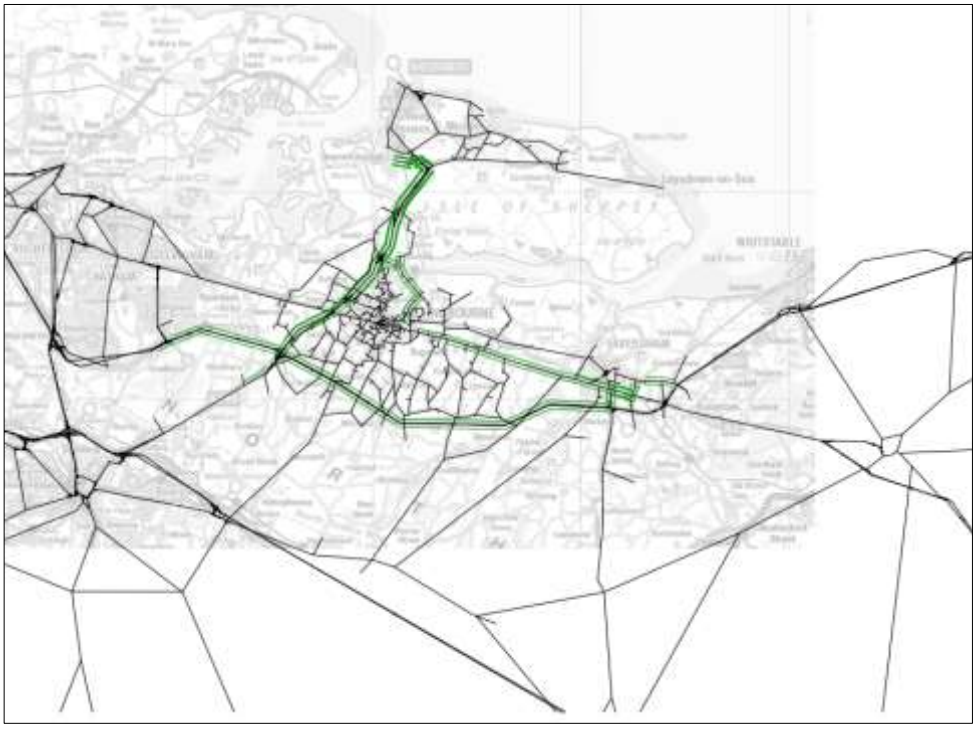
Appendix D- 3 Actual flow (PCUs) comparison between 2027 RC and base year-PM Peak



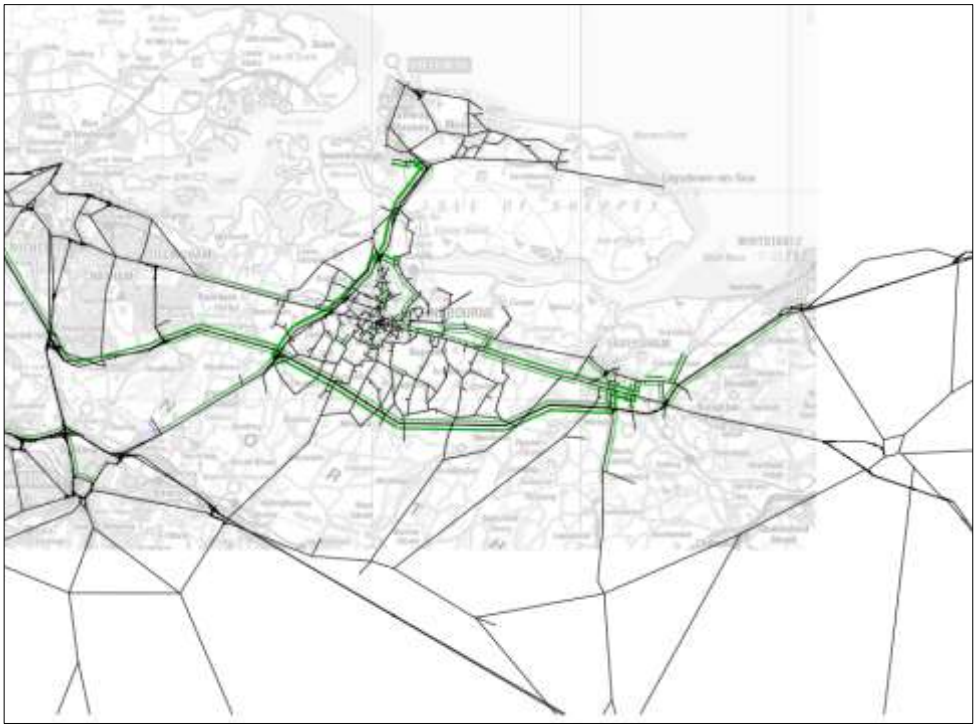
Appendix D- 4 Actual flow (PCUs) comparison between 2027 RC and DS scenario-AM Peak



Appendix D- 5 Actual flow (PCUs) comparison between 2027 RC and DS scenario-Inter Peak

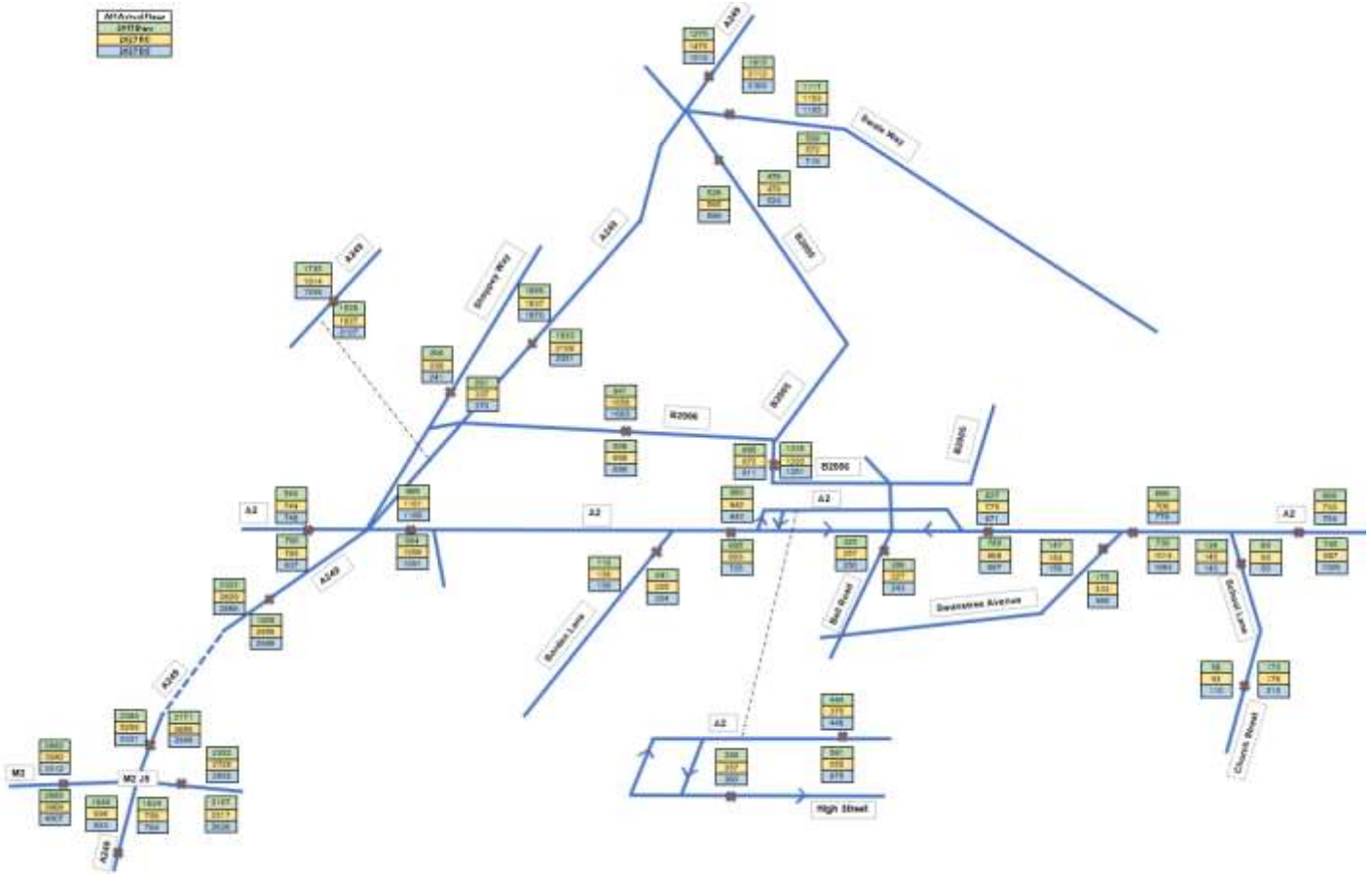


Appendix D- 6 Actual flow (PCUs) comparison between 2027 RC and DS scenario-PM Peak

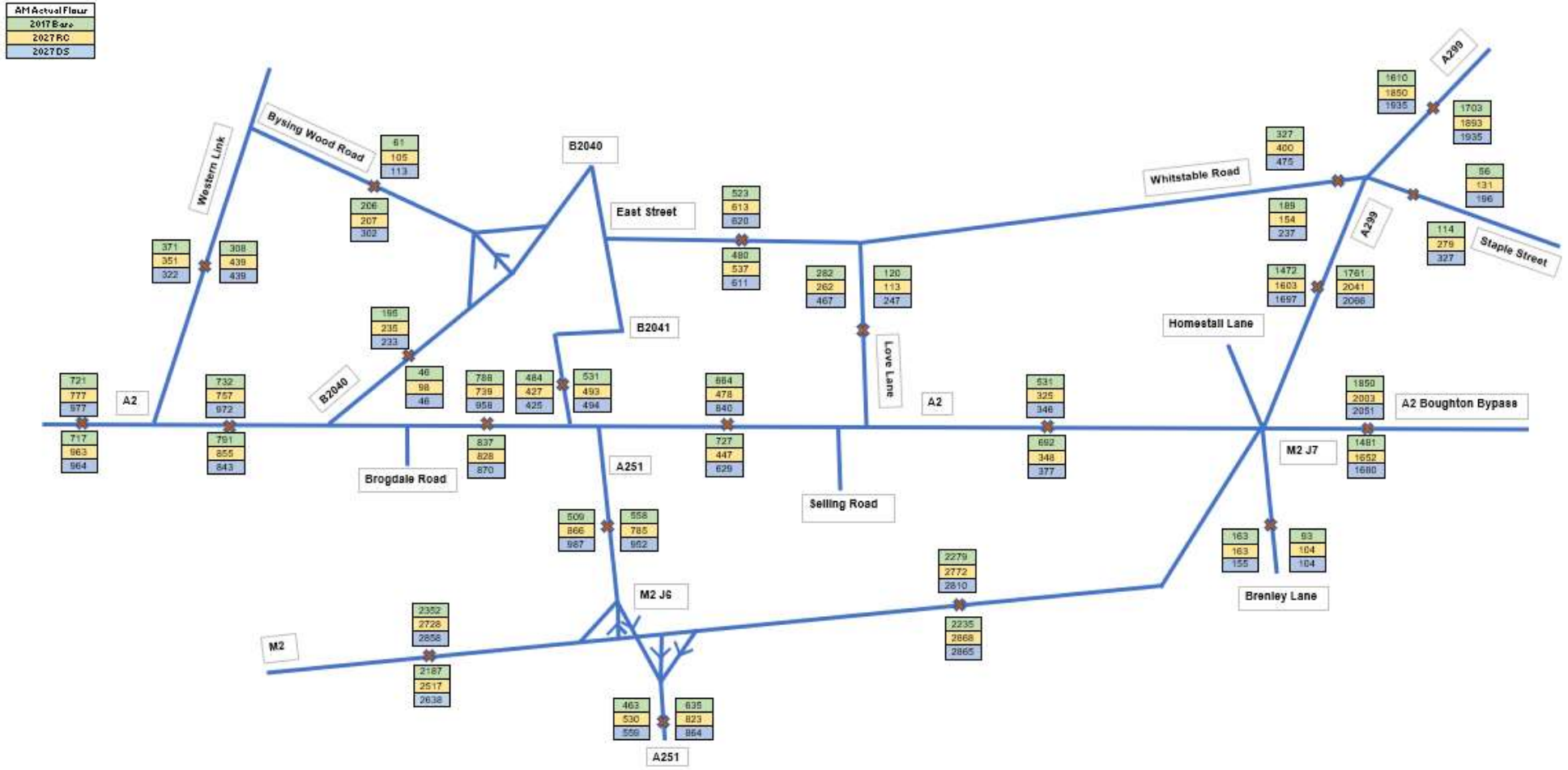


Appendix E

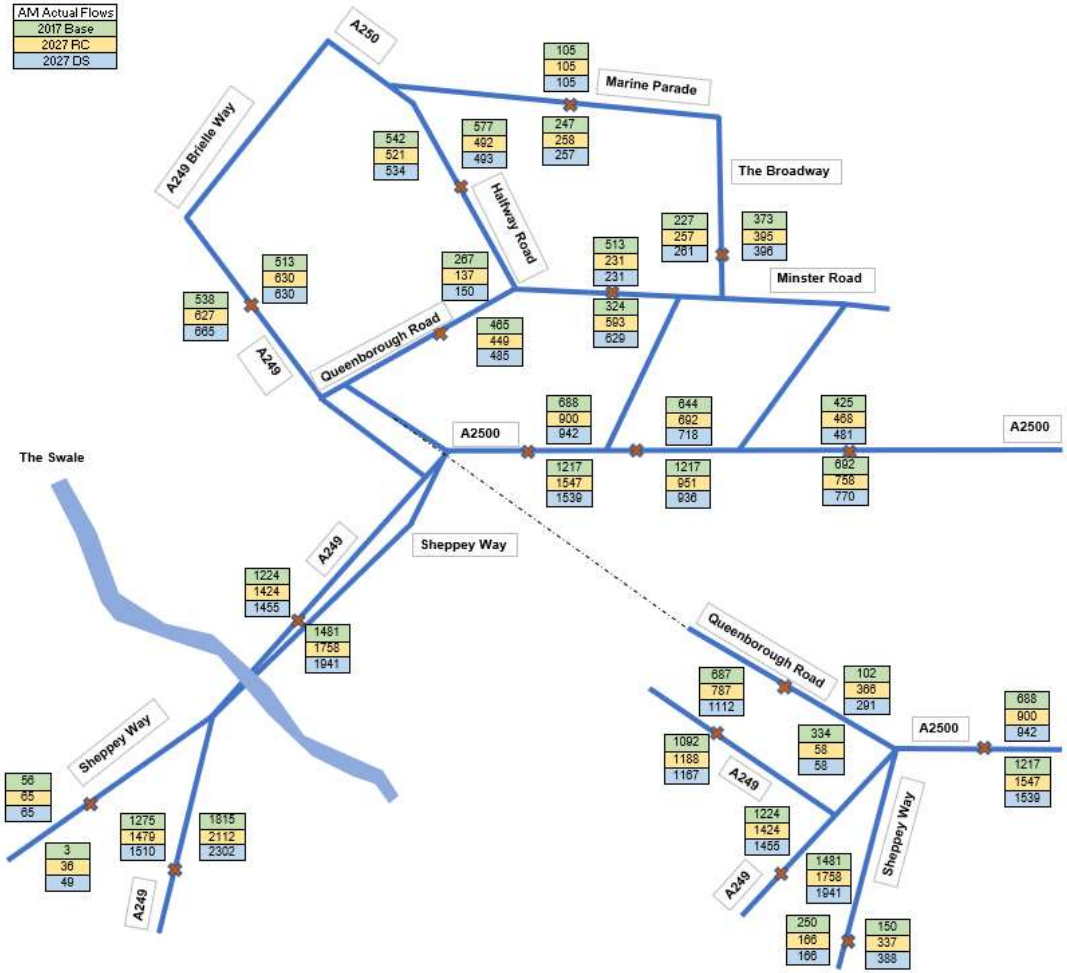
2027 Flows on key roads in Sittingbourne AM



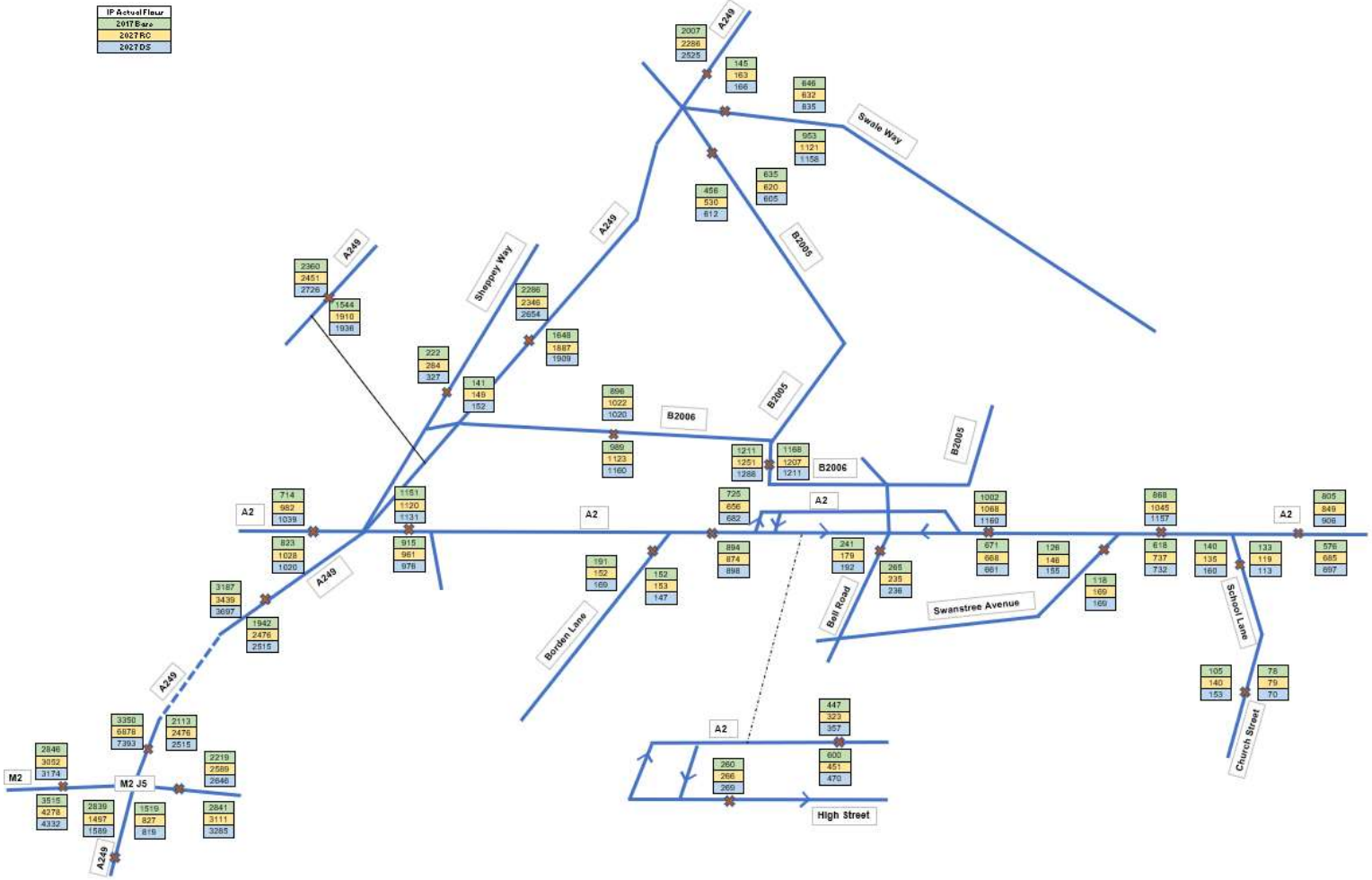
2027 Flows on key roads in Faversham AM



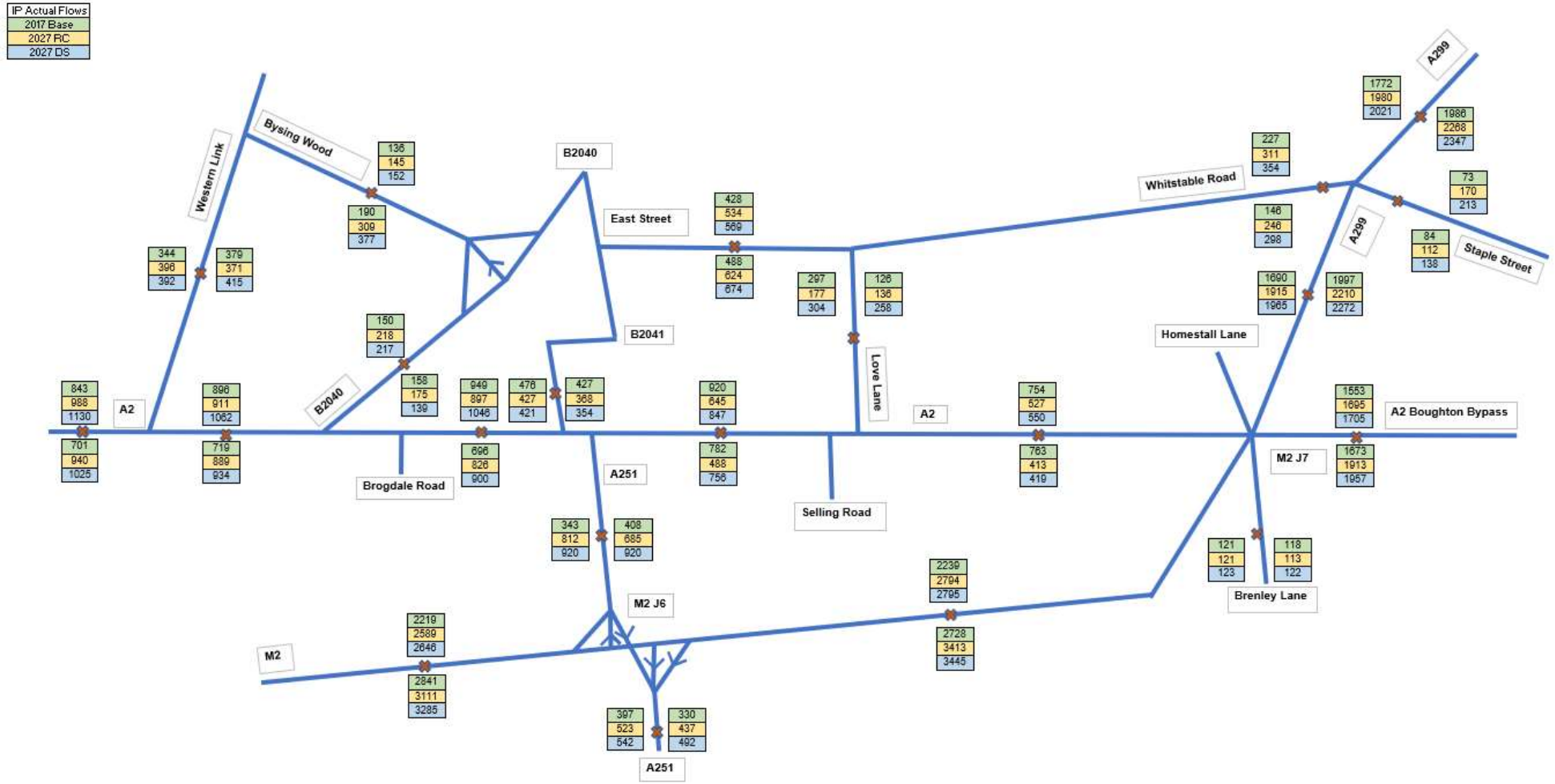
2027 Flows on key roads in Isle of Sheppey AM



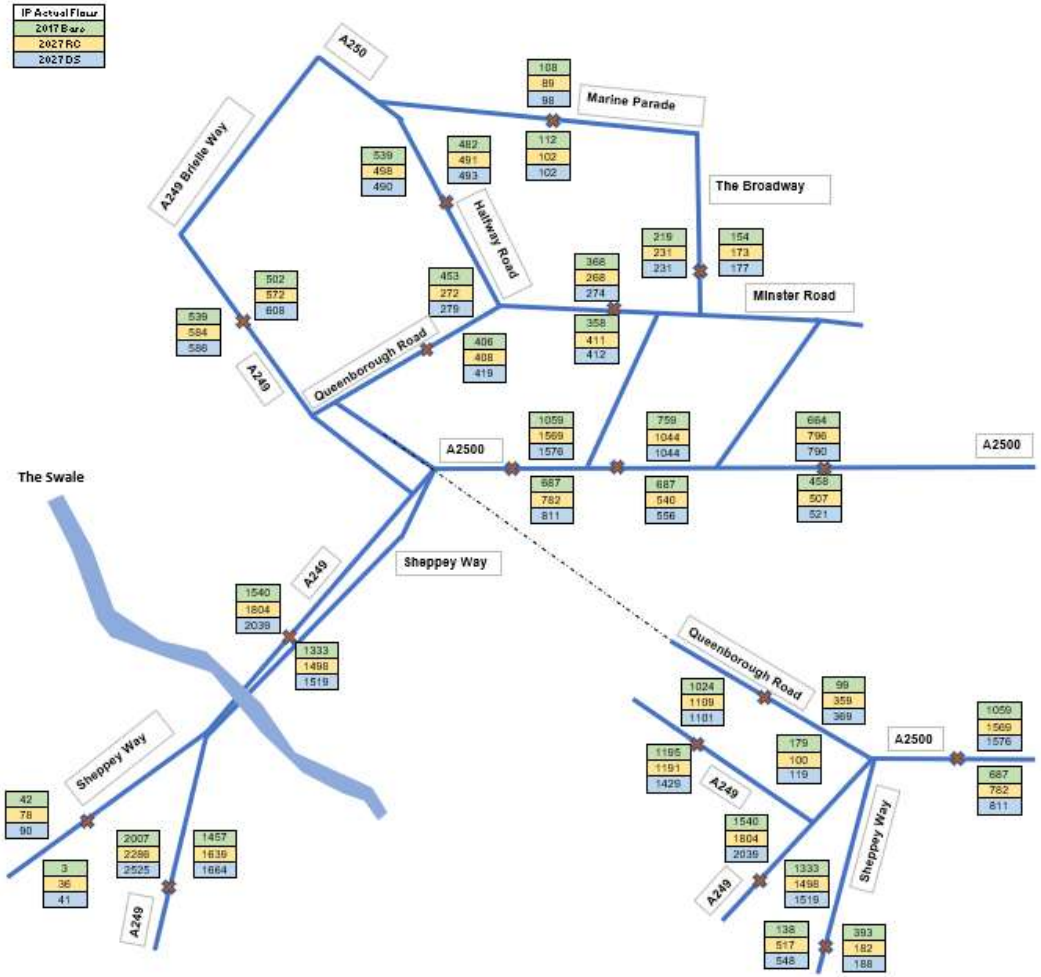
2027 Flows on key roads in Sittingbourne Inter Peak



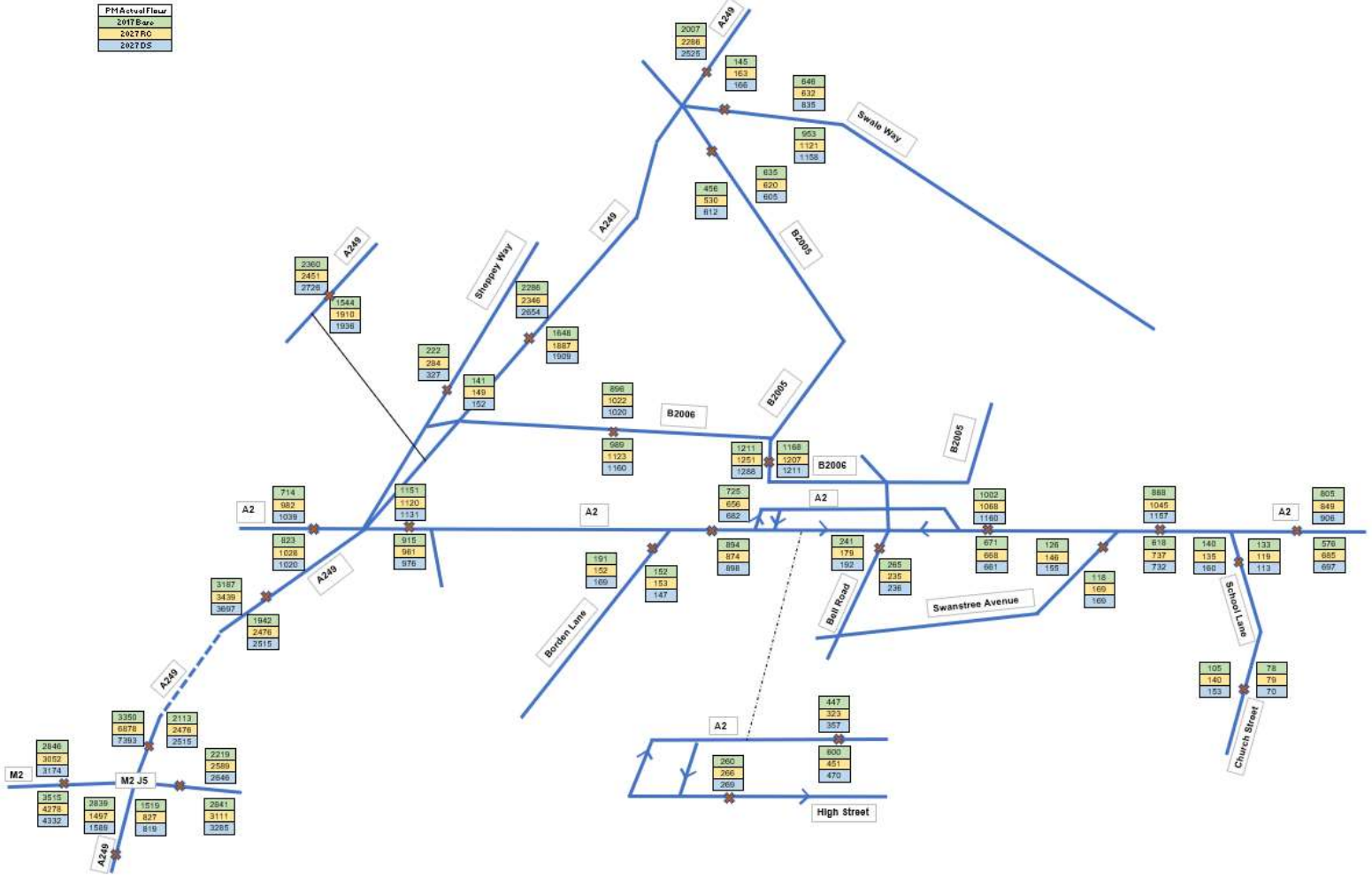
2027 Flows on key roads in Faversham Inter Peak



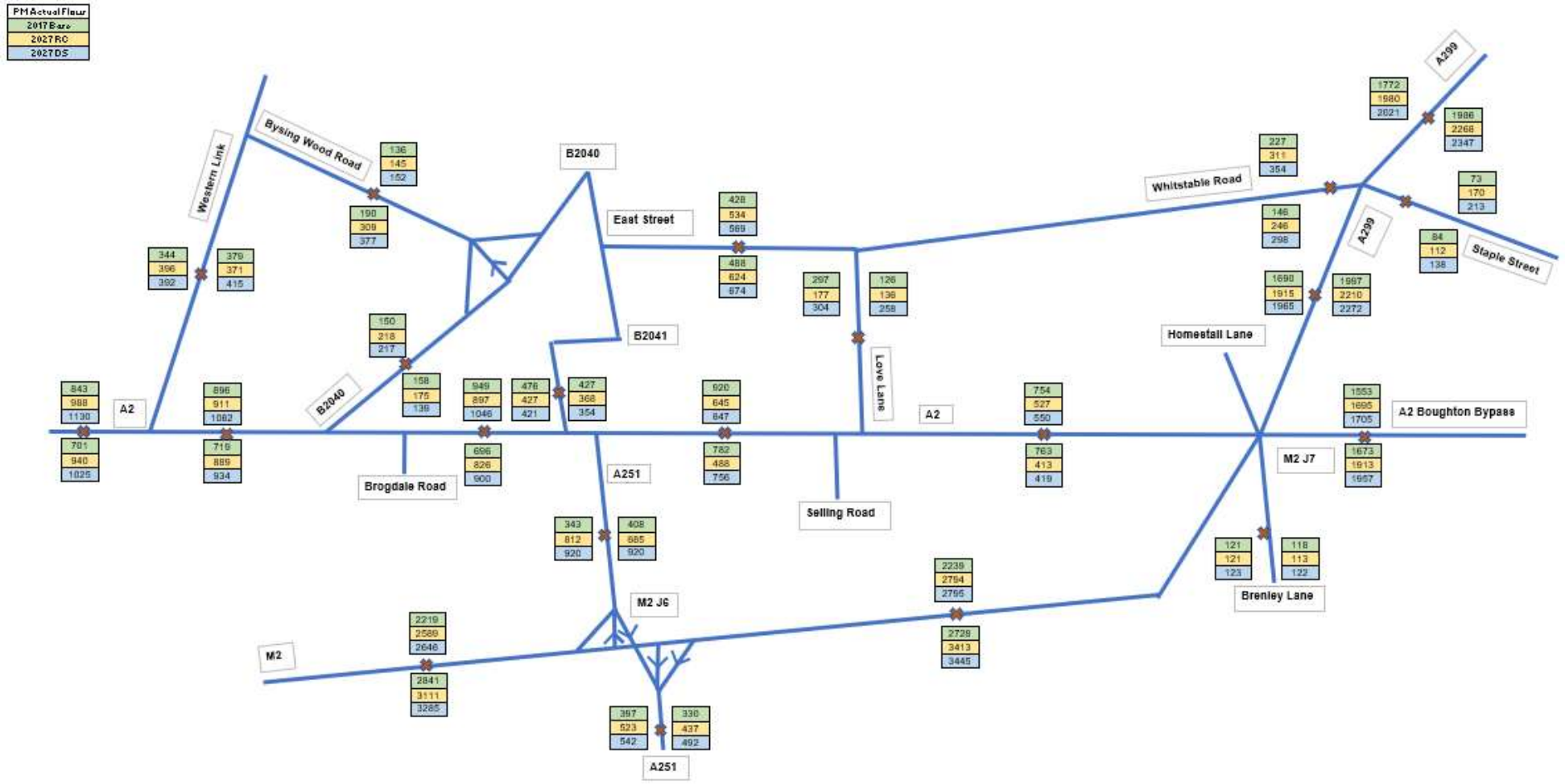
2027 Flows on key roads in Isle of Sheppey Inter Peak



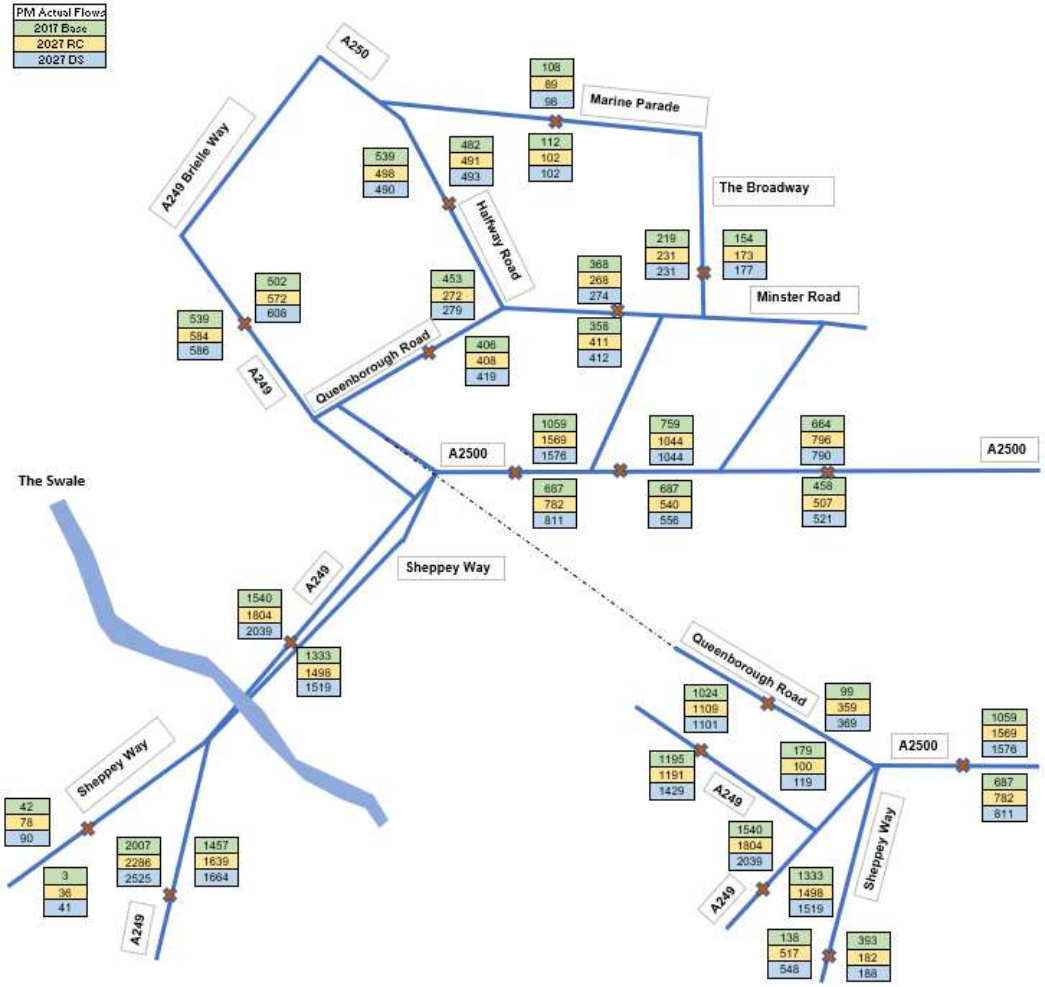
2027 Flows on key roads in Sittingbourne PM



2027 Flows on key roads in Faversham PM

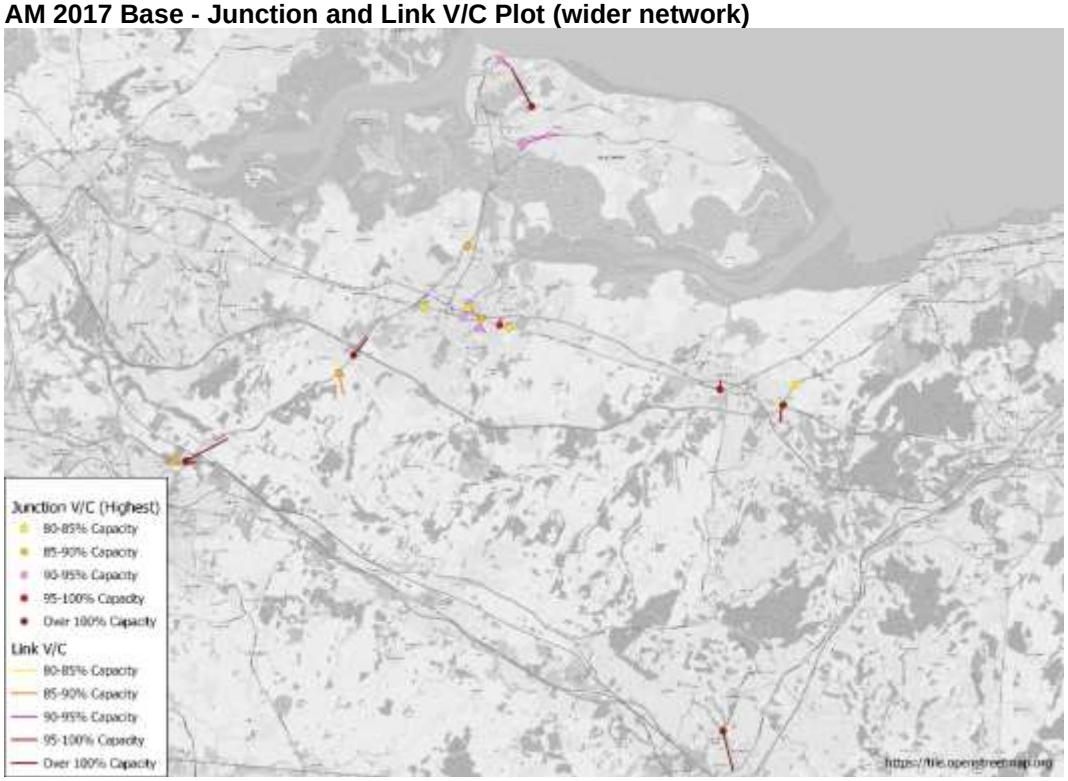


2027 Flows on key roads in Isle of Sheppey PM

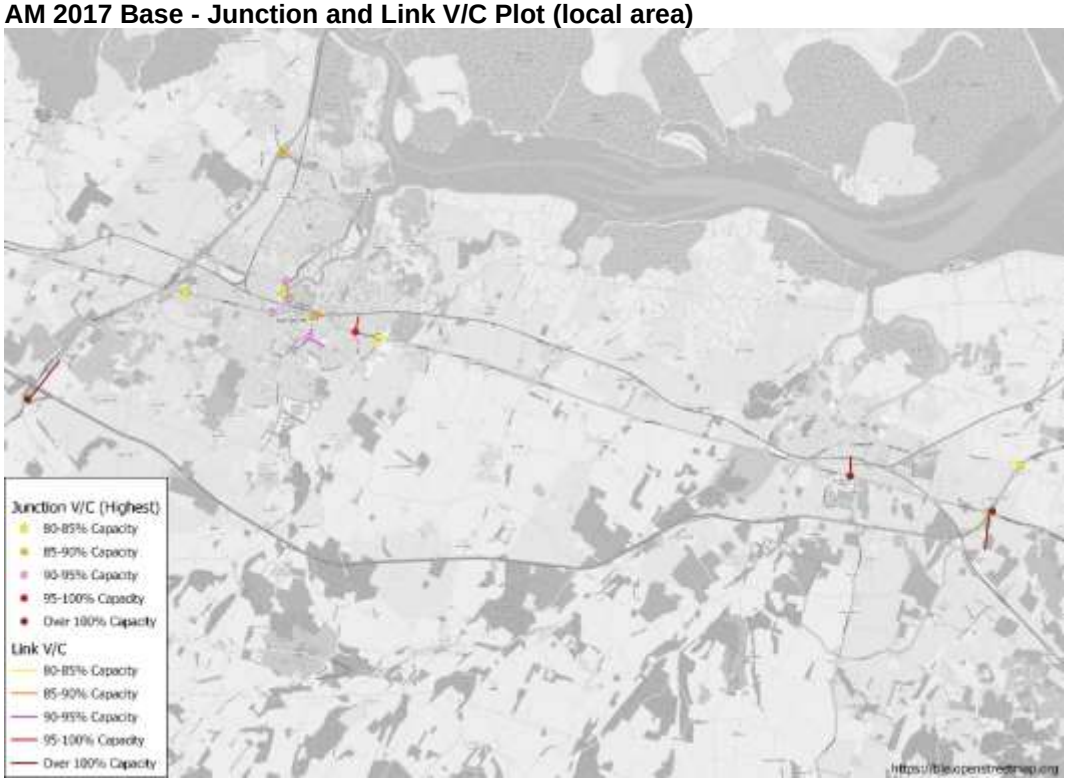


Appendix F

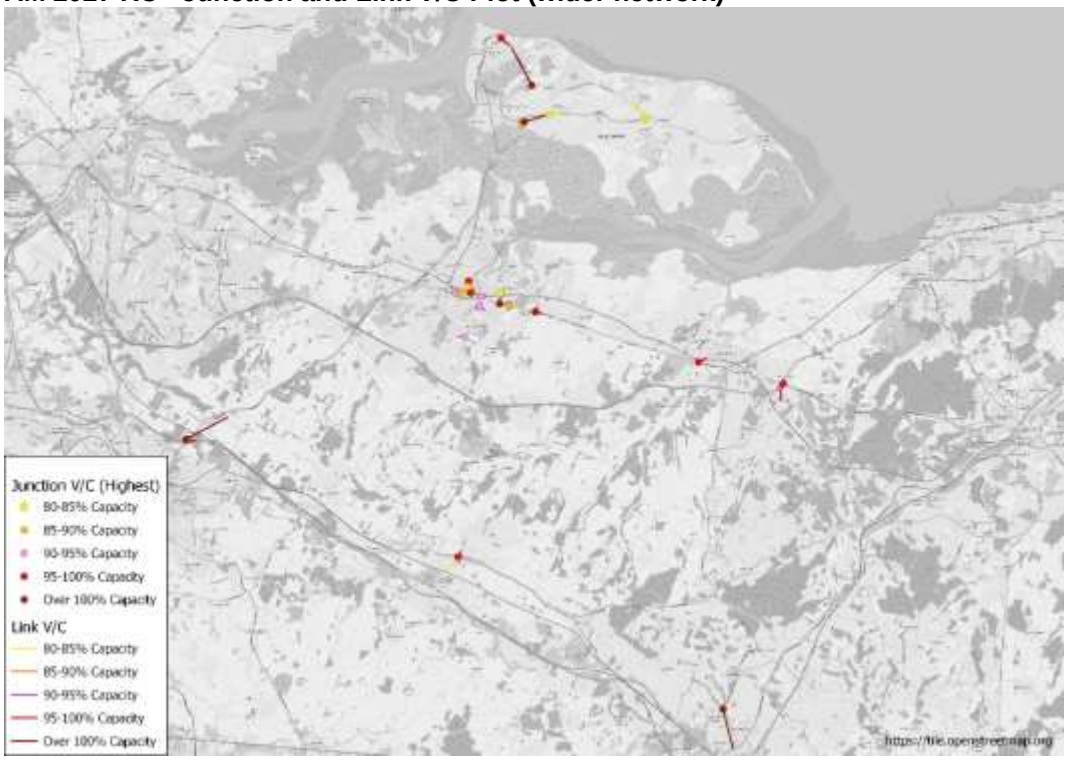
AM 2017 Base - Junction and Link V/C Plot (wider network)



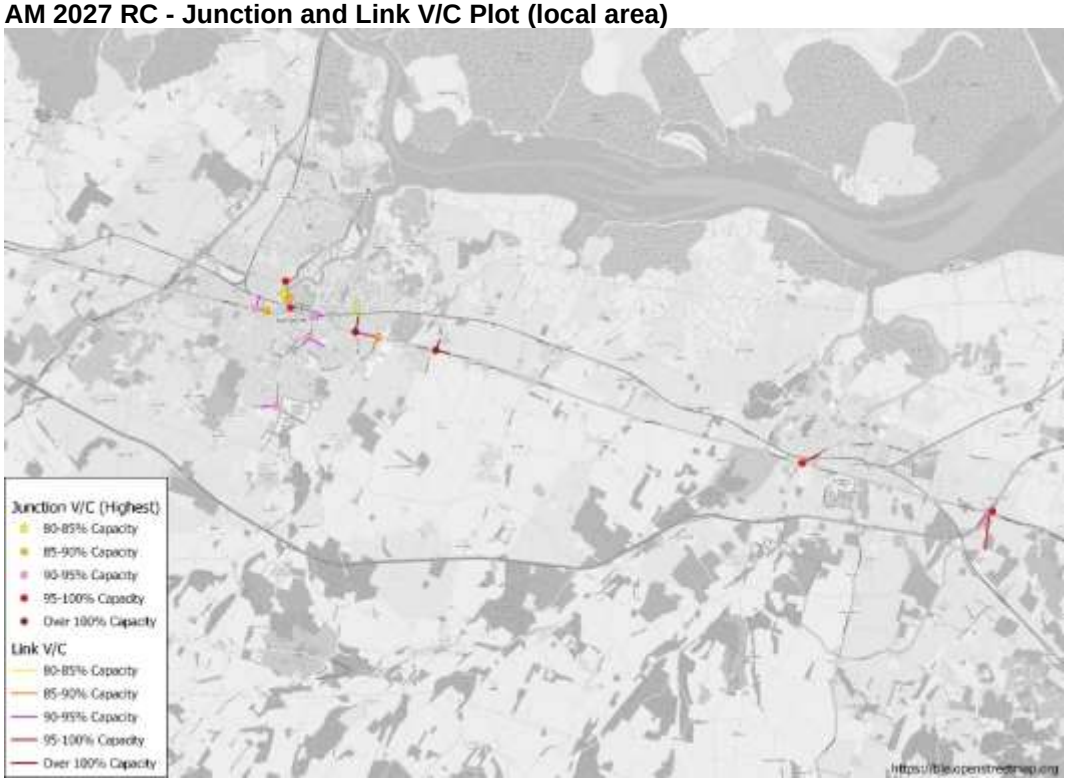
AM 2017 Base - Junction and Link V/C Plot (local area)



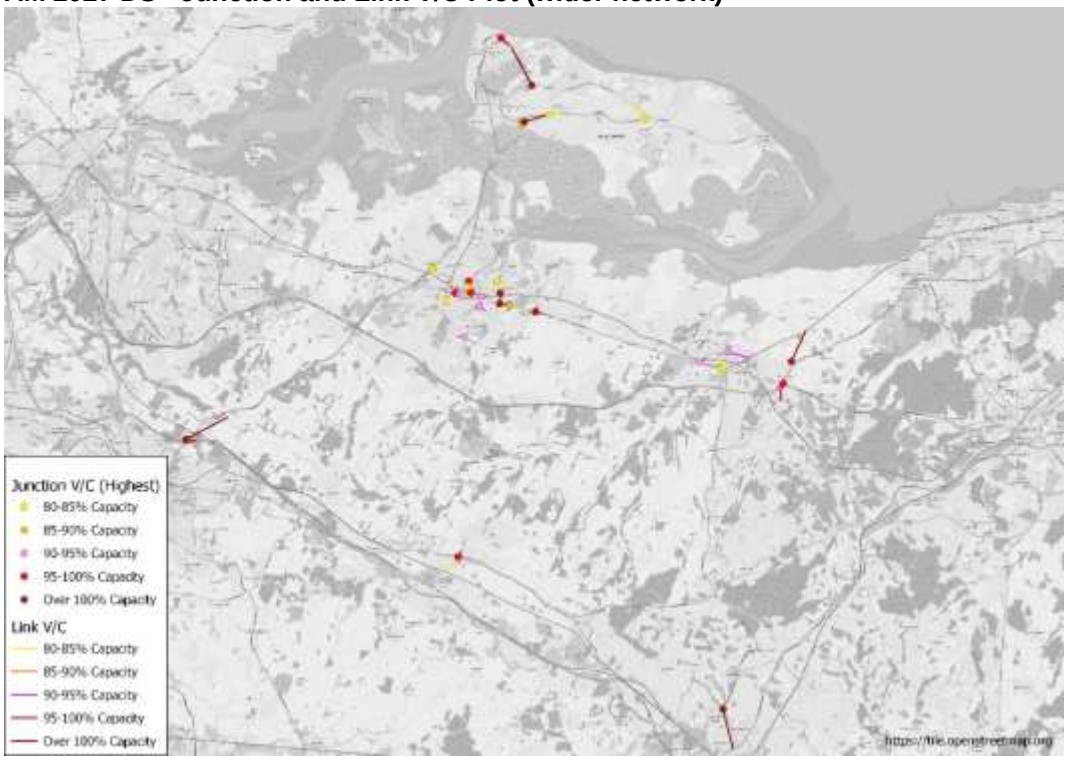
AM 2027 RC - Junction and Link V/C Plot (wider network)



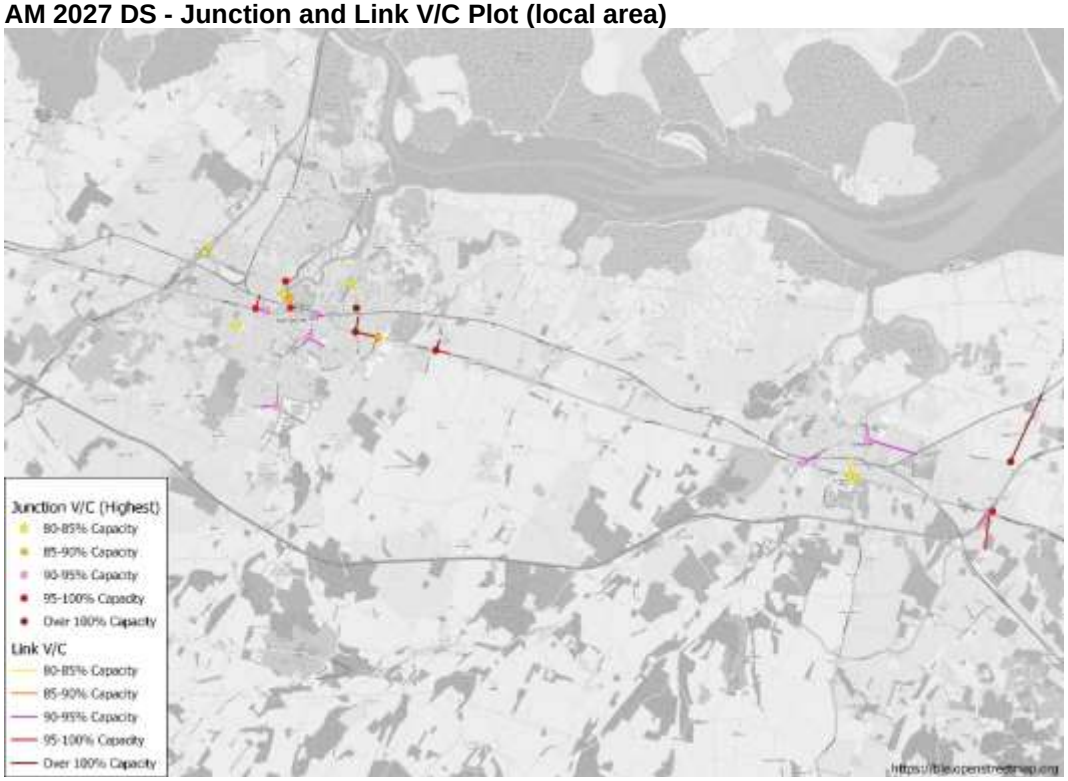
AM 2027 RC - Junction and Link V/C Plot (local area)



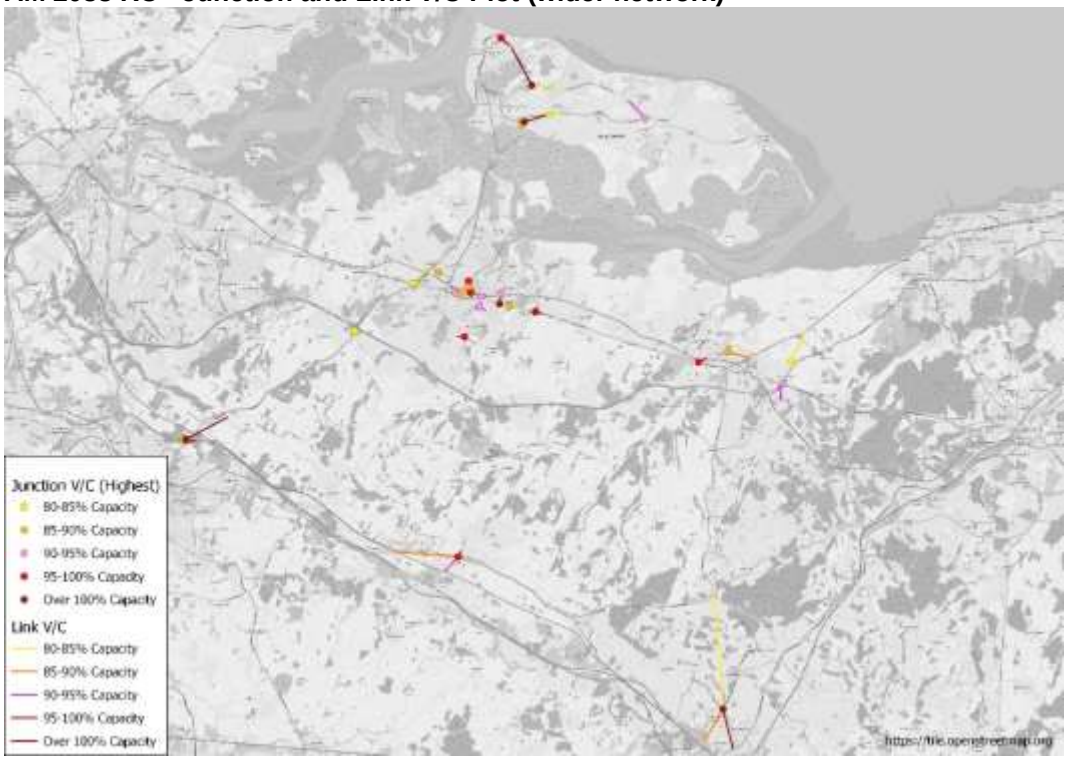
AM 2027 DS - Junction and Link V/C Plot (wider network)



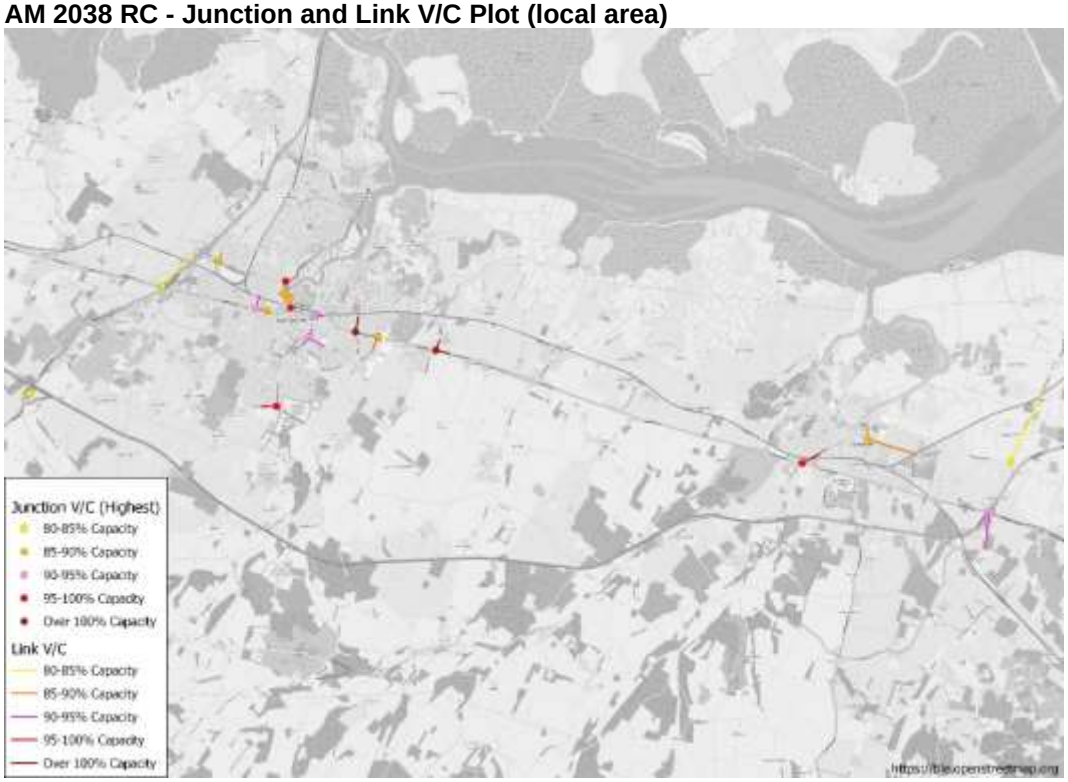
AM 2027 DS - Junction and Link V/C Plot (local area)



AM 2038 RC - Junction and Link V/C Plot (wider network)

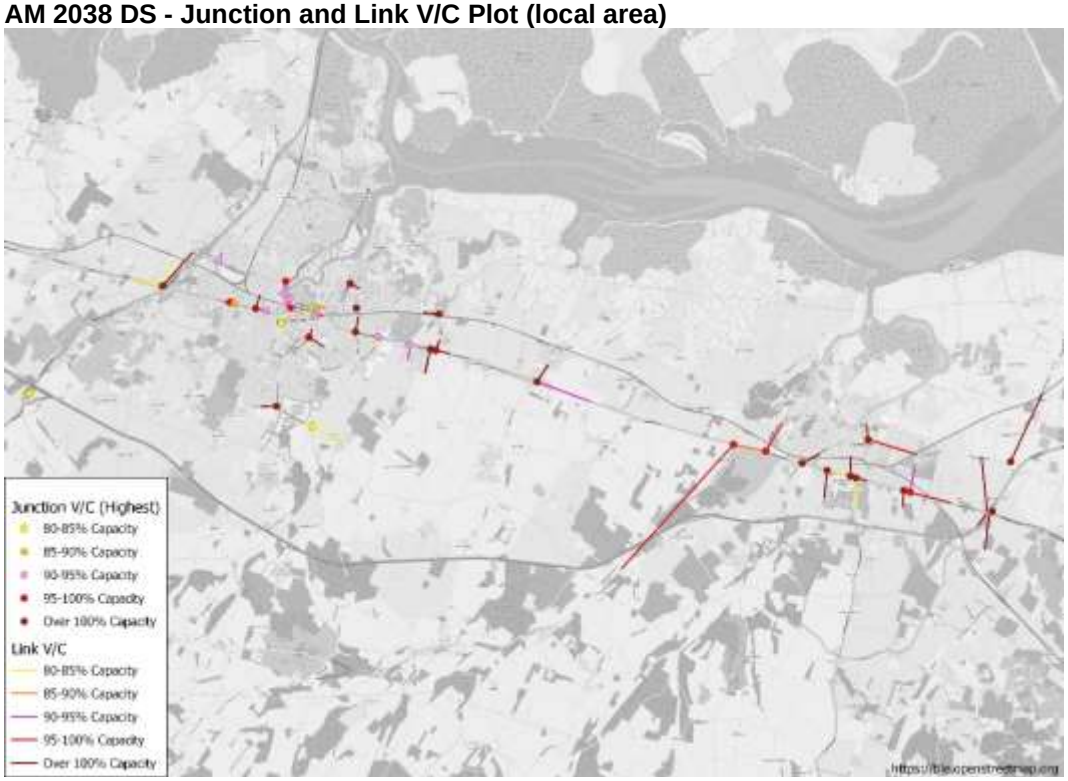


AM 2038 RC - Junction and Link V/C Plot (local area)

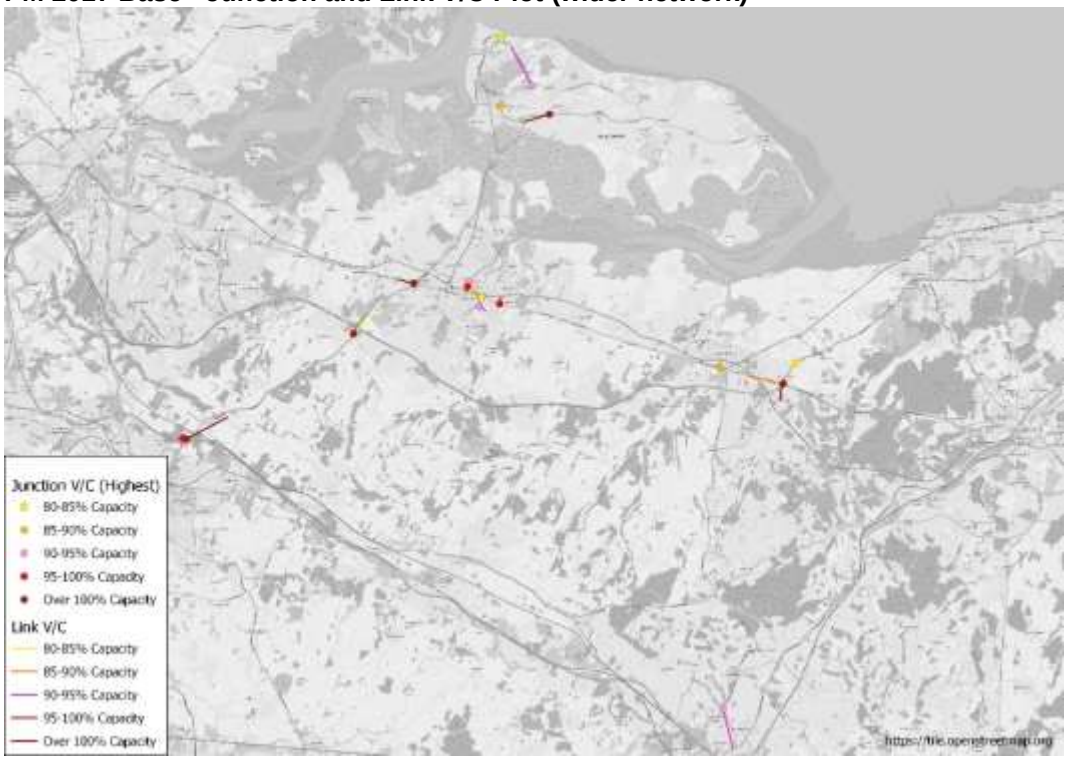


AM 2038 DS – Junction and Link V/C Plot (wider network)

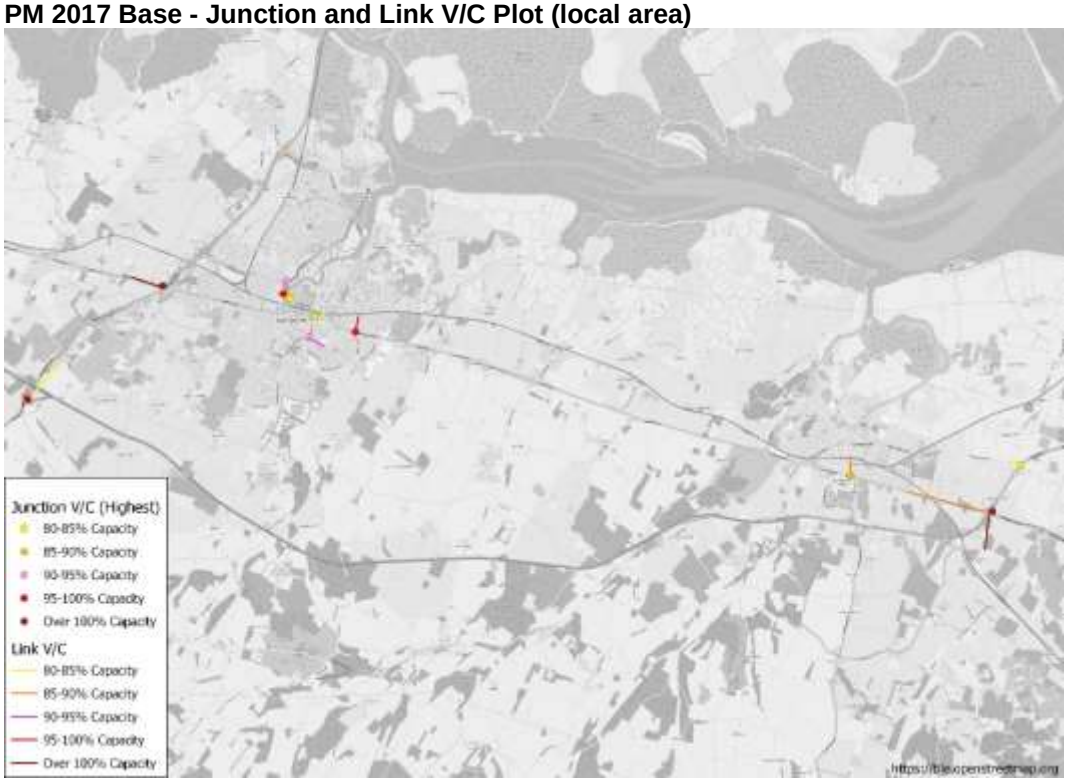
AM 2038 DS - Junction and Link V/C Plot (local area)



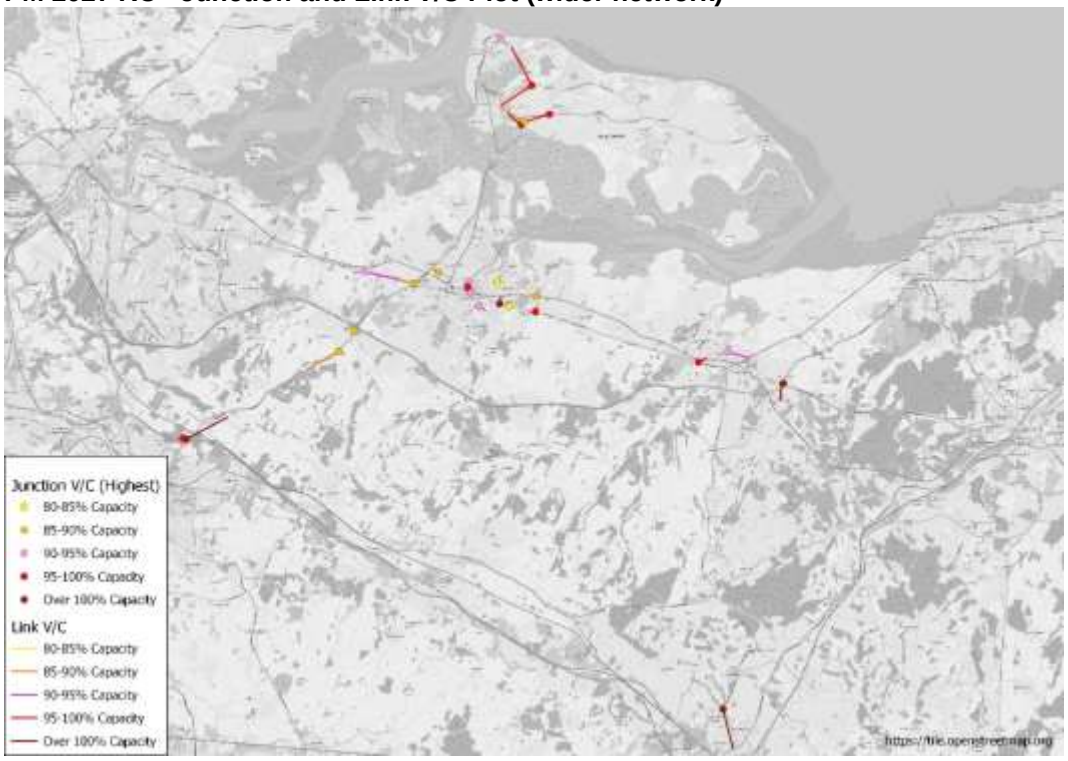
PM 2017 Base - Junction and Link V/C Plot (wider network)



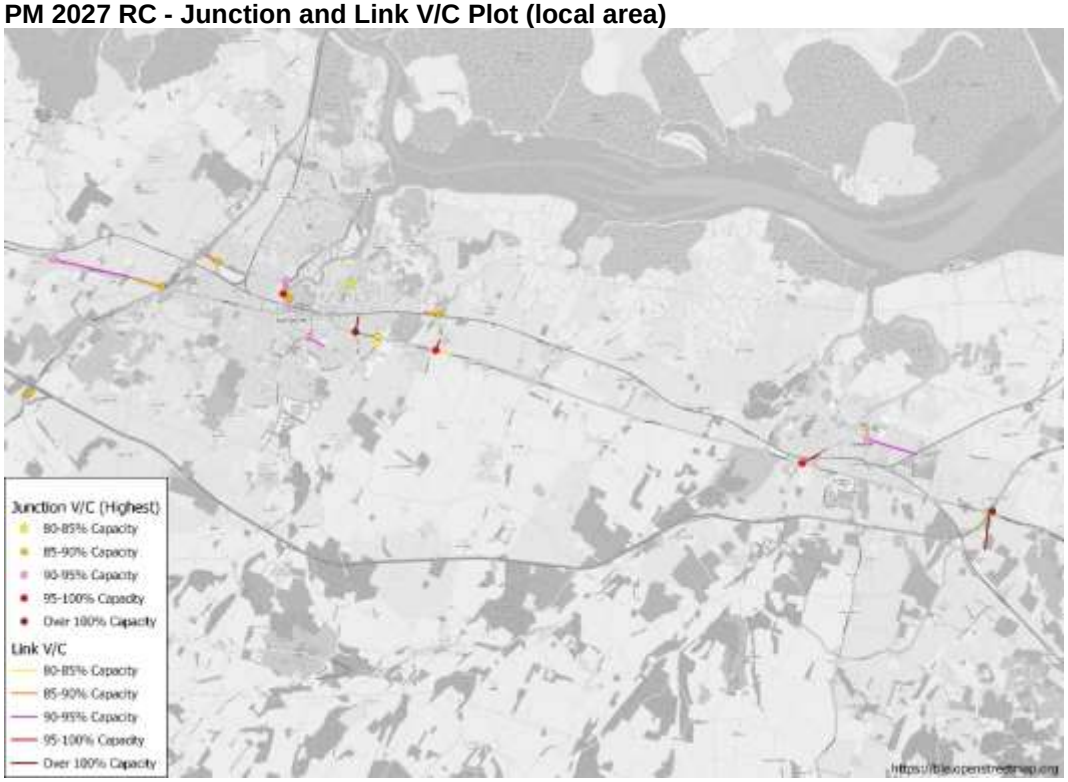
PM 2017 Base - Junction and Link V/C Plot (local area)



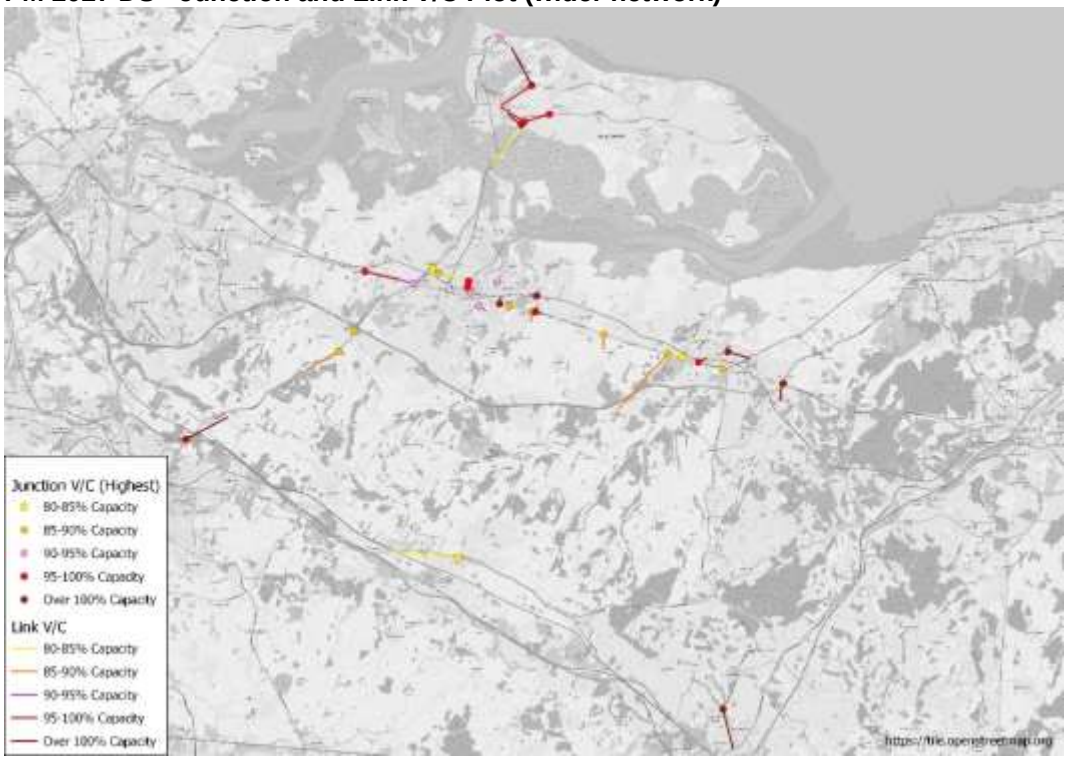
PM 2027 RC - Junction and Link V/C Plot (wider network)



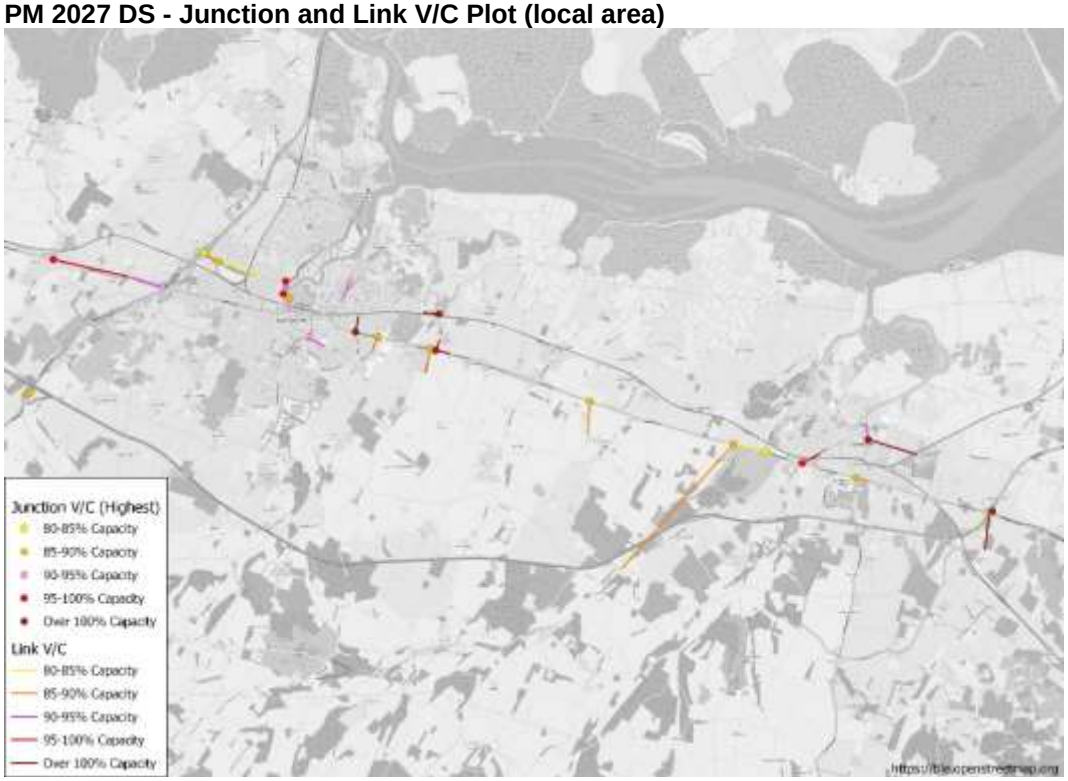
PM 2027 RC - Junction and Link V/C Plot (local area)



PM 2027 DS - Junction and Link V/C Plot (wider network)

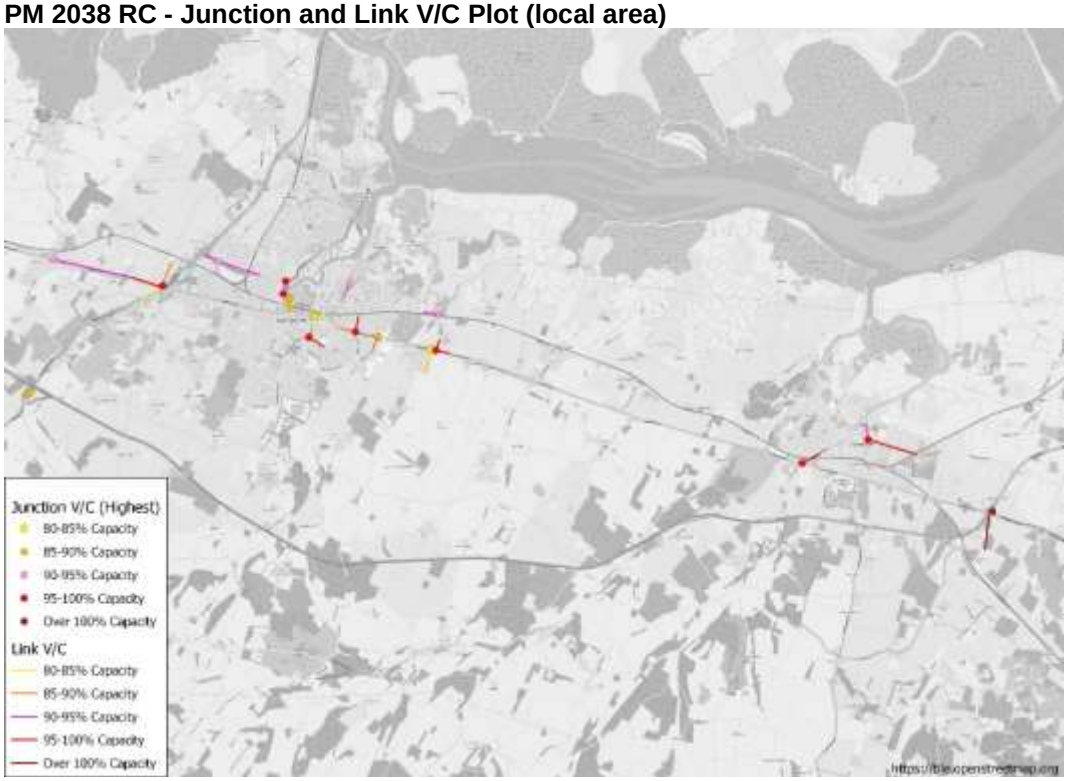


PM 2027 DS - Junction and Link V/C Plot (local area)



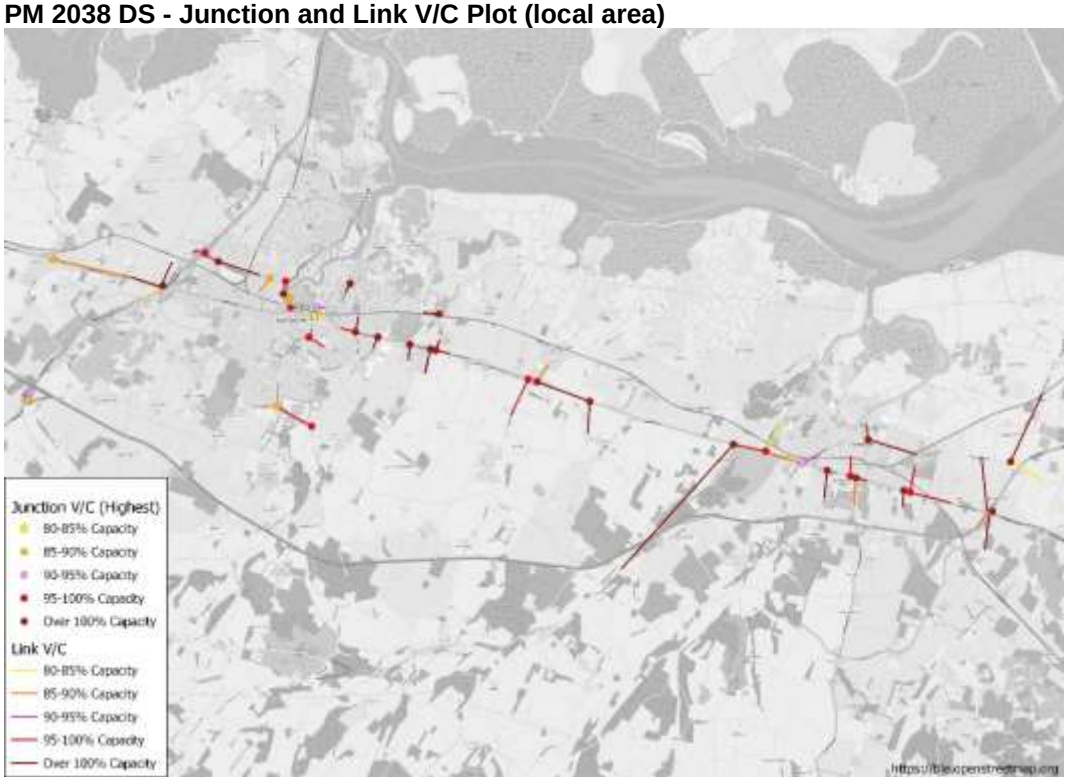
PM 2038 RC - Junction and Link V/C Plot (wider network)

PM 2038 RC - Junction and Link V/C Plot (local area)



PM 2038 DS - Junction and Link V/C Plot (wider network)

PM 2038 DS - Junction and Link V/C Plot (local area)



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Swale Local Plan – Teynham/Lynsted Sensitivity Test Addendum

Project Name: Swale Local Plan
Project Reference: 65201578
Project Manager: Wei Wang

Author: Stacie Ballard
Date: 08/10/2021
Document Reference: Swale Local Plan Teynham/Lynsted Sensitivity Test Addendum Report

Rev.	Date	Reason for issue	Prepared		Reviewed		Approved	
1	08/10/2021	First issue	SB	08/10/2021	JZ	08/10/2021	FN	08/10/2021
2	29/10/2021	Second issue to address SBC comments	SB	26/10/2021	WW	29/10/2021	FN	29/10/2021
3	22/11/2021	Third issue to address SBC comments	SB	22/11/2021	WW	22/11/2021	WW	23/11/2021
4	9/12/2021	Fourth issue to address SBC comments	SB	09/12/2021	WW	10/12/2021	WW	10/12/2021
5	16/12/2021	Fifth issue to address SBC comments	SB	16/12/2021	FN	16/12/2021	FN	16/12/2021

Swale Local Plan – Teynham/Lynsted sensitivity test model outputs

1 Overview

1.1.1 This technical note is an addendum to a report produced for Swale Borough Council (SBC) entitled 'Local Plan Review – Highways Strategic Model – Regulation 19 Traffic Forecast Report (2021)'. SWECO was instructed by SBC to undertake a further sensitivity test to understand the traffic impact of a proposed link at Teynham/Lynsted known as Teynham/Lynsted Southern Link Route.

1.1.2 The A2 provides a vital road transport corridor between Chatham and Faversham, as well as a strategic link between the A229 and the A299, which offers an alternative travel route to the M2. It carries a significant amount of commuter and long-distance traffic and as such travellers currently experience high level of congestion and delays on this section of A2.

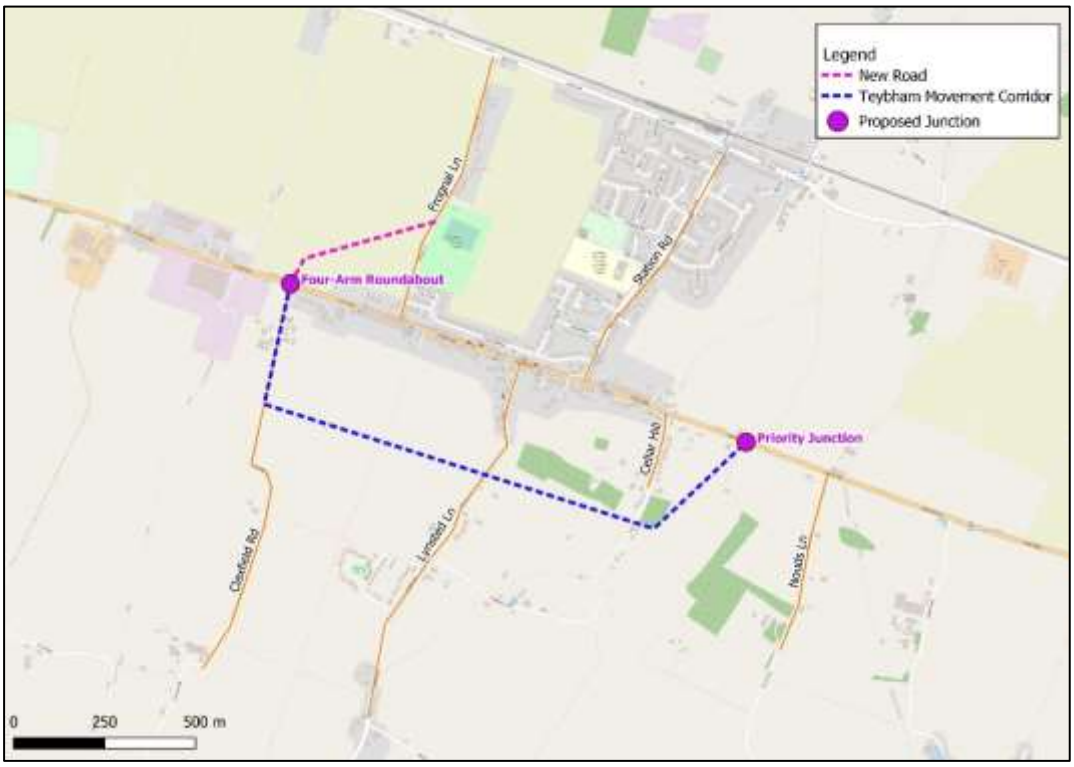
1.1.3 By 2027 and 2038 planning years, the number of dwellings in Teynham/Lynsted are expected to increase significantly as part of the Local Plan Review (LPR) allocations. These additional houses will generate extra travel demand which will worsen the existing congestion on the A2.

1.1.4 The proposed Teynham/Lynsted southern link route aims to remove a proportion of traffic from the A2 and ease the congestion and improve air quality along the London Road in central Teynham/Lynsted by providing a single carriageway in each direction, parallel to the existing A2 between Claxfield Road and west of Nouds Lane. A proposed draft scheme for modelling is shown in Figure 1-1.

1.1.5 At the eastern end of the scheme there is a proposed T junction with priority assigned to Teynham/Lynsted southern link route. A new four-arm roundabout connecting Claxfield Road, A2 and Frognal Lane is also proposed at the western end. Teynham/Lynsted southern link route has priority when joining Claxfield Road and crossing Lynsted Lane while Lynsted Lane will no longer have access to the A2.

1.1.6 The Teynham/Lynsted sensitivity test was undertaken for forecast year of 2038 only and the results were compared against the 2038 Do Something (DS) model as outlined in 'Local Plan Review – Highways Strategic Model – Regulation 19 Traffic Forecast Report (2021)'. The sensitivity test model was built upon the 2038 DS network with the inclusion of the proposed scheme while utilising the same 2038 DS demand.

Figure 1-1 Location of Teynham/Lynsted southern link route. Note: location of junction and route shown purely for modelling purposes



2 Network Changes between the DS and Teynham/Lynsted Sensitivity Test

2.1.1 To assess the scheme based on the existing DS model, it was necessary to make a number of network changes and refinements. Figure 2-1 shows the existing DS model network in the Teynham/Lynsted area. Any assumptions associated with the proposed scheme set out here are for the modelling purpose only. The proposed scheme with the related network changes is shown in Figure 2-2, which consists of the followings:

- Update Claxfield Road by extending further south to join Wood Street
- North end of Frognal Lane joins Lower Road whereas south end connects to the new four-arm roundabout
- New priority T junction at eastern end joining A2, with priority assigned to Teynham/Lynsted southern link route
- Removal of the Lynsted Lane access to A2
- The Teynham/Lynsted southern link route has priority when joining Claxfield Road and crossing Lynsted Lane

Figure 2-1 Existing Do Something (DS) Model Network in Teynham/Lynsted Area

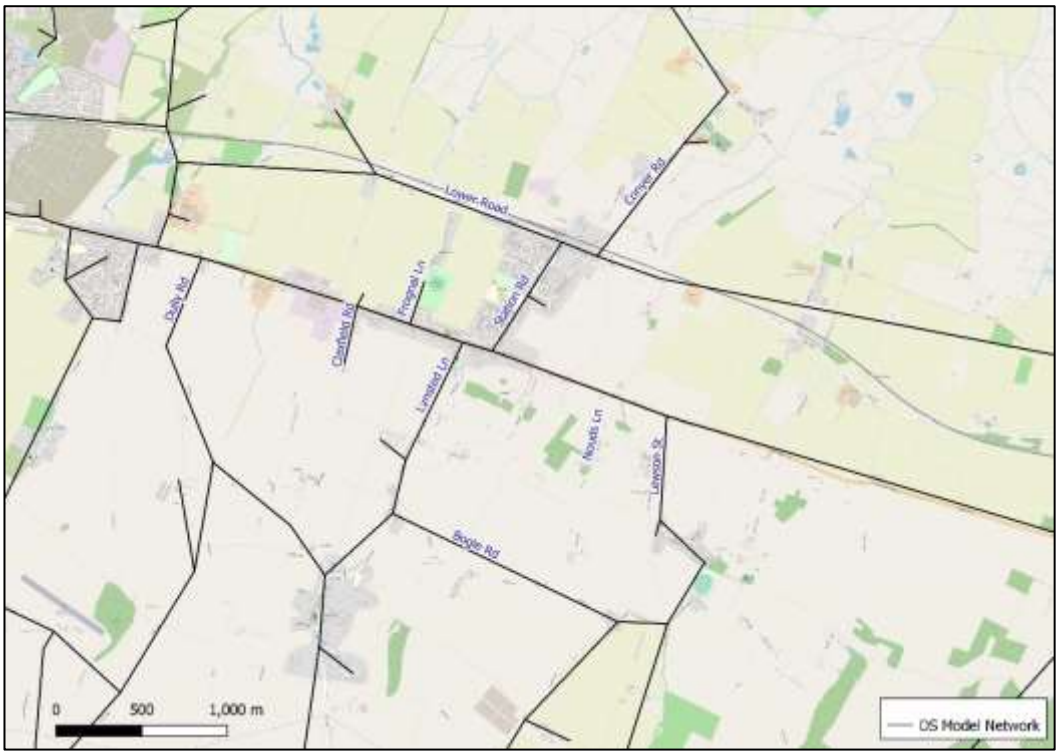
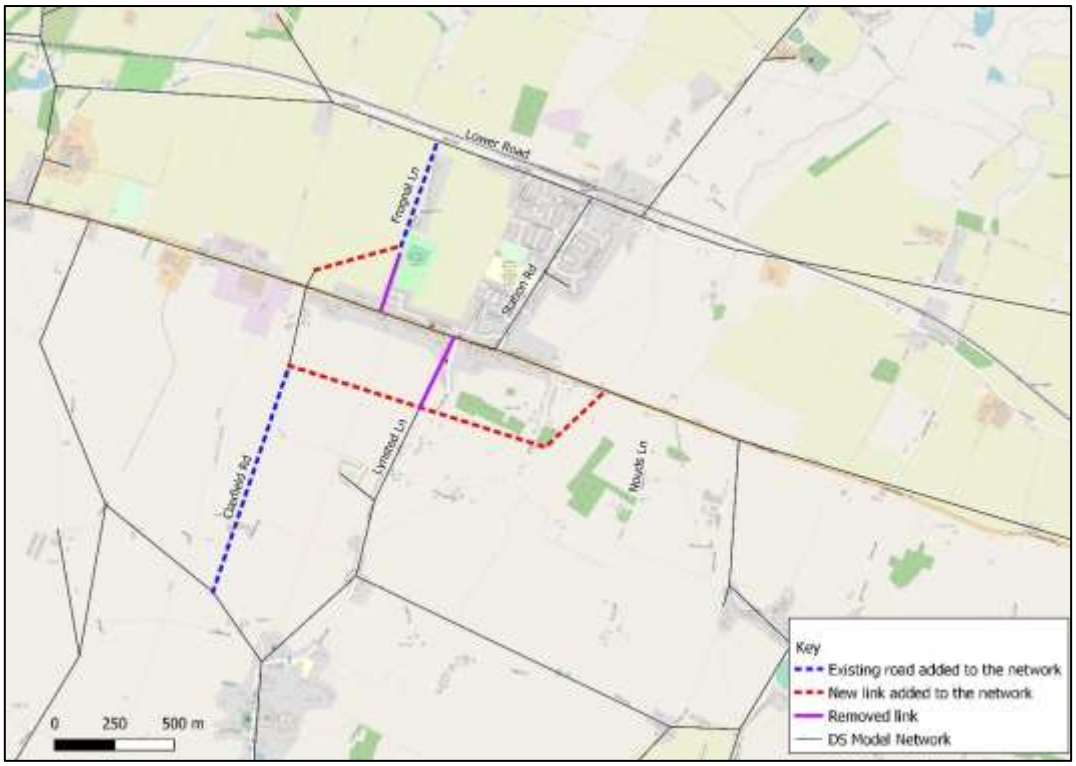


Figure 2-2 Teynham Sensitivity Test Model Network



3 Results of Teynham/Lynsted Sensitivity Test

3.1 Flow difference

Figure 3-1 to

3.1.1 Figure 3-3 show the comparisons of the total actual flow in the vicinity of the scheme area between 2038 DS and the sensitivity test across all three time periods, with green bars showing increase in modelled flows and blue bars showing the opposite. Due to limitations of the modelling software, only links existing in both models can display the difference. Therefore, no colour bar is shown on Teynham/Lynsted southern link route and the associated new links.

3.1.2 Overall, the model indicates that when the scheme is in place, the majority of traffic travelling between the northern part of Sittingbourne and Faversham will be shifted from A2 to Teynham/Lynsted southern link route. In addition, as Teynham/Lynsted southern link route has the priority over A2 at the eastern end of the scheme, this results in considerable delay for the remaining traffic on A2 (about 3 minutes in the AM and PM peak and 1 minute in the inter peak), which causes some of that traffic to reroute to Lower Road in order to avoid the excessive delay.

3.1.3 For those travelling between southern part of Sittingbourne and Faversham, the majority of traffic will travel via Upper Rodmersham Road and Dully Road to access Teynham/Lynsted southern link route before joining the A2, instead of via Church Street.

3.1.4 This change of travel pattern was observed across all three time periods, although the change of pattern in inter peak is smaller when comparing against the AM and PM peaks.

Figure 3-1 Flow Difference between DS and Sensitivity Test – AM peak

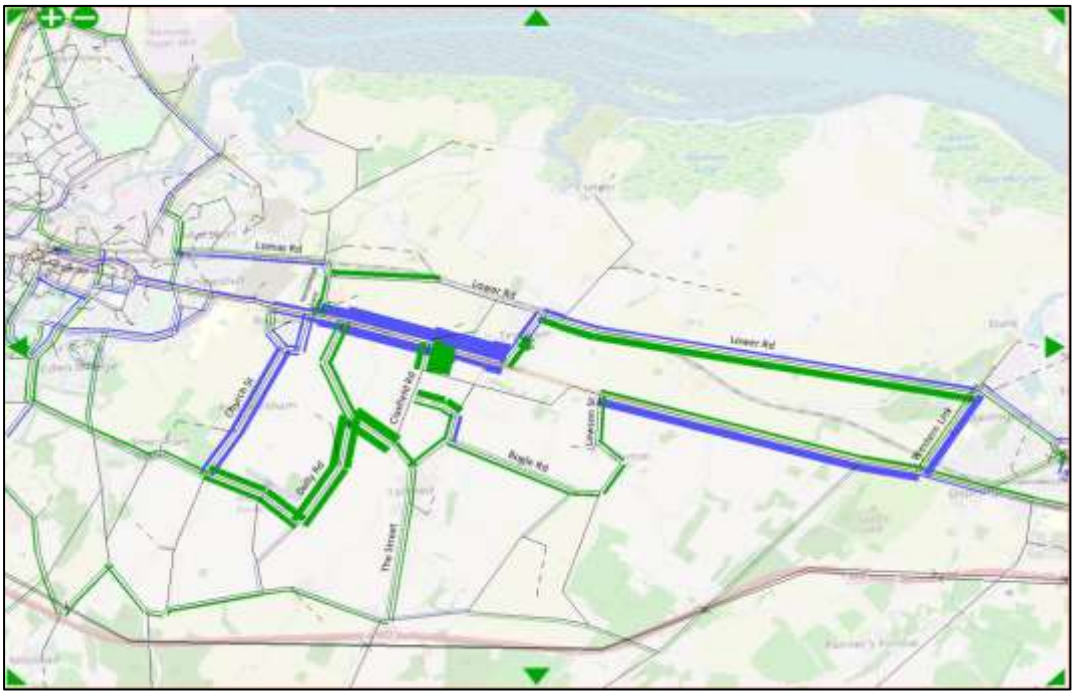


Figure 3-2 Flow Difference between DS and Sensitivity Test – Inter peak

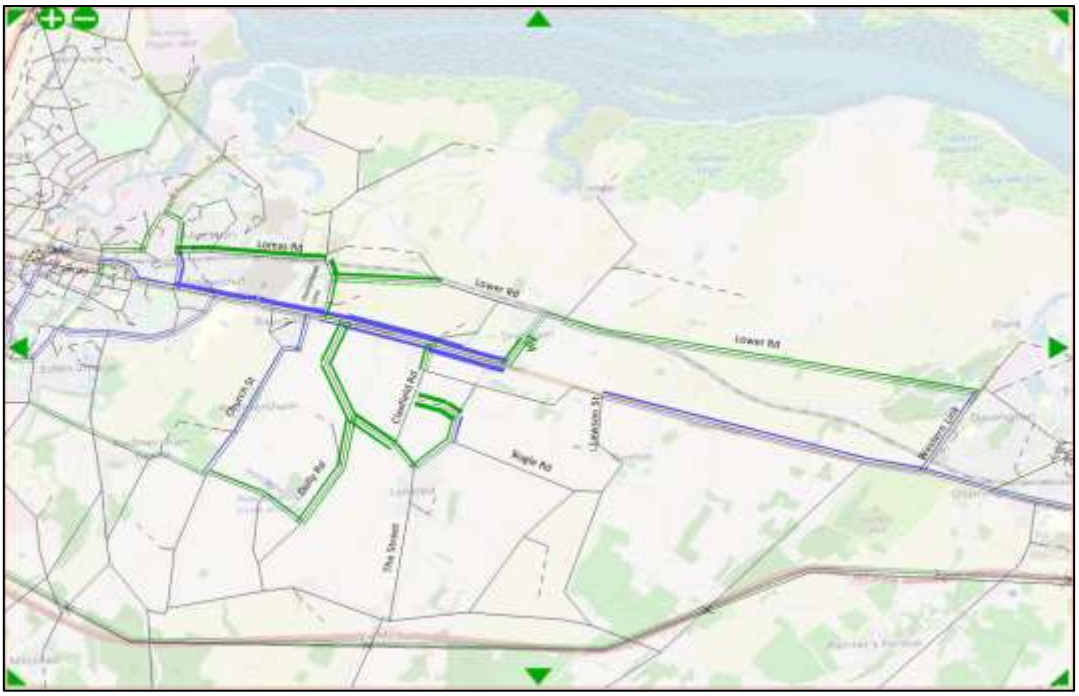
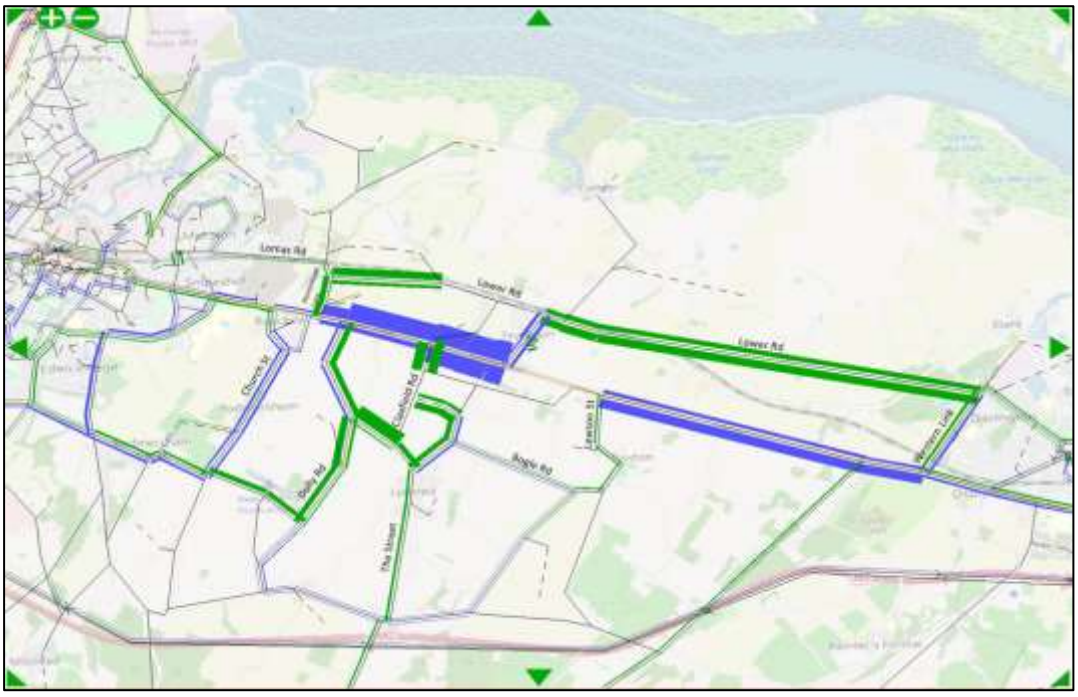


Figure 3-3 Flow Difference between DS and Sensitivity Test – PM peak



3.1.5 Figure 3-4 to Figure 3-6 show the total flows (in PCUs[1]) by directions on key roads within Teynham/Lynsted across all three time periods in both 2038 DS scenario and Teynham/Lynsted sensitivity test. To measure traffic congestion on roads, a metric of traffic volume over their associated capacity, the so-called V/C ratio, is normally used. A figure of V/C ratio greater than 80% on a road section indicates the travel congestion is close to its capacity. Under such a condition, traffic queues are likely formed, and journey time will also increase. The V/C ratios in the Teynham area for the 2038 DS scenario are shown in Figure 3-7 to Figure 3-9.

3.1.6 A review of the model flow and V/C ratio outputs has the following findings:

- With the Teyham new link road, It is found the through traffic on A2 starts to use the road, with V/C ratios less than 50% for all time periods which indicate it copes with the diverted traffic well.
- Traffic is redistributed to some adjacent rural roads following the road network changes. In particular, due to the delays at the priority junction of A2/Teynham new link road, a proportion of traffic reroutes to the Lower Road, but the V/C ratios are below 40% which will not cause major traffic issues.
- It is found that V/C ratio for the Northbound traffic on the Claxfield Road is more than 80% in the AM and PM peak. This shows that the new Teynham/Lynsted southern new link road will attract local traffic from the Green Lane, as well as these from Doddington through Lynsted following the network changes.

[1] PCUs stands for Passenger Car Unit, which is to assess highway capacity by converting different vehicle types into standard car unit according to the space they take up. A car has a value of 1; smaller vehicles, e.g. motorcycle, will have lower values, and larger vehicles such as heavy good vehicles will have higher values greater than 2.

Figure 3-4 Flows on key roads in Teynham/Lynsted area – AM peak

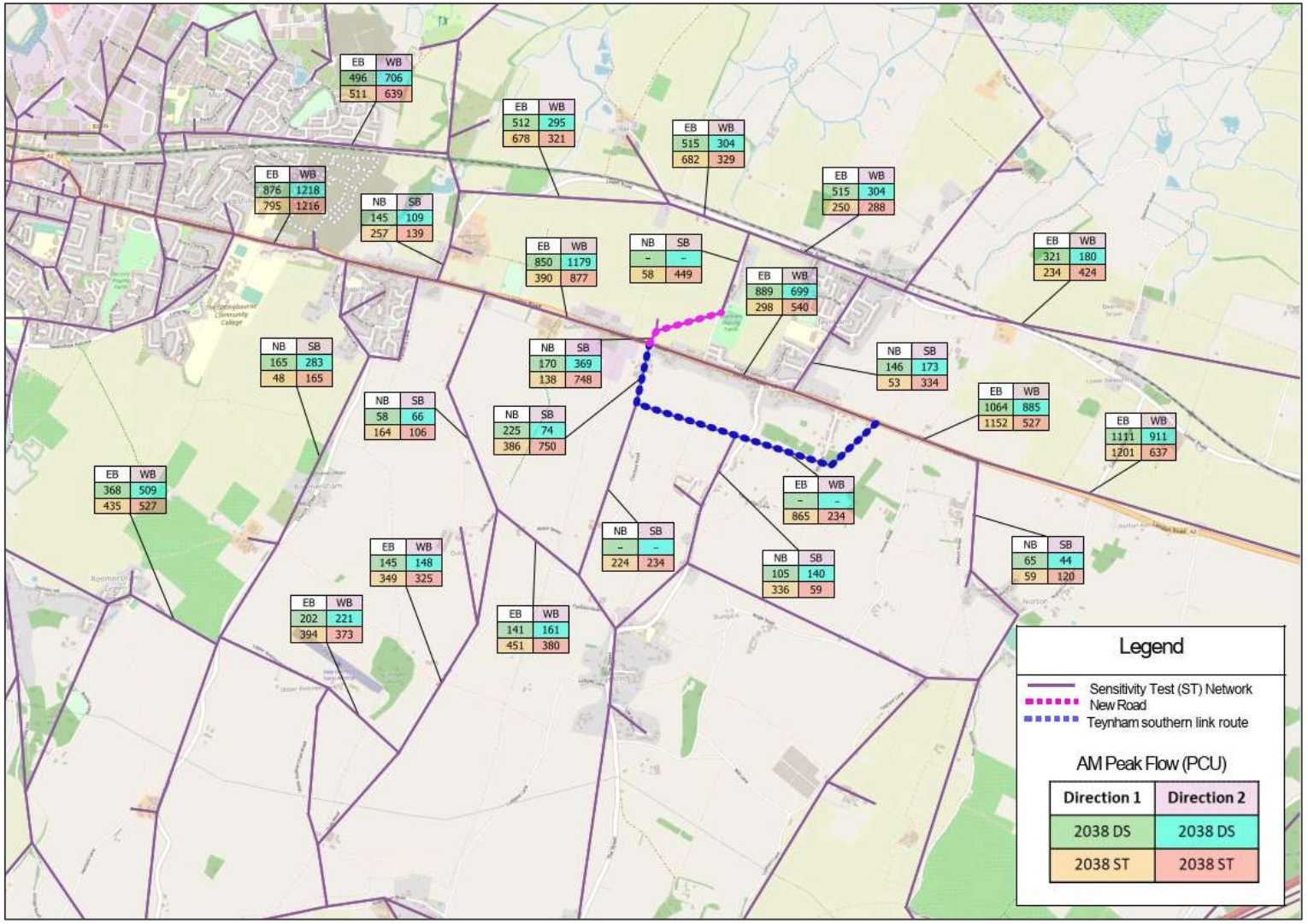


Figure 3-5 Flows on key roads in Teynham/Lynsted area – Inter peak

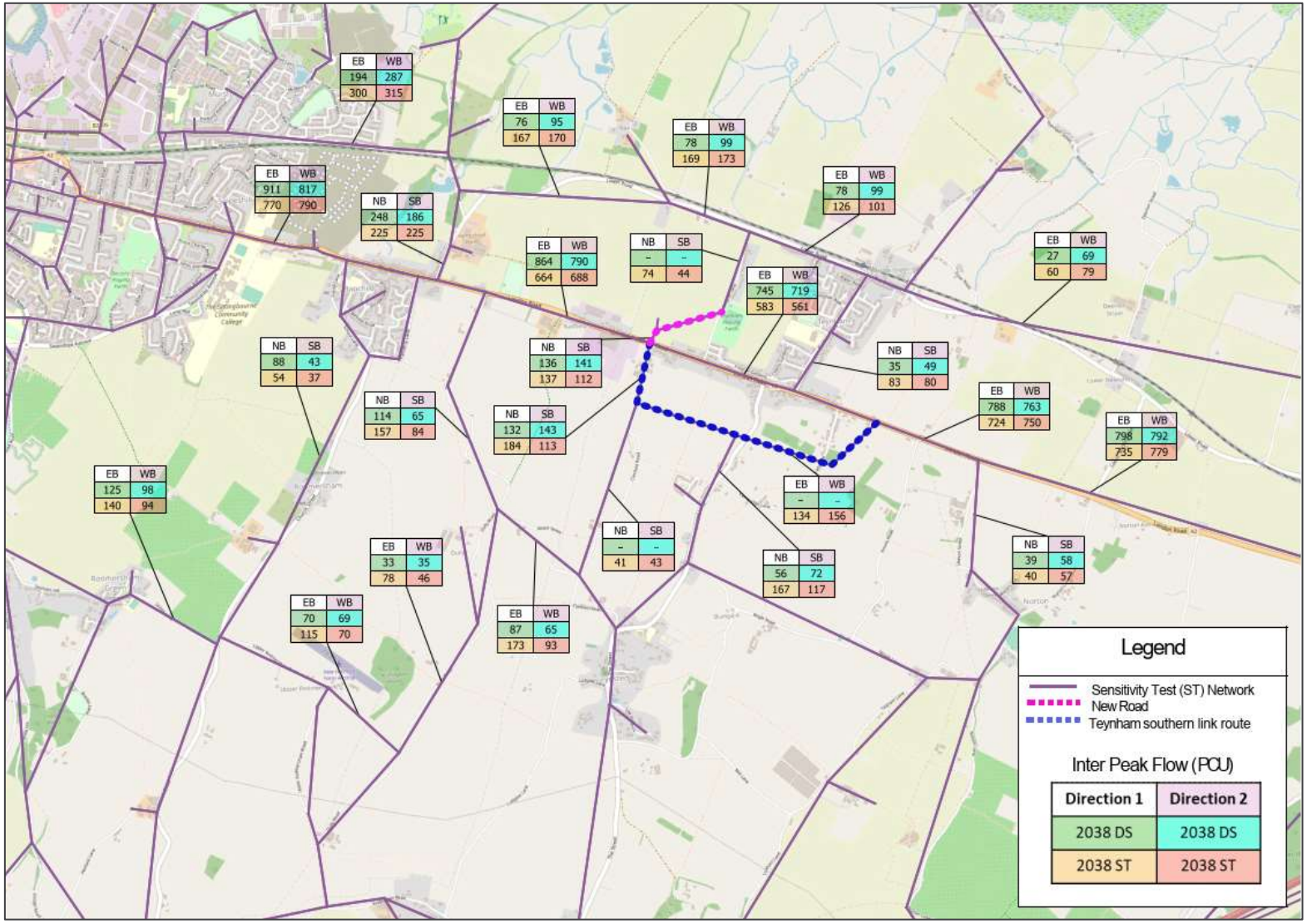


Figure 3-6 Flows on key roads in Teynham/Lynsted area – PM peak

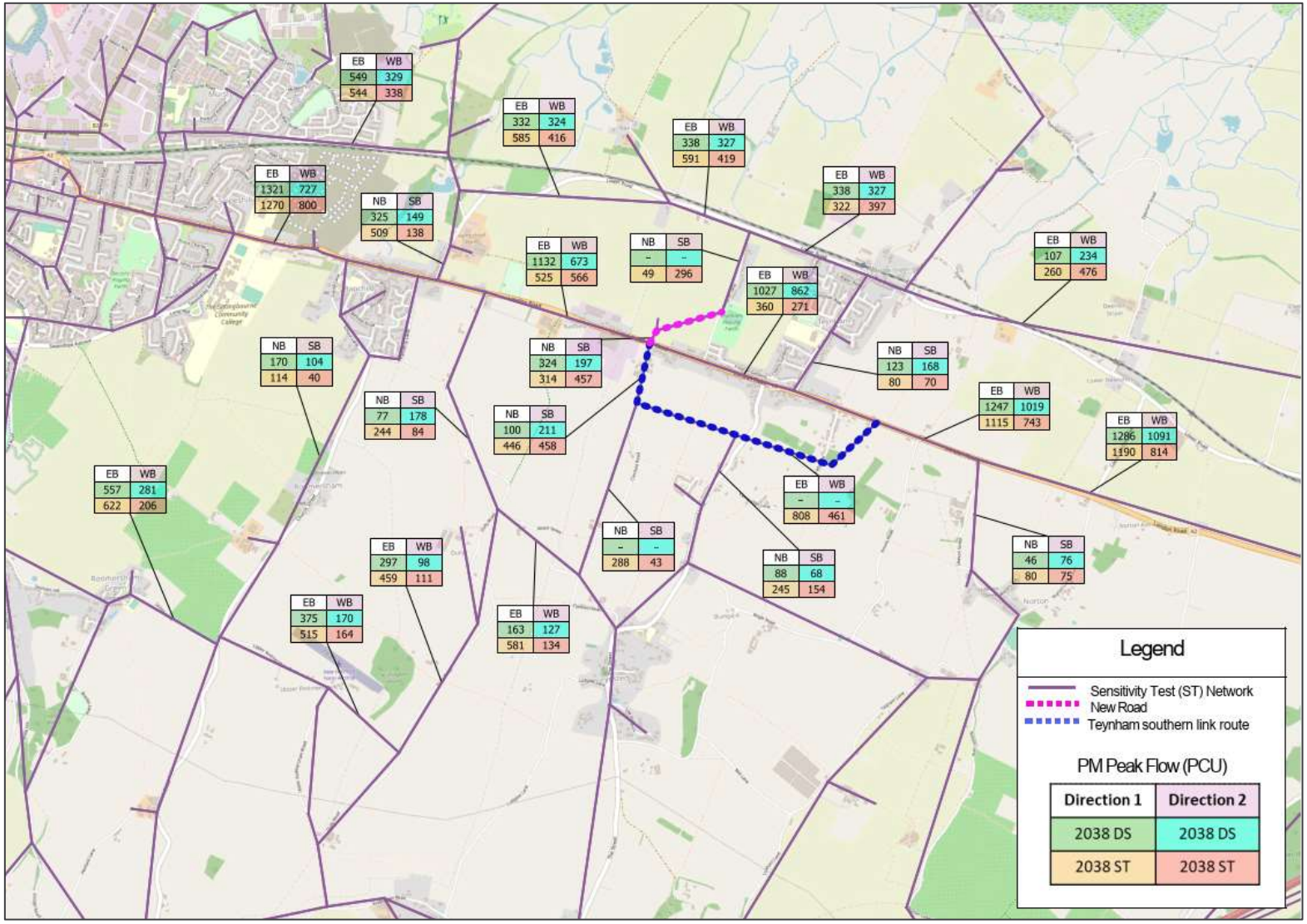


Figure 3-7 V/C ratios (%) on key roads in Teynham/Lynsted area – AM peak

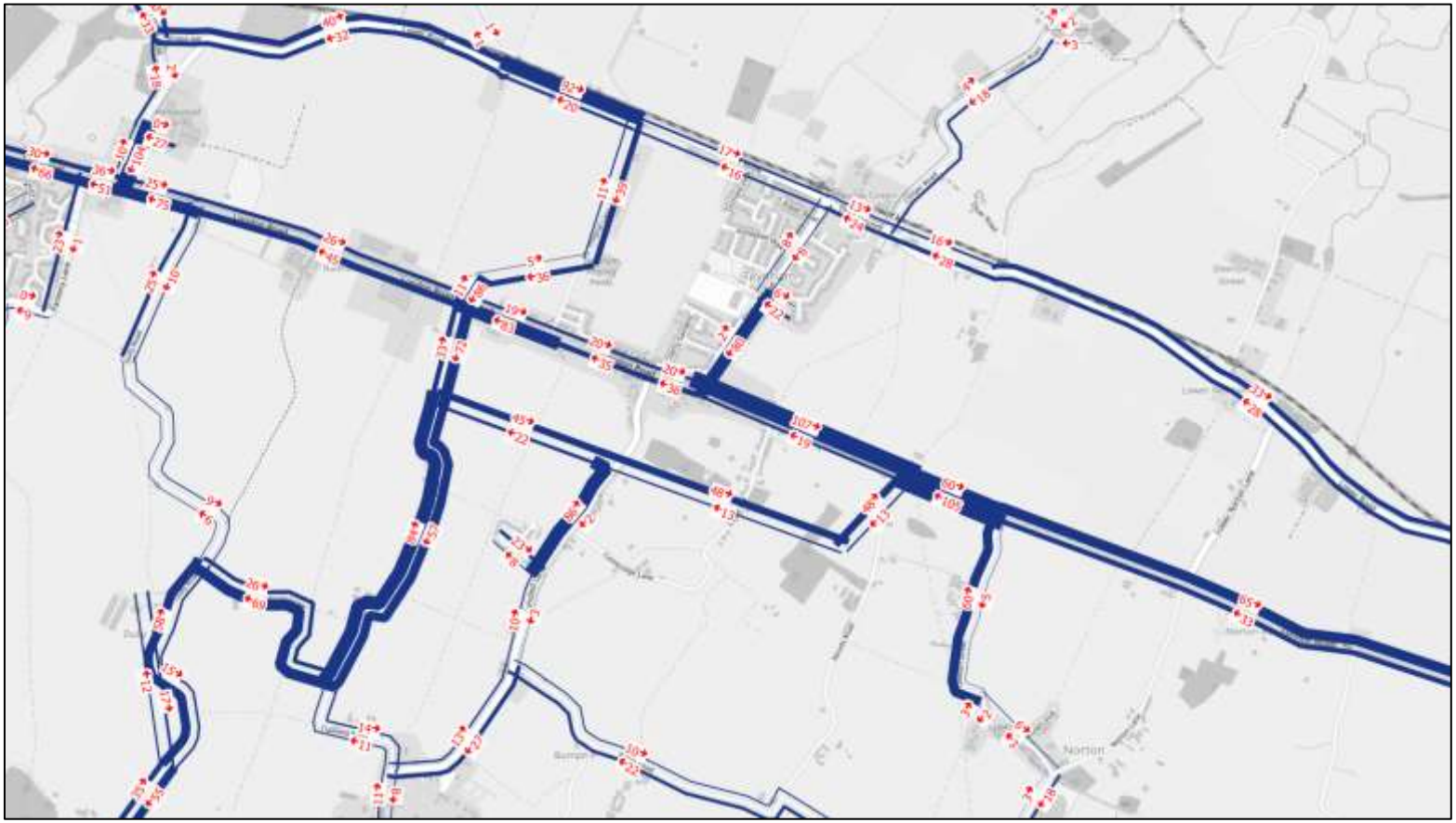


Figure 3-8 V/C ratios(%) on key roads in Teynham/Lynsted area – Inter peak

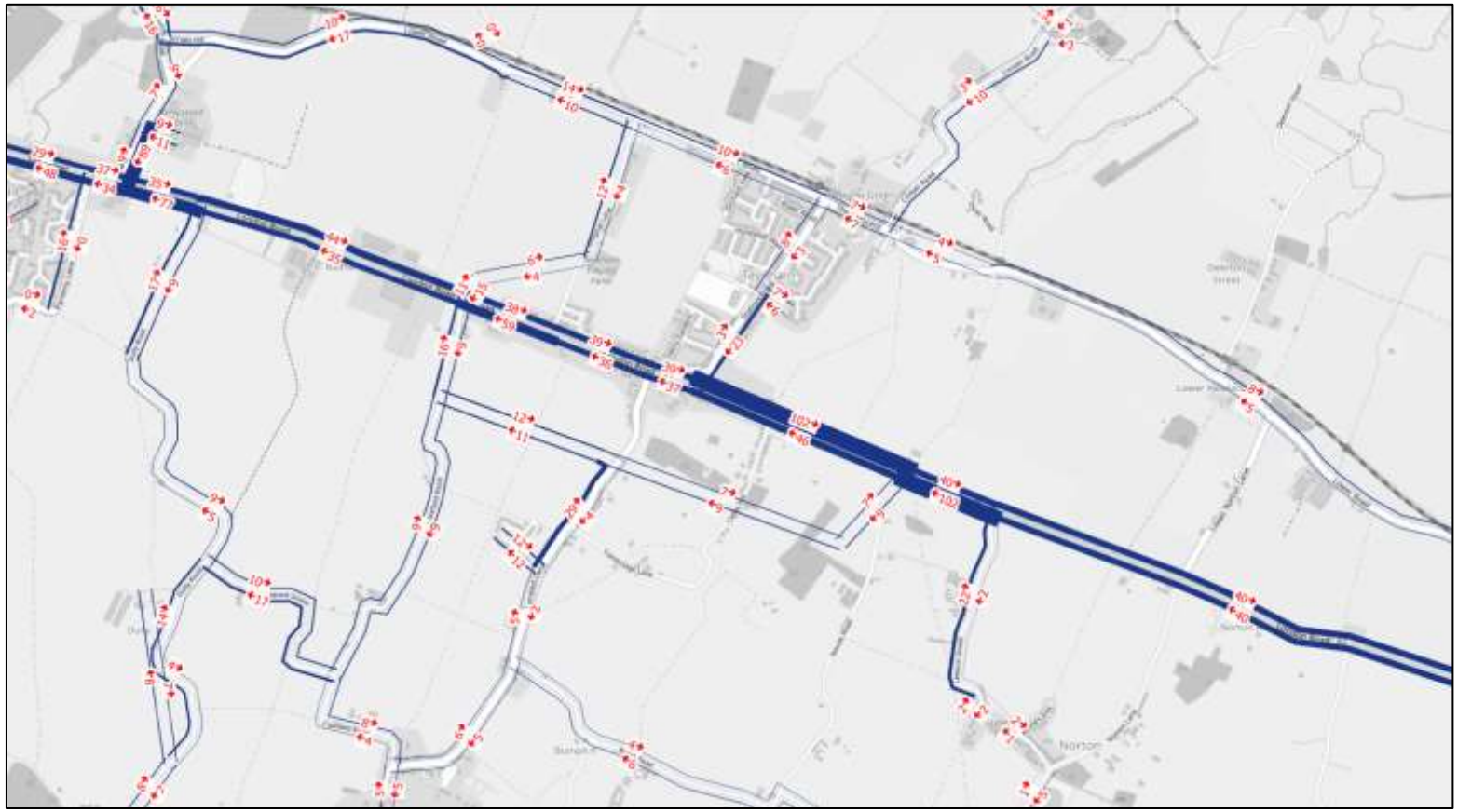
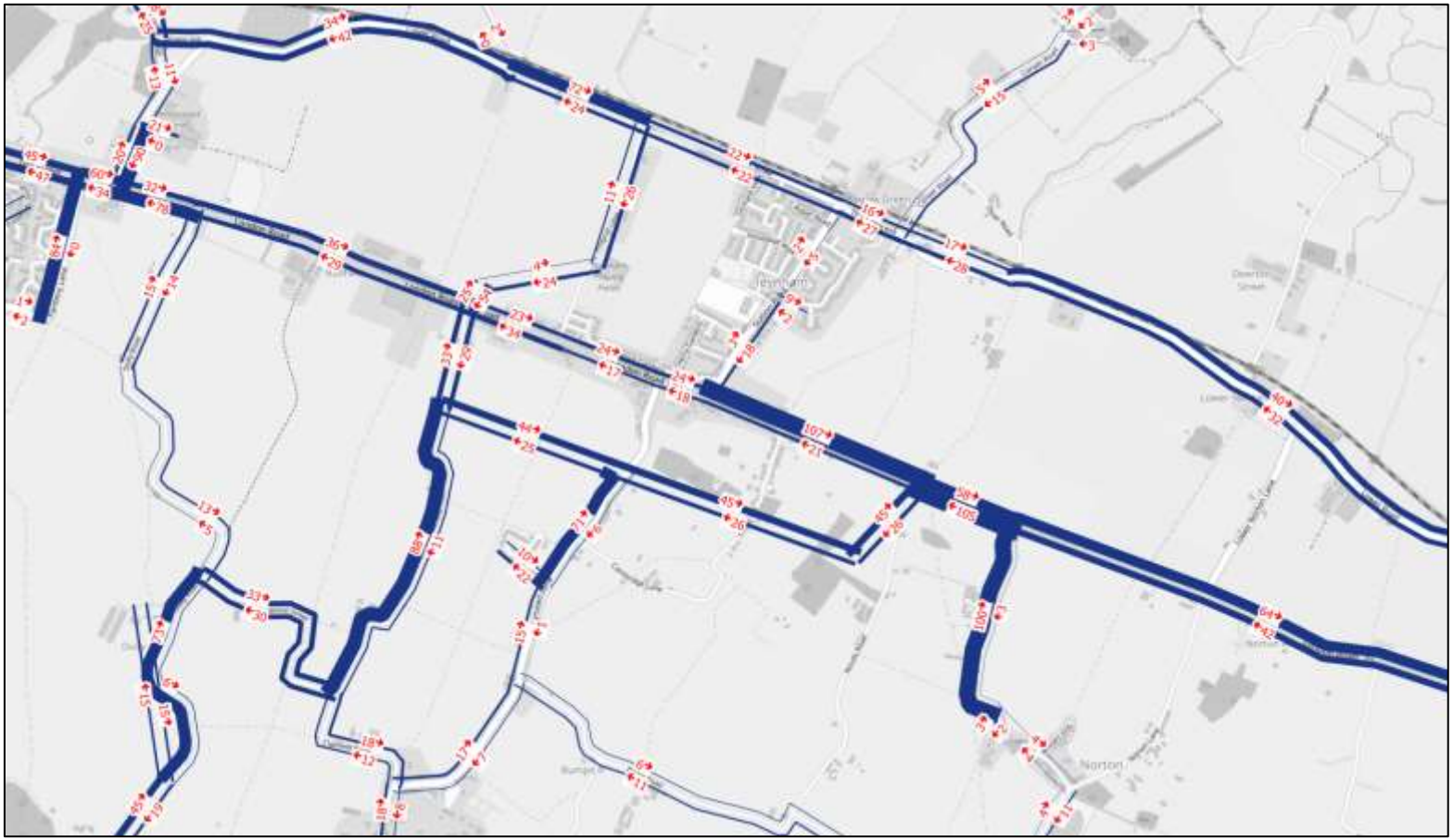


Figure 3-9 V/C ratios(%) on key roads in Teynham/Lynsted area – PM peak



3.2 Select Link Analysis

A select link analysis was carried out on Lower Road in eastbound direction during AM and PM periods as shown in Figure 3-10 and

3.2.1 Figure 3-11 respectively. As it can be seen from these figures, the majority of eastbound traffic heading towards A2 would use the associated Frognal Lane access and Teynham/Lynsted southern link route when the scheme is in place.

Figure 3-10 Select Link Analysis on Lower Road Eastbound - AM peak

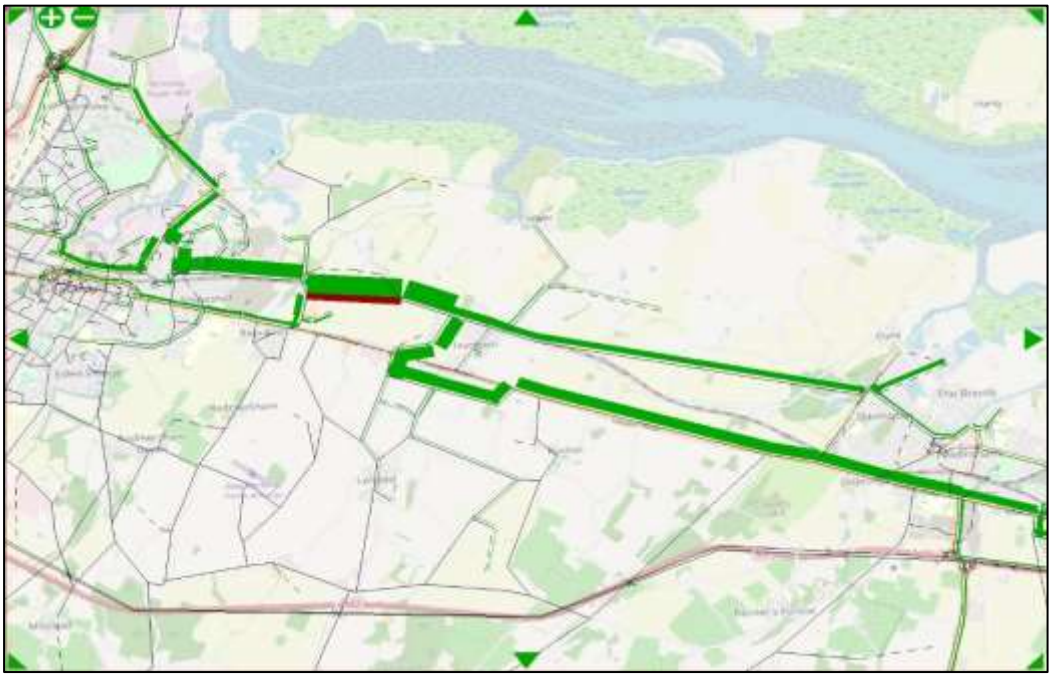
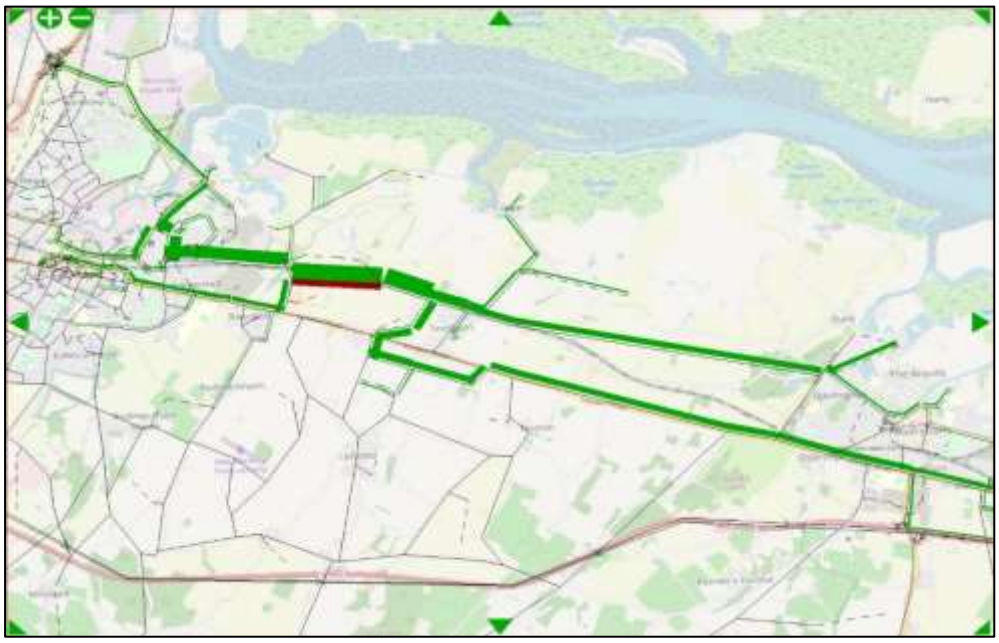


Figure 3-11 Select Link Analysis on Lower Road Eastbound - PM peak



3.2.2 A similar routing pattern is also seen for the eastbound traffic on Green Lane with most of the traffic heading towards A2 using Teynham/Lynsted southern link route as illustrated in Figure 3-12 and Figure 3-13.

Figure 3-12 Select Link Analysis on Green Lane Eastbound - AM peak

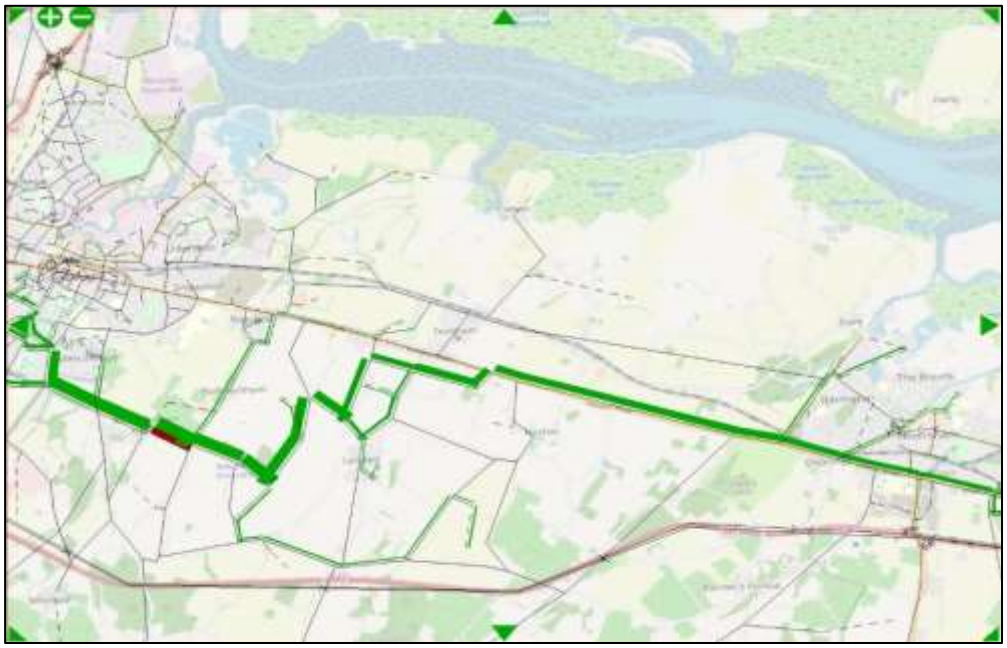
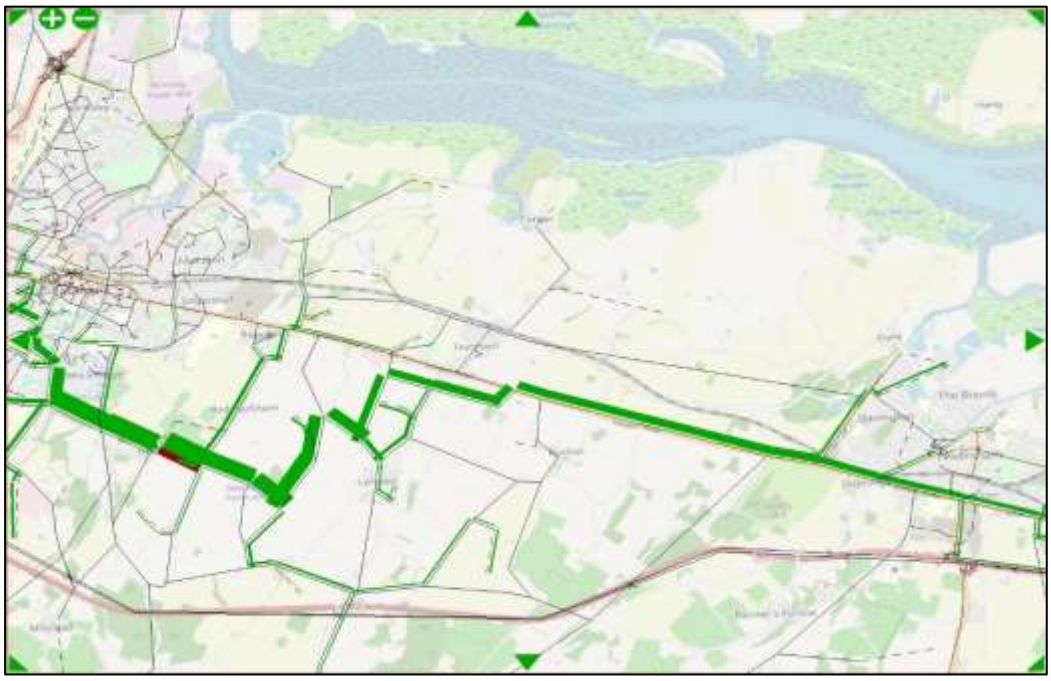


Figure 3-13 Select Link Analysis on Green Lane Eastbound - PM peak



4 Summary

4.1.1 The modelling results in this technical note can be summarised as follows:

- The proposed scheme will attract traffic travelling between Sittingbourne and Faversham, and therefore decreases traffic on A2 between Dully Road and the eastern end of the scheme.
- Select link analysis shows that at the eastern end of the scheme due to the priority given to Teynham/Lynsted southern link route over the A2, excessive delays are expected to occur on both sides of the A2. This causes westbound traffic towards Sittingbourne to reroute from A2 to Lower Road.
- For those travelling between southern part of Sittingbourne and Faversham, the majority of traffic will travel via Upper Rodmersham Road and Dully Road to access Teynham/Lynsted southern link route before joining the A2, instead of via Church Street.
- This change of travel pattern was observed across all three time periods, although the change of pattern in inter peak is smaller when comparing against the AM and PM peaks.

4.1.2 It is recommended that further mitigation measurements need to be proposed at the eastern end of the scheme (the proposed priority junction) in order to reduce the predicted excessive delay on the A2. This could include measures such as junction widening to increase the approaching lane capacity on A2 Eastbound arm, or dedicated right turn allocation for A2 from Eastbound to A2 Westbound etc. The examination of potential mitigation measures, however, is beyond the scope of the project.

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Technical Note

Summary of Sweco Modelling Report – Local Plan Testing

Project	Local Plan Review	
Subject	Traffic Modelling Summary	
Prepared by	Ben Meekings	31/01/2022
Approved by	Sarah Allen	31/01/2022

Introduction

1.1 Project Centre limited (PCL) have been commissioned by Swale Borough Council (SBC) to review and summarise the modelling report prepared by Sweco for testing the Local Plan development proposals.

1.2 This note explains the model in simple terms, looks at the results and makes comment on possible ways forward for consideration / discussion.

1.3 The Local Plan Review (LPR) is expected to deliver up to around 17,410 dwellings within the period between 2022 and 2038. The employment land needs for the same period are expected to be around 750,000m2 as shown in Table 1. The Swale Highway Model (SHM) was developed with a base year in 2017 to examine the traffic impacts of both future development proposals and transport infrastructure across Swale.

1.4 Modelling has been undertaken to compare the Reference Case (RC) and Development Scenarios (DS) for 2038, additionally an interim model for 2027 is developed to understand the effects five years after Local Plan adoption.

Table 1: Development Quanta for Testing

Year	Housing (total number of dwellings			Employment (total sqm)		
	RC	DS	Change	RC	DS	Change
2027	6,163	8,307	+2,144	69,400	374,305	+304,905
2038	9,225	19,841	+10,616	138,800	748,609	+609,809

1.5 RC includes only committed developments and transport schemes in future years, acting as a reference to compare the Local Plan developments against.

1.6 DS includes the committed and all additional development (including windfalls) and schemes associated with the LPR, these are detailed in Appendix A of the Sweco report and illustrated in Figure 1 overleaf.

1.7 DS also incudes planned highway improvements and those to accompany developments. The included highway schemes are shown in Figures 2 and 3.

Figure 1 – Report Extract of RC and DS Housing Developments

Figure 4-1 RC housing developments by the year 2038

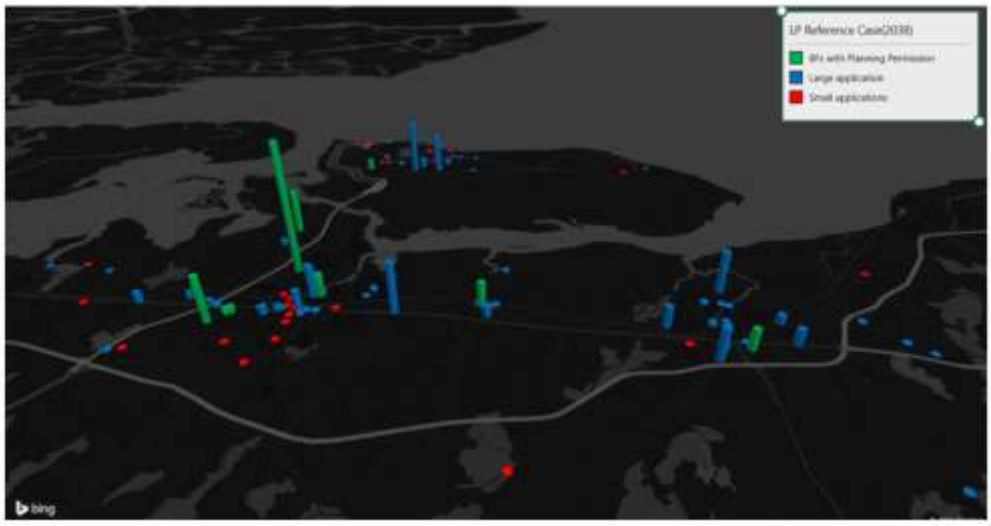
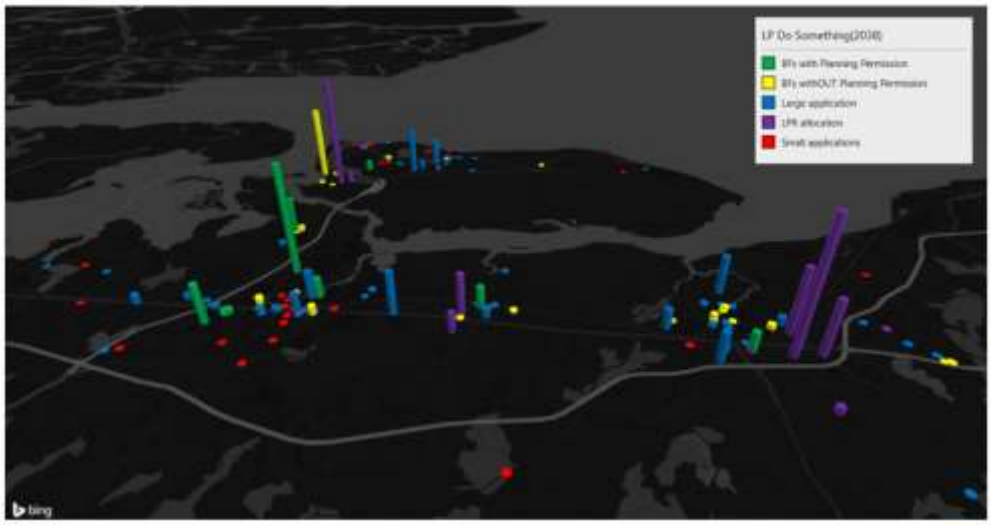


Figure 4-2 DS housing developments by the year 2038



1.8 As agreed with KCC, SBC and National Highways (formerly Highways England) Trip rates were calculated using TRICS, with values for town centre and rural locations.

1.9 Growth factors were applied to the modelled area based on National Trip Ends Model (NTEM) without any constraint.

Highway / Network Assumptions

1.10 The highway network improvements were provided by KCC and include both general highway improvements as well as those related to development proposals. These are shown in the following Figures 2 and 3.

Figure 2 – Report Extract Plan of Highway Network Assumptions

Figure 4-3 – Network Assumptions

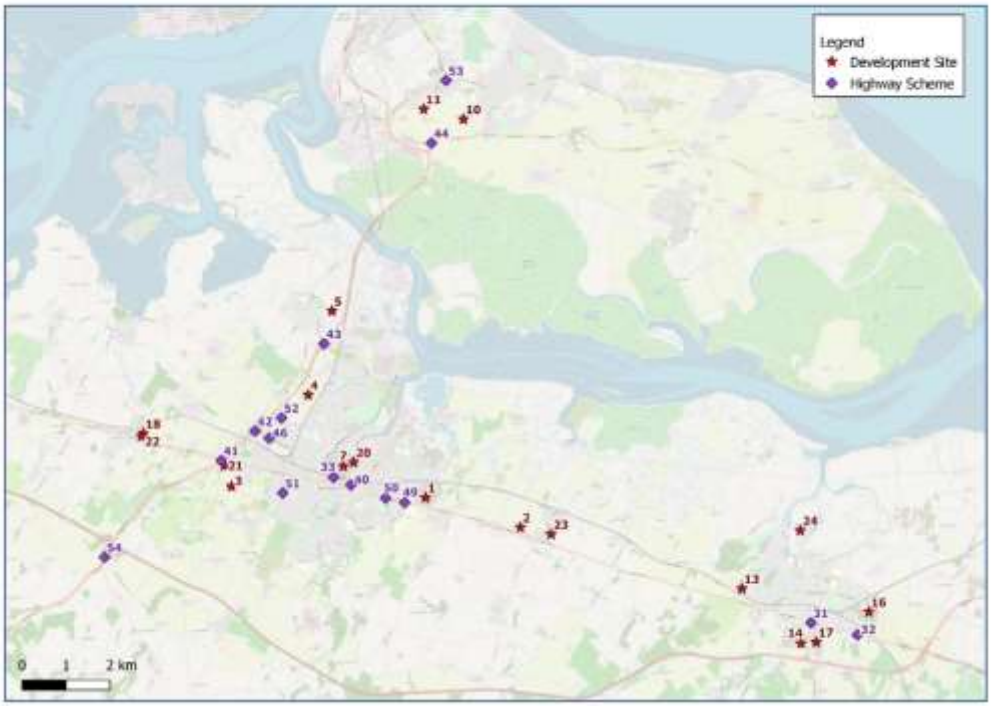


Figure 3 – Report Extract Tables of Highway Network Assumptions

Table 4-6 – Network Assumptions (Development Sites Related)

ID	Title of Development	Details	2027	2038
1	Stones Farm	A2 access only	✓	✓
2	Frognall Lane	A2 access only	✓	✓
3	SW Sittingbourne	Access to Chestnut St, Wises Lane, Borden Lane with link road between	✗	✓
4	NW Sittingbourne	Access to Quinton Road and Grovehurst Road with link road between	✗	✓
5	Iwade Expansion	Access to Grovehurst Road only	✓	✓
7	Crown Quay Redrow	Access to Crown Quay Lane and Eurolink Way	✓	✓
10	Barton Hill Drive	Access to Lower Road and Barton Hill Drive	✓	✓
11	Land off Belgrave Road	Access to Belgrave Road	✓	✓
24	Oare Gravel Works	Access to Ham Road	✓	✓
13	Ospringe Brickworks	Access to Western Link	✓	✓
14	Perry Court	Access to Brogdale Lane and A251	✓	✓
16	Lady Dane Farm	Access to Graveney Road and Love Lane with connecting link	✓	✓
17	Preston Fields	Access to A2 and A251 with connecting (slow) link	✓	✓
18	High St Newington	Access to A2	✓	✓
5	Pond Farm	Access to Grovehurst Road	✓	✓
20	Crown Quay Bellway	Access to Crown Quay Lane	✓	✓
21	Manor Farm	Access to Chestnut Street	✓	✓
22	Newington Eden Meadows	Access to A2 Newington	✓	✓
23	Teynham Station Road	Access to Statio Rd Teynham	✓	✓

Table 4-7 – Network Assumptions (Highway Schemes)

ID	Location	2027	2038
31	A2/A251 Junction Improvements	✓	✓
32	A2/Love Lane Junction Signalisation	✓	✓
33	Spirit of Sittingbourne TC works	✓	✓
40	St Michaels Road/rown Quay Lane Junction Improvements	✓	✓
41	Key St Roundabout Improvements	✓	✓
42	Bobbing Roundabout Improvements	✗	✓
43	Grovehurst Junction Improvements	✓	✓
44	Lower Road/Cowstead Corner Capacity Improvements	✓	✓
46	B2006/Sonora Way Roundabout Capacity Improvements	✓	✓
49	A2/Swanstree Ave Junction Improvements	✗	✓
50	A2/Rectory Rd Junction Improvements	✗	✓
51	Borden Lane/Homewood Mini Roundabout	✗	✓
52	Quinton Road Mini Roundabouts	✓	✓
53	Halfway Road Traffic Lights	✓	✓
54	M2/J5	✓	✓

Network Statistics

1.11 The Sweco modelling report includes assessment of the peak hours (AM and PM) and interpeak. As would be expected the impacts in the peaks are higher while the interpeak is less.

1.12 For the future years, both AM and PM see reductions in speed across the core area, indicating congestion / less free flowing traffic. The difference is greater for the DS than the RC due to the increase in total distance travelled.

Journey Times

1.13 Comparing base year (2017) to future (2027 and 2038) RC, journey times increase on most routes. When comparing DS, the journey times increase further, reflecting the additional demand from the LP developments.

1.14 The routes showing heavy delays include the Selling Road, A2 between A249 and M2 through Sittingbourne and Faversham.

1.15 There were some improvements / only marginal increases on links from Sheppey to M2 J7 via M2 EB and Sheppey to M20/A249 SB. This is due to the M2 J5 improvement scheme.

Traffic Flows & Delays / Congestion

1.16 Future (2027 and 2038) RC traffic flows increase on most roads within the region when compared to the base year. This leads to areas where there are delays / congestion on the network.

1.17 There was shown to be some decrease in traffic on the A249 SB from M2 J5 to M20 J7, likely due to traffic rerouting to avoid significant delays at the A249 SB Approach to M20 J7 and the improvements at M2 J5.

1.18 The Degree of saturation is the volume over capacity ratio (V/C), essentially the amount of traffic trying to use the junction divided by the actual capacity. V/C's over 80% are considered problematic. The worst affected junctions which show heavy delays and V/Cs over 80% in the DS are;

- Minster Road/ A250 Halfway Road
- A250 Lower Road/Sheppey Way
- A2 London Road/Western Link

- M2 Junction 7
- A2/A251 Ashford Road
- A2/Brogdale Road
- A2 Key Street/A249
- A2 Canterbury Road/Murston Road/Rectory Road
- A2 Canterbury Road/Murston Road/Rectory Road
- A249/2500 roundabout
- A2 London Road/Station Road (Teynham)
- A2 London Road/Hempstead Lane

1.19 The following figures 4 and 5 show where V/C on the network exceeds 80% in the AM peak. It can be seen in Figure 4 there are areas that experience issues in the RC, before Local Plan development is added in the DS.

1.20 These are exacerbated in the DS case (2038) as development is added to the network. As can be seen in Figure 5 there are further issues, particularly along the A2 corridor. The PM Peak shows a similar pattern.

1.21 The tables in Appendix A of this note contain details of V/C for each junction.

Figure 4 – Report Extract V/C 2038 Reference Case

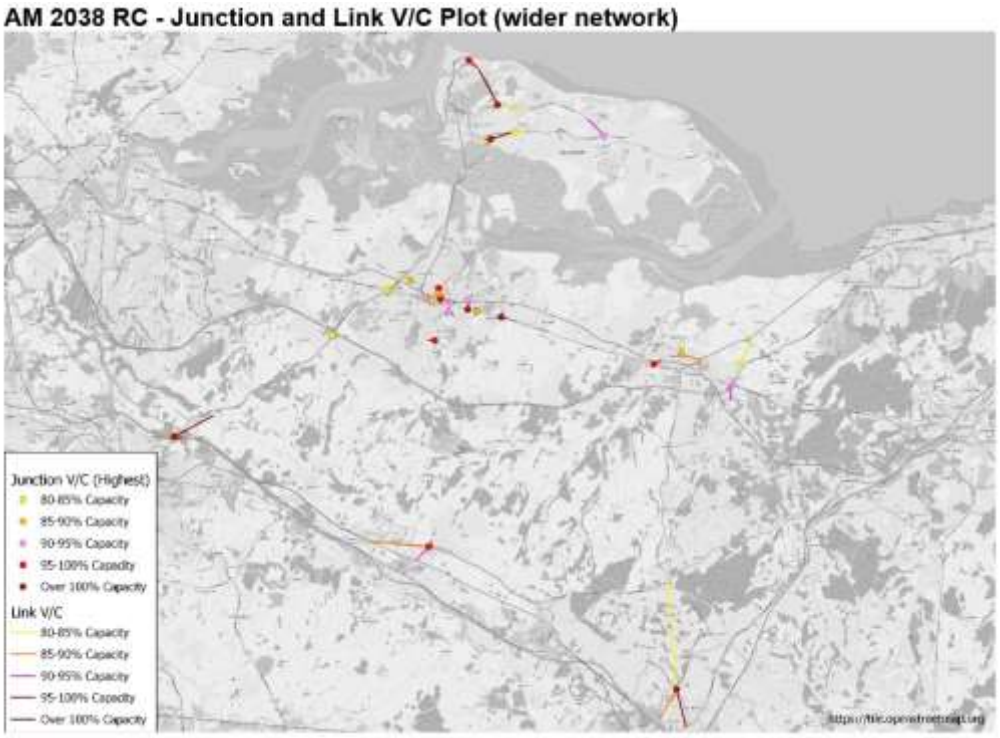
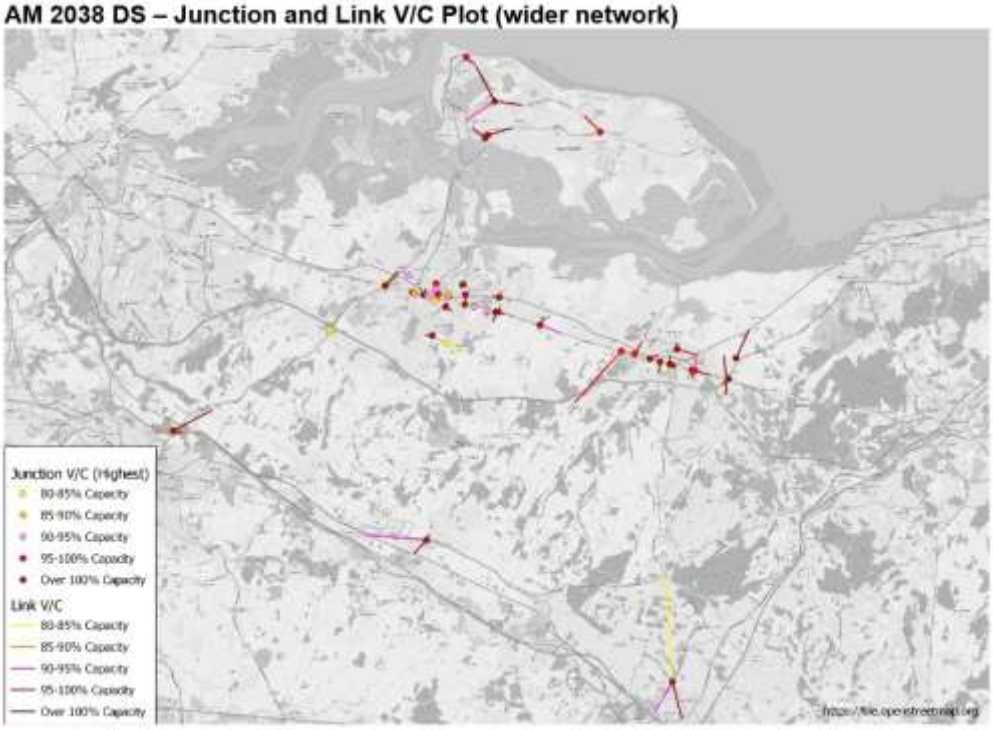


Figure 5 – Report Extract V/C 2038 Development Case



Teynham / Lynsted Sensitivity Test

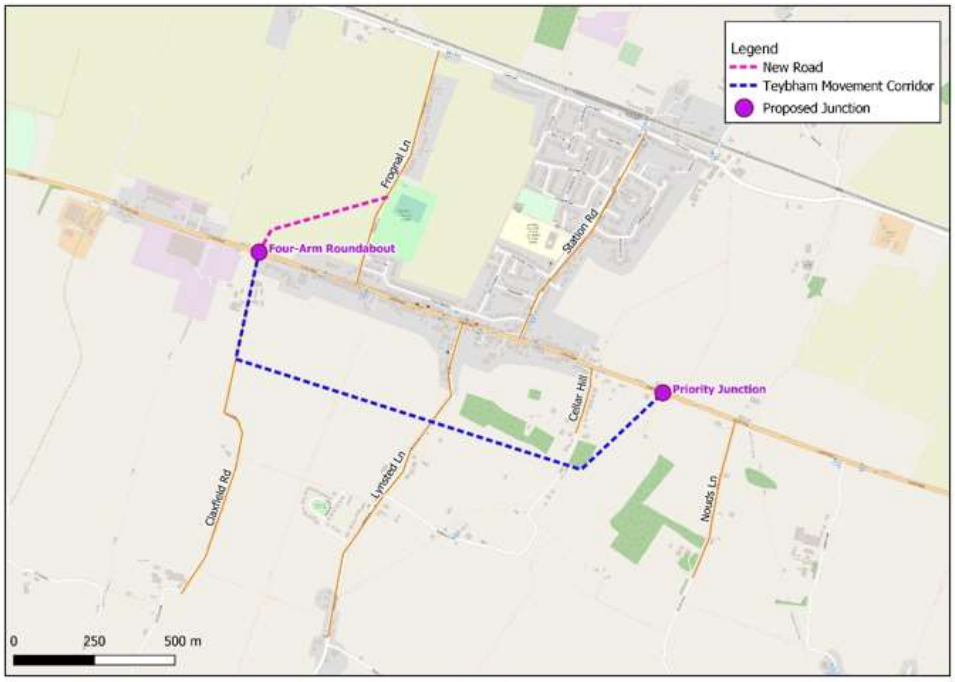
1.22 A sensitivity test has been carried out to understand the effects of a proposed new link road to the south of the A2, aiming to remove traffic and ease congestion, considering the potential development in the area as part of the Local Plan review.

1.23 Figure 6 shows this link in blue and the already committed road and four arm roundabout related to the Frognal Lane development site. This roundabout forms the western junction between the link road and A2. At the eastern end a T junction is created with priority given to traffic from the new link road, meaning eastbound A2 traffic would give way.

1.24 Under this test, Lynsted Lane will not have access to the A2.

Figure 6 – Report Extract Sensitivity Test Teynham / Lynsted Link Road

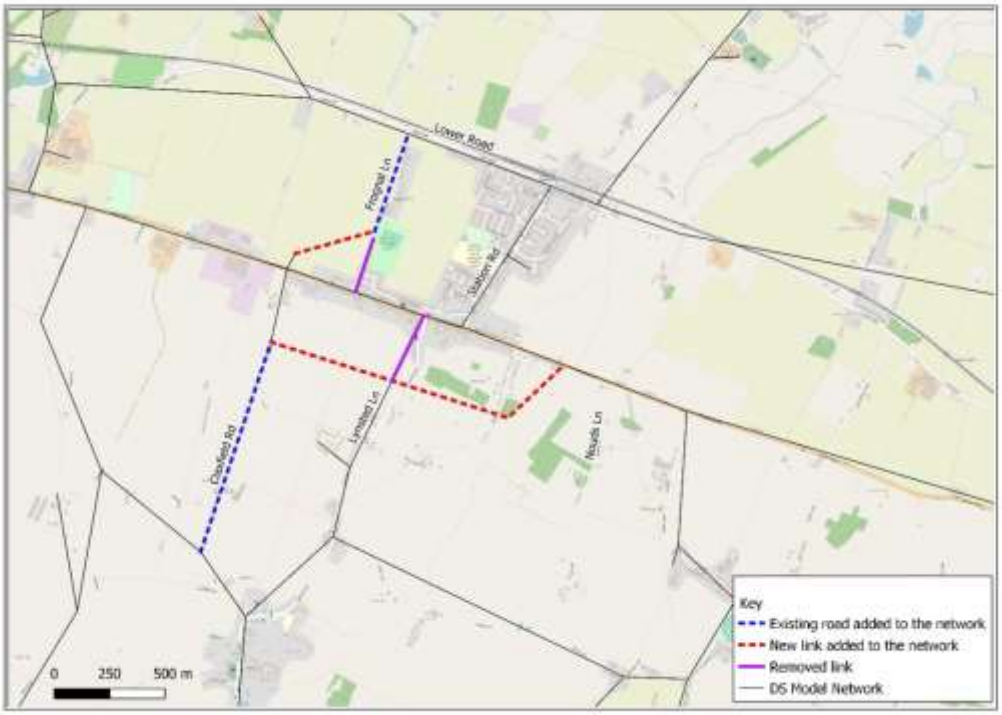
Figure 1-1 Location of Teynham/Lynsted southern link route. Note: location of junction shown purely for modelling purposes



1.25 As the SHM is strategic in level, it does not include all roads. For this sensitivity test, new links were added to the model to better understand the local effects. These are not new roads but links in the model. Figure 7 shows the changes to the modelled network.

Figure 7 – Report Extract Sensitivity Test Teynham / Lynsted Link, Network Changes

Figure 2-2 Teynham Sensitivity Test Model Network



1.26 The test compared the DS (2038) with the Sensitivity Test to understand the effects of the new link road. These are found to be;

- Decrease in traffic on A2 between Dully Road and the eastern end of the scheme as traffic between northern parts of Sittingbourne and Faversham diverts to the new link road
- Diversion of traffic between southern Sittingbourne and Faversham to rural roads (Upper Rodmersham Road and Dully Road) to access the new link road
- Excessive delays on A2 at the eastern junction with the link road, diverting westbound traffic on to Lower Road

1.27 The modelled differences in flow are shown in Figures 8 and 9 for the AM and PM peaks respectively. Green showing an increase, blue indicating a decrease in flows.

Figure 8 – Report Extract Sensitivity Test Teynham / Lynsted Link, Flow Difference AM Peak

Figure 3-1 Flow Difference between DS and Sensitivity Test – AM peak

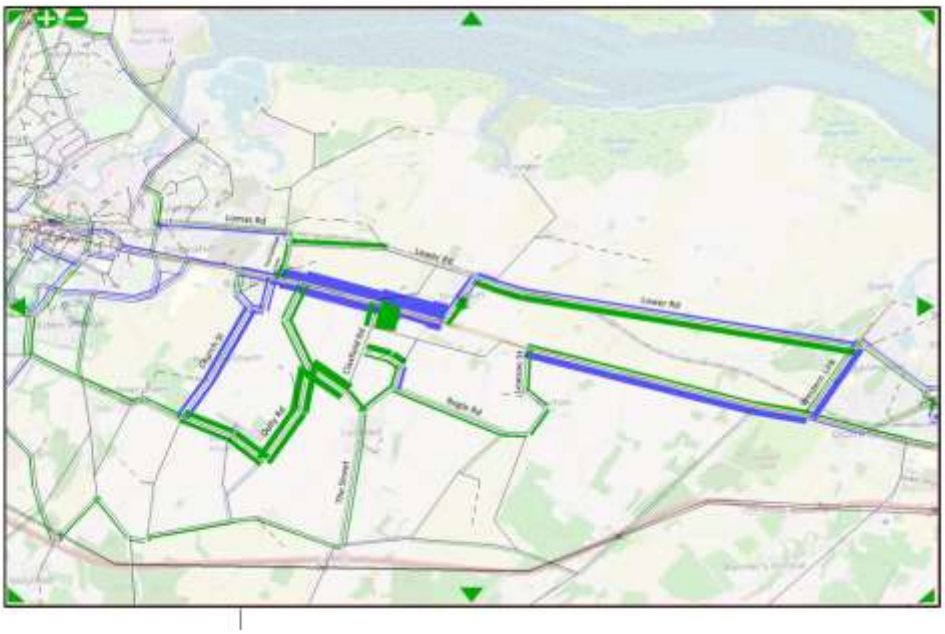
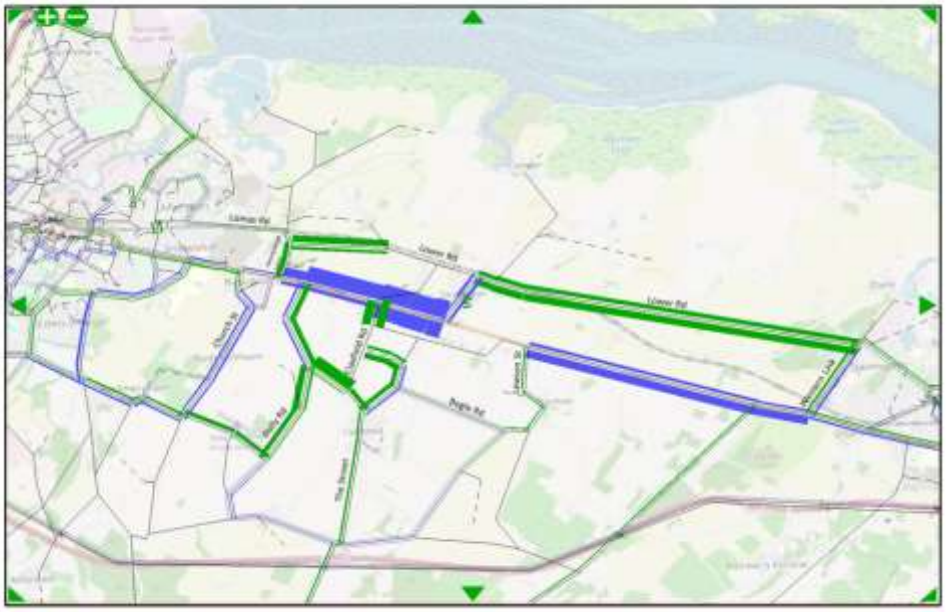


Figure 9 – Report Extract Sensitivity Test Teynham / Lynsted Link, Flow Difference PM Peak

Figure 3-3 Flow Difference between DS and Sensitivity Test – PM peak



1.28 When considering the ratio of volume and capacity (V/C), the redistribution of traffic causes the most significant effects on the rural roads to the south of the A2. Traffic diverting to Lower Road has significant effects on Lower Road to the east of Tyneham. Figures 10 and 11 show V/C for the AM and PM Peaks respectively.

Figure 10 – Report Extract Sensitivity Test Teynham / Lynsted Link, V/C AM Peak

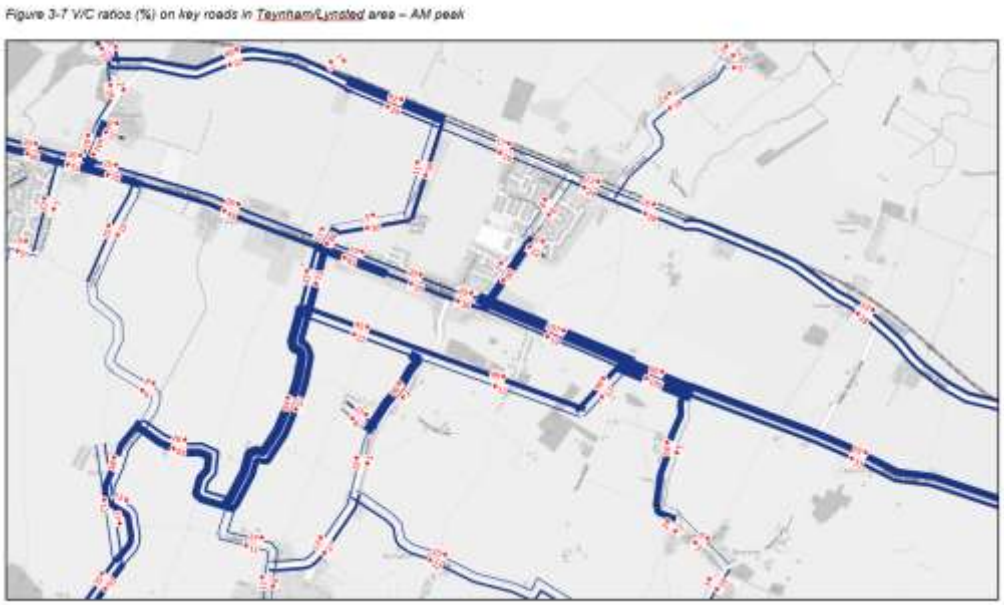
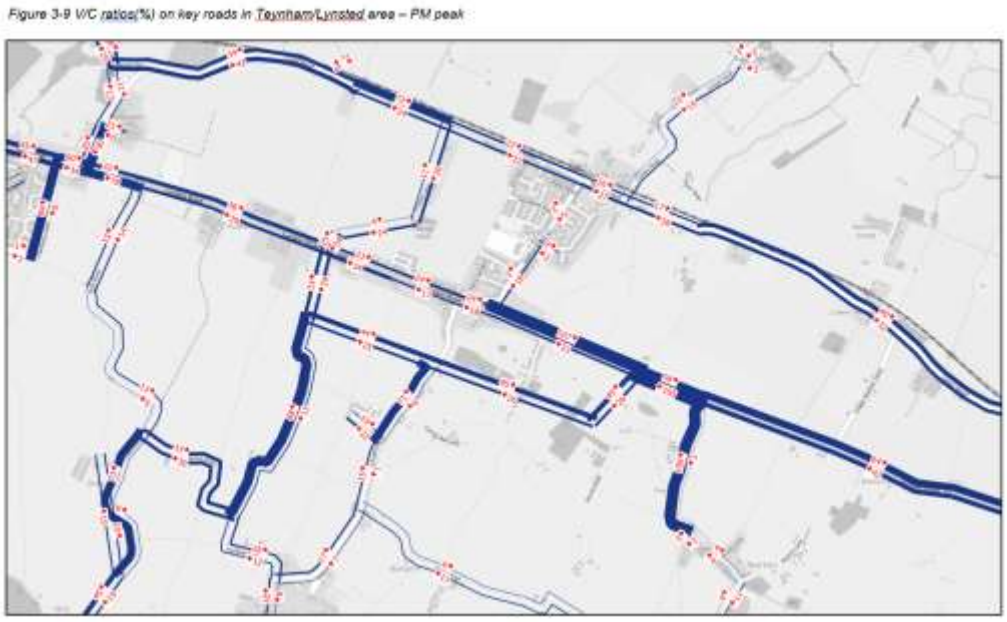


Figure 11 – Report Extract Sensitivity Test Teynham / Lynsted Link, V/C PM Peak



1.29 There may be measures that could be considered to alleviate the traffic diversions on to these rural roads, such as reducing the delays at the eastern end of the link road, however this was outside of the scope of the sensitivity test but could form part of future testing.

Possible Mitigation / Strategy

1.30 It is highly unlikely that any highways schemes can fix all the congested points on the network. A nil detriment case would be the only possible approach. However, it is unknown if this is actually possible within the highway boundary / land owned by developers.

1.31 The problem junctions / links should be reviewed for potential improvement and dialogue with KCC and National Highways is underway to review the key areas.

1.32 Within Swale, car commuting is 70% so this represents a challenge. Mode share targets for development must encourage more sustainable travel, cycling and walking. Significant contributions would be needed to fund measures to get worthwhile, meaningful shift. KCC have commented that there is a limit to what can be achieved given the Kent average of 9% of total journeys being within reasonable cycle and walk distances.

1.33 The existing congestion on the network can act as a deterrent to additional traffic movements and may encourage mode shift for those with the option to do so.

1.34 The modelled unconstrained growth predictions may be too high and could be lower in practice as the network is already congested, potentially discouraging such growth in vehicle traffic.

1.35 There is a potential scheme for M2 J7 / A2 Brenley Corner which is not committed and therefore not included in the model testing. It may be that if this were progressed and included within the model it could reduce congestion. However, this is likely to be beyond the timescale for the LPR, given the current stage if the project.

1.36 Nationally, in response to the Covid pandemic, there has been a move to more home / hybrid working which has changed travel patterns, particularly in peak hours. It is understood that the employment in the area does not

facilitate high levels of home / hybrid working which could reduce traffic flows / congestion on the network. However, there may be effects on traffic through the area which could alleviate the effects on capacity. Undertaking traffic surveys to allow a check of traffic data in comparison to that predicted in the model will help to understand this.

Appendix A – Junction Volume / Capacity Tables

(Modelling Report Extract)

*Table **Error! No text of specified style in document.**-2 Summary of the cc*

		Highest Junction V/C									
JunctionID	Description	Base Year		2027RC		2027DS		2038RC		2038DS	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Minster Road/ A250 Halfway Road	104.7	94.2	104.3	99.8	104.5	100.2	103.9	107.1	104.4	104.4
2	A250 Lower Road/Sheppey Way	93.5	56.9	103.2	89.8	104.6	95.2	109.8	106.2	118.4	119.6
3	A2 London Road/Western Link	57.2	62.8	66.3	72.9	71.2	83.4	66.7	74.9	95.8	99.1
4*	M2 Junction 7	101.3	103.0	97.7	105.3	96.3	105.1	91.3	103.8	107.7	110.5
5	A2/A251 Ashford Road	77.1	48.2	68.7	66.5	81.0	85.4	73.2	70.3	104.4	107.5
6	A2/Brogdale Road	49.2	51.8	48.8	49.8	54.5	61.9	50.1	52.1	108.7	111.5
7	B2006 Eurolink Way/Crown Quay Lane	73.0	73.0	77.5	74.6	79.5	79.9	78.4	74.8	87.9	91.1
8*	Grovehurst/ Swale Way/B2005	86.4	90.0	34.2	40.1	34.9	48.6	43.5	44.3	49.9	59.3
9*	M2 Junction 5	110.6	103.2	45.3	48.1	50.2	52.4	49.4	61.5	67.8	89.2
10*	A2 Key Street/A249	68.2	103.7	69.0	89.0	76.2	94.6	82.9	98.2	101.3	107.3

11*	A249/B2006	61.5	61.5	68.8	75.2	81.8	81.8	59.1	70.6	75.0	95.4
12	A2 Canterbury Road/Murston Road/Rectory Road	96.4	95.2	102.5	101.1	105.0	102.6	101.0	98.8	109.9	105.7
13	A2 Dover Street/Milton Road	49.2	68.3	95.9	91.4	96.5	92.4	95.3	89.2	99.8	96.5
14	A2 Canterbury Road/Swanstree Avenue	84.8	71.8	87.0	82.3	87.9	87.4	86.9	88.4	92.1	101.0
15	A2042 Faversham Road/Trinity Road	106.3	93.8	122.1	100.2	122.0	100.3	136.6	110.3	136.5	111.4
16	A299 Thanet Way/Staple St	47.7	55.6	53.4	64.1	55.0	66.5	60.7	70.1	62.6	76.7
17	Tunstall Rd/Woodstock Rd	66.3	37.6	91.6	68.0	93.4	73.7	95.1	70.9	101.6	85.5
18	A2 London Road/Wises Lane	81.9	68.2	71.1	67.0	70.3	62.6	74.0	70.4	75.3	65.6
19	B2006/ B2005	91.9	90.6	97.3	94.5	97.8	95.1	98.3	97.2	99.0	99.0
20	A2 St Michael's Road/East Street	57.9	65.6	64.2	68.3	65.7	74.7	66.6	63.2	76.8	71.8
21	A250 Millenium Way/High Street	90.4	80.6	95.2	92.4	95.5	93.4	95.8	99.9	95.5	97.6
22	A249 Brielle Way /B2007	38.6	89.5	47.4	77.3	47.4	75.2	47.7	80.0	48.2	81.9
23	A249/A2500	94.9	77.2	86.1	102.7	89.5	103.5	87.9	110.5	103.6	114.0
24	Lower Road/East Church Road	66.9	74.3	80.3	65.1	82.4	68.9	91.2	66.6	96.2	67.5

25	B2006 Staplehurst Road/Chalkwell Road	65.9	70.5	73.6	73.7	75.7	74.2	74.4	78.5	72.3	87.2
26	A2 London Road/Hempstead Lane	73.7	78.7	100.6	96.0	101.1	100.4	100.4	97.9	109.6	101.9
27	A2 London Road/Station Road (Teynham)	46.1	36.1	49.9	49.5	77.5	71.5	50.7	45.4	101.7	100.3
28	A2 London Road/Faversham Road	39.7	50.2	53.4	65.9	63.7	89.6	53.3	67.8	95.1	104.3
29	A2 Canterbury Road/Selling Road	37.4	47.1	23.7	30.5	55.5	64.2	31.2	35.1	108.1	107.2
30	A299 Thanet Way/Clapham Hill	14.4	15.1	16.2	17.4	17.2	17.9	17.1	19.0	20.0	20.7
31*	M20 Junction 7	111.1	112.5	120.0	120.0	121.0	119.9	121.1	120.2	124.7	120.7
32	M20J7 Onslip WB	86.5	69.2	65.5	58.1	65.5	58.6	68.0	61.5	68.2	61.7
33	M20J7 Offslip EB	70.4	97.1	78.7	99.8	78.6	100.0	85.3	100.0	85.5	100.0
34	Gore Court Road/Bell Road/Park Avenue	52.5	39.0	62.1	49.2	65.5	52.3	64.9	52.3	74.7	67.2
35	Bell Road/Capel Road/Brenchley Road	54.6	43.3	66.4	49.7	69.9	52.4	66.8	50.5	79.3	57.3
36	A299 Thanet Way/Whitstable Road	81.7	81.5	45.5	54.7	48.6	56.4	51.0	54.1	67.8	63.7
37	A2500 Lower Road/Barton Hill Drive	91.6	101.3	83.2	97.0	82.4	97.4	82.4	103.5	78.2	93.9
38	A2 High Street/Church Lane (Newington)	42.4	43.8	51.9	92.8	55.3	95.1	55.8	90.9	78.8	88.2

39	B2006 Mill Way/ExitCarpark	83.7	96.1	82.7	98.1	84.8	98.5	85.7	99.1	93.2	102.1
40	Church Road/Lomas Road	42.5	77.5	48.5	89.1	62.9	101.6	53.2	90.1	100.3	112.1
41	Bell Road/Stanhope Avenue	93.8	90.5	93.4	94.0	94.9	94.7	94.3	95.4	100.3	99.4
42	A2 London Road/Adelaide Drive	62.4	53.2	70.8	55.6	77.3	59.3	73.2	60.7	86.7	76.7
43	B2006/Sonora Way	65.4	78.4	76.0	88.7	77.2	88.4	88.6	92.3	93.3	100.2
44	Borden Lane/Homewood Avenue	75.4	67.9	78.6	67.3	80.4	70.6	56.5	52.5	62.9	68.4
45	Cromer Road/Highsted Road	56.3	40.5	59.8	56.6	65.3	64.3	63.2	62.5	83.9	99.4
46	A2 Canterbury Road/B2041	102.1	85.1	65.7	57.5	83.3	66.5	67.2	64.7	111.6	95.3
47	A2 St Michael's Road/Crown Quay Lane	89.0	83.1	90.5	77.8	92.6	77.6	92.3	80.1	94.0	82.3
48	A2 London Road/Hawthorn Road	94.0	67.1	65.3	60.2	70.1	60.4	68.1	62.0	79.7	63.9
49	East Street/B2040 (Faversham)	71.1	72.2	79.9	92.9	91.1	100.4	88.0	96.4	100.6	119.1
50	A2/Westlands Avenue	46.4	53.0	61.6	51.9	59.4	52.0	63.6	51.1	53.3	53.9
51	A2/Chalkwell Road	68.8	40.4	90.8	43.2	95.4	45.1	91.9	45.2	101.5	57.8
52	A2/Burley Road	70.1	63.3	88.0	57.7	92.6	62.9	89.7	59.7	92.5	71.2
53	A2/School Lane	50.5	66.9	73.8	70.2	75.3	74.5	77.7	69.8	90.3	104.2

54	A2/B2040 South Road	58.4	76.0	95.9	98.2	92.6	95.1	95.3	97.4	102.9	90.3
55	Sheppey Way/Grovehurst Road	28.4	21.8	25.2	15.3	27.4	16.0	32.1	20.7	36.7	18.9
56	A20 Ashford Road/Hubbards Hill	37.1	35.9	39.7	40.2	40.3	40.7	43.0	43.0	45.7	44.7
57	Invicta Road/Cavour Rd Sheppey	17.1	27.3	17.0	29.9	17.0	29.8	17.0	29.8	17.8	27.9
58	Western Link Road/Bysing Wood Road	32.3	33.0	41.6	41.8	40.4	41.9	41.7	40.7	58.1	44.6
59	Cavour Road/Alma Road Sheppey	15.9	28.9	7.1	33.0	7.3	32.3	7.1	32.5	7.8	27.2
60	Minster Road/Back Lane Sheppey	34.9	17.7	50.7	23.0	54.0	23.2	60.0	26.7	66.2	25.4
61	Barton Hill Drive/Plover Road	44.5	29.1	53.9	51.3	53.7	51.1	42.2	48.3	37.7	43.6
62	Chequers Road/Elm Lane	23.8	19.6	33.6	25.3	33.4	26.0	37.4	29.1	43.7	27.7
63	A250/Queenborough Road	32.8	31.4	38.0	44.8	35.0	46.3	42.0	42.7	65.7	48.6
64	M2J5 on-slip NB	75.1	93.5	78.0	86.9	77.1	89.0	83.4	89.2	82.5	91.2
65	A2/Sandford Road	54.2	64.8	59.2	63.2	59.4	63.2	61.2	61.3	63.8	61.0
66	A2/Staplehurst Road	60.8	45.6	74.3	45.4	76.0	45.4	74.3	47.3	96.9	60.9
67	Staplehurst Road/Gadby Road	27.9	12.5	26.5	12.4	28.0	12.1	26.8	12.6	33.7	13.6
68	Chequers Road/East Church Road	23.7	20.1	33.4	25.9	33.3	26.6	37.3	29.8	43.6	28.4
69	A2/Panteny Road	37.4	39.0	52.7	77.7	71.1	86.7	59.5	84.8	100.7	106.9

70	A2/Lynsted Lane	43.2	46.2	45.5	40.3	45.3	51.8	44.5	52.0	71.8	99.8
71	Whitstable Road/Head Hill	78.2	48.0	77.1	60.5	101.0	70.6	83.6	62.8	175.0	118.1
72	A2/Love Lane	35.9	51.1	62.2	54.3	63.5	59.4	58.1	61.8	96.0	99.8
73	Church Street/Connecting Road	30.8	21.3	33.1	28.5	33.7	32.2	34.4	31.3	44.0	66.7
74	The Crescent/Conyer Road	10.4	9.5	10.7	10.3	13.7	11.4	10.8	11.1	19.5	15.2
75	Western Link/Bysing Wood Road W	21.5	19.7	18.5	18.6	17.2	18.6	18.6	17.7	69.7	22.0
76	A2/Lewson Street	34.2	37.5	44.4	58.8	56.8	86.4	46.5	67.3	79.0	108.3
77	Tonge Road/Church Road	58.9	40.3	84.9	45.8	100.3	51.0	90.3	52.1	101.2	91.1
78	Castle Road/Dolphin Road	50.3	69.6	66.8	83.7	83.0	91.9	71.8	92.0	104.6	102.6
79	Eurolink Way/Milton Road	90.8	83.9	88.9	87.9	89.7	87.8	88.8	86.8	94.7	88.9
80	Park Road/Albany Road	54.4	57.3	70.7	63.1	78.8	65.3	78.9	65.6	80.5	76.1
81	Sheppey Way/Old Ferry Road	19.1	35.4	23.2	39.1	26.3	39.8	26.4	48.0	39.4	50.8
82	A249/S Green	89.5	72.7	57.9	86.0	58.0	87.6	62.2	88.4	62.5	89.1
83	A20 Ashford Road/ Faversham Road	68.1	72.7	98.0	78.8	95.9	80.7	98.8	91.7	103.6	99.9
84	A2/Rook Lane	42.4	44.2	42.1	55.1	44.9	55.7	47.5	57.4	54.8	52.9
85	A2/Bull Lane	41.3	40.7	40.0	52.6	42.7	56.5	45.0	58.1	53.1	61.3

Local Plan Panel	**Agenda Item: 5**

Meeting Date	17th February, 2022
Report Title	Proposed Rodmersham Church Street Conservation Area
Cabinet Member	Cllr. Mike Baldock - Cabinet Member for Planning
SMT Lead	James Freeman – Head of Planning Services
Head of Service	James Freeman – Head of Planning Services
Lead Officer	Simon Algar – Conservation & Design Manager
Recommendations	1. To note the content of the public consultation draft of the character appraisal and management strategy document produced for the assessment relating to the proposed new conservation area, and the representations made on this by interested parties, the details of which are set out in the report appendices. 2. To support the changes to the assessment document proposed by officers in response to the representations received during the course of the public consultation.

1 Purpose of Report and Executive Summary

1.1 The purpose of this report is to make the Local Plan Panel aware of a proposed new conservation area designation following the recent conservation area review work in the same parish (of Rodmersham) and the adjacent parish (of Tunstall). In the event of taking this possible new designation forward, the proposed conservation area should be formally designated under section 69 of the Planning (Listed Buildings and Conservation Areas) Act, 1990. The assessment document in support of the proposed designation includes a detailed character appraisal and associated management plan in line with current good practice for the management of conservation areas. It is recommended that the Local Plan Panel (SMT) supports the changes to the review document set out in **Appendix i** (consultation response table) and as reflected in **Appendix ii** (tracked changes version of the character appraisal and management plan document).

2 Background

2.1 Rodmersham Green Conservation Area was first designated in September 1973. The conservation area has, according to the available records, not been subject to any systematic review since that time. Up until now, this conservation area has therefore lacked a detailed appraisal or management strategy to underpin its continued designation. Case law concerning conservation area designation

indicates that continued designation could be quashed by a legal challenge on the basis for its original designation not being fully evidenced.

2.2 The Council is now in receipt of two linked speculative major development applications (refs. 21/503906/EIOUT and 21/503914/EIOUT) for what amounts in combination, to a new settlement proposal to the east and southeast of Sittingbourne, referenced by the applicants, Quinn Estates Ltd, et al, as 'Highsted Park'. The application for the larger application site area on the south side of the A2 (which also extends south beyond the M2 and includes a new motorway junction) has the potential to impact on a large number of designated and non-designated heritage assets, including to the wider setting of Rodmersham Green Conservation Area. It is therefore considered that having a detailed up-to-date character appraisal and management strategy in place for this conservation area should help to ensure that any strategic decisions concerning future development and infrastructure provision in this wider area can be made on a properly informed basis taking into account the need to conserve the setting and special interest of this longstanding conservation area, as far as reasonably possible, as well as the Council's requirement to deliver new homes and support employment opportunities.

2.3 In reviewing the Rodmersham Green Conservation Area and giving consideration to its wider setting, it became apparent that the cluster of buildings and associated spaces around the parish church of St. Nicholas was of heritage interest and worthy of conservation area designation, but is also too distant from the nearest point of the former to be considered as a possible extension to its boundary, given that the intervening space (consisting of agricultural land) holds no material heritage significance in its own right. As such, the decision was taken to assess the area around the parish church of Rodmersham as a possible new conservation area. Priority has been given to this over exploring possible new conservation areas elsewhere and/or reviewing other existing conservation areas long overdue a review given the fact that assessment of this area would assist the Council in forming a properly informed view on the overall extent of heritage impact from the Highsted Park proposals, and how this should be reflected in reaching an overall decision on the above stated applications.

2.3 The related review work on the existing Rodmersham Green and Tunstall conservation areas has since been completed and the subsequent public consultation on this concluded on the 5th December 2021. The public consultation on the proposed new Rodmersham Church Street Conservation Area finished on the 16th January, and it is anticipated that it will be possible to re-designate and adopt the appraisal and management plan documents for the Rodmersham Green and Tunstall conservation areas ahead of the Council reaching its decision on the Highsted Park planning applications. Also, that a

decision can be made on whether to designate a new conservation area at Rodmersham Church ahead of determining the aforementioned major development scheme applications.

3 Proposal

3.1 The proposal is to designate the area around Rodmersham Parish Church as a conservation area (to be known as Rodmersham Church Street Conservation Area) and to equip it with a detailed character appraisal and a complementary management strategy which will assist with development management and heritage conservation purposes for the area in question over the next decade or so. It will be a matter for the Cabinet to decide whether to designate the said area as a conservation area and to adopt the prepared Character Appraisal and Management Plan (as appropriately amended following consultation feedback, or otherwise), but the Local Plan Panel is requested to provide feedback to help ensure that the report and recommendations placed before the Cabinet are sound in all respects.

3.2 The one proposed change to the boundary of the proposed conservation area is shown in **Appendix ii** to this report. The boundary change in question (to extend further northwards to include Ashgores House) has been made in response to related feedback provided during the public consultation period. It should be noted that there were also requests (including from Rodmersham Parish Council) to also extend the boundary to the south to take in grade II listed Rodmersham House and associated farm building and cottages, but this was not considered, on balance to be appropriate. The considerations relating to these possible boundary changes have been clearly set out in **Appendix i** to this report.

3.3 It is recommended that the Local Plan Panel supports, and in turn, recommends to Cabinet, the proposed conservation area designation and the amended boundary for it, which as far as reasonably possible, takes into account valued constructive feedback from the parish council and local residents. It should be noted that the tracked changes version of the document provided at **Appendix ii** is set out purely to show how the changes to the document (which officers consider should be made) are to be incorporated. Final formatting of the document using professional editing software (which will also eliminate any remaining typos and grammatical errors) will be applied to the PDF version of the document which will form the adoption version, and which will be placed on the Council's website for public viewing.

4 Alternative Options

4.1 One option would be to not take this conservation area assessment work any further and effectively abandon it. This is not recommended however because it would call into question the competence of the Council in instigating this assessment work in the first instance, and would also hinder the Council in forming an overall properly informed view of the level and nature of overall heritage impact harm arising from the Highsted Park development proposal for the application site area south of the A2.

4.2 A second possible option would be to suspend the work on this review until some point in the future. Whilst this option would not result in wasted consultancy fees and officer time, it could lead to the Highsted Park (south/main site) application being determined without a full understanding of heritage impact, which depending on which way the outcome goes, could either result in the Council not having the strongest possible heritage case to defend in the event of an appeal, or missing out on the opportunity to negotiate some important mitigations to limit visual harm to setting.

4.3 A third possible option would be to ignore some elements, or all of the feedback received, in terms of the suggested boundary change(s) and suggested additions to the factual information provided in the assessment document. However, whilst it is considered that the appraisal and management plan (to support the proposed designation of the conservation area) is essentially sound, the feedback provided from the local community in good faith and in a constructive vein is valuable and to ignore any of this feedback without sound reasons to do so would call the value of the consultation process into question and potentially deliver a reputational blow to the Council.

5 Consultation Undertaken or Proposed

5.1 As agreed in advance with the relevant Cabinet Member, Councillor Baldock, a 7-week public consultation exercise ran from Monday the 29th November, 2021 until Sunday the 16th January, 2022. The normal 6-week consultation period was extended to 7 weeks to make an allowance for the consultation period running over the Christmas break.

5.2 All those parties with property within, immediately outside, or overlapping the current conservation area boundary and within or overlapping the proposed extensions to it, were notified in writing of the area assessment and were invited to comment on it, as were key relevant organisations including Kent County Council and Historic England. Rodmersham Parish Council and the relevant ward councillor (West Downs Ward – Cllr. Bonney) were also consulted.

5.3 Restrictions on movement imposed due to the Coronavirus pandemic meant that the normal practice of providing hard copies of the review document at Swale House could not be followed, but the review document was available to view/download on-line via the Council's website for the duration of the 7-week public consultation period. Hard copies of the review document were made available to view at Sittingbourne Library, and at the more local level, on request via the Rodmersham Parish Council Clerk. In addition, officers designed a public consultation poster, copies of which were placed on the Swale House public notice board, public notice boards at Rodmersham and on the notice board at Sittingbourne Library in order to help further publicise the review work.

5.4 A total of 10 consultation responses have been received. Six of these have been from local residents, with three of these more or less simply stating their support for the proposed conservation area. The other three responses from local residents suggested changes to the assessment document, including the provision of additional factual information and changes to the proposed boundary.

5.5 In addition to the 6 local resident consultation responses referred to above, Rodmersham Parish Council has responded to the consultation advising that it fully supports the proposed conservation area designation and also that it considers the assessment document to on the whole be entirely appropriate. Its concerns about the alignment of the boundary for the proposed conservation area overlap with some of the local residents whom have responded and officers have attempted to taken on board the parish council's suggestions as fully as possible within the Historic England guidance framework on designating conservation areas (which includes advice on boundary alignment). A full copy of the Rodmersham Parish Council response forms **Appendix iii** to this report.

5.6 Historic England has responded and made some suggestions to alter the structure of the assessment document to essentially make it clearer, more convincing and more useful from a development management perspective and also in terms of supporting the development of the Swale Local List. I have been able to more or less take on board all of the constructive feedback from Historic England, as can be seen from the commentary in the consultation response table at Appendix i.

5.7 The Kent County Council Rights of Way & Access Service responded to confirm that there is a public right of way running into and from the proposed conservation area, and essentially that protecting the route of this needs to be taken into account in managing the area into the future. There was also some commentary on related public footpath signage, which it would appear has been taken somewhat out of context in relation to the commentary in the assessment

document on highway signage more generally. The commentary in the consultation response table at Appendix i, refers.

5.8 Montagu Evans (ME) responded to the consultation on behalf of Quinn Estates and advised, inter-alia, that the designation proposal should take into account its client's major development proposal for the area, which in particular would have a relatively close physical and visual relationship with the proposed conservation area. ME advised that the major development proposal has been been amended since submission to take into account concerns raised about the visual impact on the area of heritage interest around and including Rodmersham Parish Church, and that it now essentially considers the impacts in that regard to be adequately mitigated. Officers responses to the points made by ME can be found in relation to representation no. 7 in consultation response table at Appendix I, whilst a full copy of the ME consultation response letter is provided at **Appendix iv** to this report.

5.9 Finally, it should be noted that Kent County Council's Heritage Conservation Team are contracted by the Council to provide archaeological advice on development proposals and in support of area appraisal work, as the Council, in line with most other local planning authorities does not have an in-house specialist in this respect. As such, there is no consultation response from the county's Heritage Conservation Team as the Council's consultant liaised with the county's Principal Archaeologist at the outset of this review exercise, and his input was incorporated into the public consultation document. Kent County Council in its function as the Highway Authority was consulted on the conservation area review but provided no feedback in this respect. No response was received either from the county's Ecology Team (which was also consulted).

6 Implications

Issue	Implications
Corporate Plan	Priority 2 of the Plan is: 'Investing in our environment and responding positively to global challenges'. Objectives 2.1, 2.4 and 2.5 of this priority are respectively to: (2.1) 'Develop a coherent strategy to address the climate and ecological emergencies, aiming for carbon neutrality in the council's own operations by 2025 and in the whole borough by 2020, and pursue all opportunities to enhance biodiversity across the borough'. (2.4) 'Recognise and support our local heritage to give people pride in the place they live and boost the local tourism industry.

	(2.5) ‘Work towards a cleaner borough where recycling remains a focus, and ensure that the council acts as an exemplar environmental steward, making space for nature wherever possible’. The character appraisal and management strategy document, once amended as appropriate and subsequently adopted would support all 3 of the above-stated objectives from the Corporate Plan.
Financial, Resource and Property	There are no financial implications for the Council
Legal and Statutory	The Planning (Listed Buildings and Conservation Areas) Act 1990 places a duty on every local planning authority to “*determine which parts of their area are areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance*” and, from time to time, to review the functioning existing conservation areas. As such failure to follow through on this review work would mean that the council is failing to meet its statutory duties in relation to the designation and ongoing management of conservation areas.
Crime & Disorder	None identified at this stage.
Environmental Sustainability	One of the three dimensions of sustainable development is its environmental role: contributing to protecting and enhancing our natural, built and historic environment. The other two dimensions are a strong economy and a healthy and socially vibrant community
Health and Wellbeing	The health and wellbeing aspects of interaction with heritage assets and heritage related projects are referenced in the adopted Swale Heritage Strategy which underpins this review work.
Risk Management and Health and Safety	None identified at this stage.
Equality and Diversity	None identified at this stage.
Privacy and Data Protection	None identified at this stage.

7 Appendices

The following documents are to be published with this report and form part of the report:

- **Appendix i:** Public consultation – table of representations (in summary form), and the council's response to, and recommendation in relation to them

- **Appendix ii:** Public consultation version of the 2021 draft character appraisal and management plan document**,** showing alterations recommended by officers (as tracked changes)

- **Appendix iii:** Rodmersham Parish Council public consultation response

- **Appendix iv:** Montagu Evans (on behalf of Quinn Estates Ltd) public consultation response

8 Background Papers

None.

APPENDIX i: TABLE OF REPRESENTATIONS, AND THE COUNCIL'S RESPONSE AND RECOMMENDATIONS FOR ANY CHANGES TO THE ASSESSMENT DOCUMENT IN RELATION TO THEM – FOR PROPOSED RODMERSHAM CHURCH ST. C.A.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
1	Local resident	Support the proposed designation and impressed by the thoroughness and quality of the assessment document. Confused as to why this area had not been previously designated as it outshines Rodmersham Green in some respects. Can't really fault the assessment document except for perhaps including more detail on Glebe House – whilst it isn't listed, it's still an imposing and handsome building on the edge of the proposal. The area has largely managed to retain its rolling, glacial-formed landscape when viewed from high points. Giving the hamlet of Rodmersham some recourse against what seems like almost inevitable future development, it is of the utmost importance to grant it conservation area status.	It is not necessarily helpful to compare Rodmersham Green with the actual hamlet of Rodmersham as they have very distinct, different characters. The area in question is without doubt considered worthy of conservation area designation. The extent of information provided re Glebe House is considered to be proportionate and appropriate.	No change to the assessment document needed.
2	Local resident	In favour of the Council, working in partnership with local residents, businesses, the parish councils, the county council and other key stakeholders to manage the area sensitively to conserve its special character and appearance	Noted.	No change to the assessment document needed.
3	KCC Public Rights of Way & Access Service	Within the proposed Conservation Area boundary, a section of Public Footpath ZR208 is recorded. This path will remain on its existing alignment until such time as any formal application is submitted for diversion or extinguishment. In such an event, there is no guarantee the proposal will be successful, not least that it would be open to public objection, so the existence of this PROW	Noted. There is no intention to extinguish or divert the public footpath in question as part of the proposed management plan.	No change to the assessment document needed.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
3 (cont')	KCC Public Rights of Way & Access Service (cont')	should be regarded similarly to the continued existence of Church Street, i.e., a considerable degree of permanence. It is noted there is no suggestion within the Strategy to seek to divert or extinguish the path. In discussing the Public Realm (p.23), it is commented that highway signage does 'not necessarily respect the special character of the place'. PROW are public highways as with road highways such as Church Street. KCC, as the local highway authority, has a legal duty to install and maintain signage along a PROW including where a PROW leaves a metalled road (Countryside Act 1968 S27). KCC signage conforms to its agreed and approved standard, which it expects to maintain for the foreseeable future, principally as consistency is of benefit to path users.	The commentary contained within the assessment document is entirely appropriate. Elsewhere, it is the case that the injudicious use of highway-related signage, etc has resulted in visual harm to conservation areas in Swale Borough, though I am not aware of any situations where PROW signage results in, or materially contributes to such harm.	No change to the assessment document needed.
4	Historic England	The proposed designation and draft appraisal clearly set out the historic and architectural interest of the Rodmersham Church Conservation Area. We are pleased to see that the legislative background has been clearly stated and the character of each area has been carefully studied in line with Historic England guidance. We welcome the inclusion of important views within the conservation area appraisal draft, but we recommend all views identified should include a detailed description of the views and their constituent parts, alongside clear photographs, outlining the contribution the views make to the character and appearance of the conservation area.	Noted. Noted and the proposed suggestion can be largely accommodated without fundamentally altering the shape of the document	No change to the assessment document needed. The identified significant views will be indicated on the aerial photo map. The significance of each will be described where such information is

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
4 (cont')	Historic England			not already included in the text. The photos already included will be cross-reference alongside the description.
		When describing views, special attention should be given to identifying heritage qualities and sensitivities, such as if any existing development breaks above the roofline silhouette of any buildings or landscape features. Priority should be given to those views that make the greatest contribution to an appreciation of the character and appearance of the conservation area or principal landmark buildings within it. This would serve as a proactive and transparent approach to their management. You may find the following published planning advice useful: https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets/	Noted and the proposed suggestion can be largely accommodated without fundamentally altering the shape of the document	As per the above recommendation.
		Locally significant buildings which make a positive contribution to the conservation area are identified on the map on page 7, but in addition, Historic England recommends that these should be listed in a separate table and described to ensure their qualities are fully explained and transparent.	Noted, but including them listed out within the body of the document is considered more appropriate.	List of locally significant buildings to be provided in body of document in an amendment to the assessment document.
		The proposed management plan sets out practical guidance on preserving or enhancing the areas' special character or appearance. They also recommend opportunities for enhancement, which is welcomed by Historic England	Noted and acknowledged.	No change to the assessment document needed.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
4 (cont')	Historic England	Historic England supports the production of this statement and the associated management plan for the Rodmersham Church Conservation Area. However, we recommend your council takes the necessary steps to address the points made above to ensure the statements will facilitate sustainable development as set out in the NPPF. The comments provided do not address unscheduled archaeology. Please seek comments on these matters from your Council's own Archaeology Officer.	Noted and welcomed. The recommended steps are being taken as far as practically possible, as per the recommendations set out in this table. SBC does not have its own Archaeology Officer, but the advice of KCC's Principal Archaeologist was sought at the outset and his feedback is incorporated into the public consultation draft.	To make changes to the assessment document in line with those referenced above. No change to the assessment document needed.
5	Local resident	The proposed designation is supported, and the appraisal makes excellent recommendations to preserve the characteristics of the area. However, it would be better for the Appraisal to be titled 'Church Street' or 'Church and hamlet of Church Street' as the Rodmersham Church title suggests only the church would be within a conservation area.	This is a similar point to that made by Rodmersham Parish Council (see rep. no. 10). Careful consideration was given to the naming of the proposed CA, but on further reflection and in response to the comments made on this point, a revised name might be appropriate in the event that the proposed designation is agreed.	That in the event of the designation being agreed, that the name of the CA be changed to 'Rodmersham Church Street Conservation Area'.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
5 (con't)	Local resident	Some of the language used is particularly subjective, to the point of critical, e.g., "retention of grass verges is fundamental" - some verges cannot be retained due to the heavy amount of traffic through Church Street, particularly the large farm vehicles during harvesting.	Noted and acknowledged. However, such traditional soft verges are particularly vulnerable in farming communities and have been threatened and removed in recent years in the rural lanes around Rodmersham -to the notable detriment of rural character. It is important to avoid this type of edge treatment where possible.	No change to the assessment document needed.
		Re. P9, we are concerned that the farmland next to the church yard is not included in the proposed Conservation Area as this includes land that is currently used as a 'car park' for St Nicholas. Whilst the Appraisal highlights concrete kerbs as 'injudicious', the lack of protection for farmland to the left ('ancient orchard' prior to Brexit) could allow for further kerbing, signage and hard landscaping to assist vehicles and persons using the church. Also, the use of concrete kerbing has been used to prevent vehicles eroding the verge which has been planted up with spring bulbs.	The farmland in question provides the setting to the interesting cluster of buildings and spaces in between/immediately around them, but it is of little heritage interest in its own right and the established guidance suggests drawing boundaries tightly to reflect the special interest. The practical reasons for the installation of concrete kerbing are noted but see comment on this above.	No change to the assessment document needed.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
5 (cont')	Local resident	Re. P10, we are concerned that the proposed Conservation Area does not extend to Rodmersham Court Farm. There are a number of outbuildings dispersed around the farm, including the Grade ii Listed barn (in disrepair) that are characteristic of Rodmersham House (once called New House) such as old dog kennels and stables and these building should be preserved, unless they fall within the curtilage of Rodmersham House? Furthermore, the Conservation Area should extend to Ashgores at the other end of Church Street.	See comment on these points in relation to rep. no. 10 from the Parish Council.	Alignment of proposed CA boundary to be altered to include Ashgores House. The pre-1948 agricultural buildings associated with Rodmersham House (formerly New House), at Rodmersham Court Farm would benefit from protection through curtilage listing, so no change needed in respect of that particularly cluster of buildings.
		Re. P11, we are pleased to see the description of 5 Church Cottages included, which is marked on the map as 'locally significant'. Although unfortunately not Listed, it has some history within the hamlet.	Noted and acknowledged. The building is unlikely to be suitable for statutory listing based on the current listing selection guides, but may be appropriate for inclusion on the Swale Local List, as reflected in the notation to the proposed CA map.	No change to the assessment document needed.
		Re. P12, the surviving stables at Church Farm House have 'graffiti' of military names and numbers on the walls left by the Royal Dublin Fusiliers in 1918. This has been logged with the Archaeology Data Service. Photographs are available of the barn walls	The referenced graffiti adds to the special interest of the parent listed building and the curtilage listed stables in question	The supporting text to the listed building will be amended to reflect the special interest of the stables. With consent, a photo showing some of the graffiti may be added.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
5 (cont')	Local resident	Re. P13, '*The unexpected geometry of the front brick boundary wall……reflect the footprint of an original barn*". The wall reflects where the property's boundary ended prior to 2001, as requested by the Council in relation to a planning application, to alter the entrance. The design was stipulated to show where the entrance to a farm track was previously located, for access to farmland behind. The farm track and small paddock now form the front garden of Church Farm House. Two supporting photographs have been provided: 1. An aerial photo from 2012 which shows Church Street with its orchards. 2. A photo taken from the church tower (towards Church Farm House) showing large barn that once ran along Church Street.	The text in question will be amended to reference the context of a longstanding farm access track. Photo 1 helps shows how much orchard land has been lost in recent years, by comparing it with the later aerial photo on page 10, as does photo 2. Photo 2 is useful in understanding visual changes to the character of the hamlet from the loss of traditional farm buildings, including the large barn on Church Street frontage	The text on page 13 of the document to be amended as per the officer response opposite. Photo 1 to be used within the assessment document in an appropriate placement. Photo 2 to be also be used, although only if a clearer version of (somewhat fuzzy) image is possible. (Note: consent has been given to use both these images and a possible related third image)
6	Local resident	No objection to the proposal to make Rodmersham Church and surrounding area of Church Street a Conservation Area as defined and illustrated by Peter Bell in the Public Consultation Draft document.	Noted and welcomed.	No change to the assessment document needed.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
7	Montagu Evans on behalf of Quinn Estates	The Appraisal identifies the key buildings in the Conservation Area to comprise the Church of St Nicholas, and the collection of grade II buildings to the north of the church, to each side of Church Street. These comprise: Church House, Church House Cottage and Church House Farm (Matsons). The principal elements of the area which are identified as comprising the main reasons for designation are: (a) The medieval grade I listed Church of St Nicholas and its boundary wall and Lych gate; (b) The collection of grade II listed buildings to the northeast of the church, including Church House, Church House Farm, and Church House Cottage; and (c) The locally significant buildings Glebe House, Orchard Cottage and 5, Church Street. The setting of the Conservation Area is discussed and described in the draft Appraisal. We note the following key points are made: (a)The Appraisal places emphasises the relationship between the village group and its wider setting. The “sense of openness and long views” (section 2.3) and “strong” relationship between village and landscape setting (summary of significance on page 19) are described.	Noted and acknowledged. (as above) (as above) (as above) (as above) (as above) (as above)	No change to the assessment document needed. (as above) (as above) (as above) (as above) (as above) (as above)

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
7 (cont')	Montagu Evans on behalf of Quinn Estates	(b) The Appraisal states that "Views across the landscape are particularly important when approaching Rodmersham from the north or south". It is noted that "Landscape views are frequently punctuated by dispersed and isolated buildings or groups of buildings."	Noted and acknowledged.	No change to the assessment document needed
		(c) The Appraisal indicates that these can be appreciated particularly on the approach from the north, as the viewer looks eastwards (to their left), where long views are afforded across open fields and the isolated farmsteads can be appreciated.	(as above)	(as above)
		21/503906/EIOUT and 21/503914/EIOUT). The latter application should be considered in relation to the proposed designation.	(as above)	(as above)
		The Council will already be aware that Montagu Evans are acting on behalf of Quinn Estates, in support of the emerging proposals for Highsted Park (application refs. The proposals for the south site (21/503914/EIOUT) is an application for Outline Planning Permission with all matters reserved for the phased development of up to 578.65 hectares of land comprising: up to 8,000 residential dwellings[…]") . The application seeks to deliver residential, commercial and community uses as well as open space, green infrastructure and new vehicular routes. Part of the boundary of the south site is close to the village and the boundary of the proposed Rodmersham Church Conservation Area.	The LPA is carrying out its statutory duty in assessing an area of the Borough considered to be of architectural or historic interest worthy of conserving through a possible conservation area designation. The proposed major development scheme can be given very limited weight, particularly given that it does not relate to an allocation in the adopted Local Plan.	(as above)

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
7 (cont')	Montagu Evans on behalf of Quinn Estates	The village and its existing heritage designations were taken into account in the formulation and development of the proposals and through pre-application discussions with Swale Borough Council and Historic England. The masterplan identifies some areas of land to the south of the village to be developed for residential housing. Care has been taken to ensure the historic core of the village remains intact and well defined and that the new residential areas are located to the south, southeast and northeast with a significant landscaped bund that would be approximately 20m deep, acting as a noise and visual buffer. As set out in the ES assessment submitted with the application, there will be some impacts on the long views afforded across open fields from the edges of the proposed Conservation Area, in particular to the south east. The Church will however remain the focus of the village and the Conservation Area designation. There is likely to be an increase in traffic movements and noise along Church Street which is the central spine of the proposed Conservation Area, however this is not expected to be significant as the Southern Relief Road is expected to take the majority of the traffic travelling north and south between the London Road and the M2.	Noted and acknowledged. The proposed CA would serve to simply reflect and reinforce the significant heritage interest the area already holds with many of the building in the proposed area listed. However, the carrying out of this assessment work will enable the LPA to provide Quinn Estates as the applicant with a more informed response on the nature and extent of the anticipated heritage harm/impact which would arise from the scheme, as currently submitted, or otherwise. The traffic increase information is noted and acknowledged at this point.	No change to the assessment document needed.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
7 (cont')	Montagu Evans on behalf of Quinn Estates	Following consultation with Swale Borough Council and Historic England, the proposals are being revised and adapted to protect heritage assets further in order to further safeguard and protect the setting of the church and views to the northwest. This change will also preserve the appearance and setting of the proposed Conservation Area to the west, helping to preserve the "sense of openness and long views" and "strong" relationship between village and landscape.	It is acknowledged that the proposals are being amended. Assessment will take place and a view provided in due course (in relation to the application) as to whether the heritage impacts identified to date are adequately mitigated.	No change to the assessment document needed.
8	Local resident	Support the proposed new conservation area but would suggest expanding the boundary to include Rodmersham House, which seems a reasonable request, as it is a listed building, dating back to the early C17, it was listed at the same time as the church, and many of the other houses in 1967. This area of Rodmersham and its houses is one of the oldest in Swale, surviving from when the plague nearly wiped out its inhabitants, at which point, most of those who survived moved to Rodmersham Green. The role of Conservation Area status is not only to protect its listed buildings but to protect their setting, special architectural or historic character. It is a shame that The Lodge (now known as Golden Wood) is unable to have protection, as it appears on the second edition of Ordnance Survey and was the rear entrance to Rodmersham House, with such architectural features that should be protected.	See comment on these points in relation to rep. no. 10 from the Parish Council The feedback provided here is noted and acknowledged, but without referencing cannot be accepted as factually correct at this point. It is acknowledged that The Lodge/Golden Wood is shown on the OS mapping as referenced. This house given its age and architectural features would be a suitable candidate for the local list.	No change to the assessment document needed. Section 2.1 of the assessment document to be amended if the feedback provided on this local history matter bears scrutiny. No change to the assessment document needed.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
9	Local resident	We are pleased to see the character of Rodmersham Church area recognised in this review and, in particular the connection between this group of buildings and their setting with the surrounding landscape. We look forward to this CA being adopted as part of Swale's Heritage Strategy.	Noted and welcomed.	No change to the assessment document needed.
10	Rodmersham Parish Council	The Parish Council (PC) supports the proposed designation. Just to be clear, Rodmersham is a collection of hamlets and settlements; Rodmersham Green, Church Street/St Nicholas Church, Upper Rodmersham, Dungate, Pitstock and Highsted Valley are all part of 'Rodmersham'. However, the PC would like the following (summarised here by officers) comments added to the assessment document: The farmland (with orchard) adjacent to the church is a key part of its setting. The Lord of the Manor (GH Dean) has allowed visitors and users of the church to park on the farmland next to the churchyard. Over the last few years, the boundary between the churchyard and the farmland has been removed. This has created an openness, and when standing in either the churchyard or the farmland, it is difficult to distinguish either, creating a borrowed landscape. The PC therefore considers that at the very least, part of the adjacent field should be included inside the conservation boundary. It's feared that the car park may become more heavily landscaped which would detract from the visual appearance of the setting to the church. The setting of the church is vital to this hamlet.	Noted and acknowledged. This is reflected to some degree in the wording used in the history section at 2.1. Inclusion of the church car park is on balance appropriate so that specific CA management measures or recommendations could apply to it. The car park has a clearly definable boundary which is not the case with the wider area referenced. However, that wider area would still enjoy some protection by forming part of the setting to the proposed CA and in turn, the listed church.	No change to the assessment document needed. Alignment of proposed CA boundary to be altered to include Rodmersham Parish Church car park.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
10 (cont')	Rodmersham Parish Council	The kerbing referred to on page 23 has been installed to prevent vehicles eroding the soft landscaping that has recently been planted with bulbs. If the conservation officer has any suggestions as to how this landscaping can be better protected, the PC would welcome such advice. Posts and bollards have not worked to date.	The section of raised concrete kerbing is small and is provided on the highway verge side of a rainwater drain to the highway. The functionality of the kerbing is questionable and planting of the verge area with low level hedging (so as not to obscure the fire hydrant signage might represent a more appropriate visual treatment of this area, which is also practical and relatively low maintenance. It is noted that there is quite a lot of concrete kerbing in the hamlet, and this should be removed where possible.	The summary of opportunities text box at Section 4.5 to be amended slightly to reference the possible use of hedged verges as well as grassy verges.
		The PC feels very strongly that Ashgores House should be included in the proposed conservation area. Whilst not listed, it is an attractive period building seen, and often commented on, as the first house in Rodmersham, and it's visually the gateway into the hamlet and Rodmersham area. This is reinforced by the village welcome sign being located adjacent to Ashgores House. Its prominence is obvious in the landscape, and the field between Ashgores House and the next property to the south (within the proposed CA) is relatively small in the wider context. Furthermore, the boundary of Ashgores House is in keeping with the rest of the Rodmersham settlement, with hedges, trees and gates.	Following the feedback from the Parish Council and other parties on this particular matter, it is considered that there is adequate justification to include Ashgores House within the boundary of the proposed conservation area. The more elevated views from here are noted.	Ashgores House to be included within a revision to the boundary for the proposed conservation area. The elevated view over the shallow dry valley to the east and downhill, south, in the core of the proposed conservation area to be noted in the assessment document.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
10 (con't)	Rodmersham Parish Council	The PC also feels very strongly that Rodmersham Court Farm should be mentioned. The large, listed house (Rodmersham House) with adjacent listed farm complex (including stables, dog kennels and barns) was home to the Lord of the Manor. The house and estate have taken responsibility for the surrounding farmland and for the church. The relationship between the estate and the church can be evidenced with the presence of the Mercers Grand Memorial in the churchyard. Most recently, the occupants have contributed significant sums towards the church repairs. The estate fencing (i.e. the iron railing, page 23, plate 11) can be seen all around the Rodmersham settlement in both directions along Church Street, including up to the front wall of the church.	It is agreed that it would be appropriate make reference to the Rodmersham Court Farm as an important element of the landscape forming the setting to the proposed conservation area.	Reference to be made to Rodmersham House and the Rodmersham Court Farm buildings in section 2.2 of the assessment document, which considers setting. The reference will note the continuity of estate railing design and usage between the two distinct areas.
		Until recently, there was an ancient cherry orchard beside the churchyard, but unfortunately this has been removed and replanted with modern dwarf apple stocks.	Noted and acknowledged. This is outside the remit of the LPA's control.	No change to the assessment document needed.
		The PC considers the estate complex should (also) be part of the conservation area. It's acknowledged there's an intervening gap, but together they still form the (isolated) settlement. The estate still owns the majority of the properties in the Church Street hamlet – farm workers cottages, etc. It's also pointed out that Church Farmhouse (previously Eagle Lodge and Matsons) is all that remains of Church Farm – a significant fruit farm for over a century,	The cluster of buildings around grade II listed Rodmersham House derives some protection from the setting considerations that have to be considered in relation to development affecting a listed building. There's a large gap between the Rodmersham House cluster and the parish church cluster of buildings with the majority	Boundary of proposed conservation area not to be altered to include Rodmersham House and the associated agricultural buildings and cottages, but the name of the proposed conservation area, if designated, to be known as the Rodmersham Church Street Conservation Area.

Rep. No(s).	Representation By	Summary of Representation	Officer Response	Recommendation
10 (cont')	Rodmersham Parish Council	The PC agrees with other commentators, that the area should be called Rodmersham Church Street Conservation Area due to the many listed/graded buildings in the vicinity.	of the intervening space being of limited heritage significance. Not including the Rodmersham House cluster does not diminish the significance of the listed building or its historic and ongoing connection with the church-centred hamlet. The approach taken in this respect is considered to be in line with the Historic England guidance, and consistent with the approach adopted per Tunstall CA, where a similar situation applies.	(see above)

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CONTENTS

Front cover: Church Cottage, Church Street

FOREWORD

"Historic buildings and places add to the quality of people's lives and help to create a sense of place that we all identify with.

As a community and as a local authority, we have a responsibility to safeguard our historic assets for future generations and to make sure that they are not compromised by unsympathetic alterations or poor-quality developments. Conservation area designation and subsequent management is one way in which this can be achieved.

Conservation areas are not intended to stop development or to prevent change. Rather, they give the local community and the Borough Council the means to positively manage change and to protect what is special about the area from being harmed or lost altogether.

Swale Borough is fortunate in having such a rich and varied mix of built and natural heritage. The Borough Council wants to see it used positively as a catalyst to sustainable, sensitive regeneration and development, and to creating places where people want to live, work, and make the most of their leisure time. To that end, we have surveyed and appraised Rodmersham Church area on the basis that it appears to display all the special qualities befitting of conservation area status. The results are set out in this document, which the Borough Council is now seeking constructive feedback on.

This assessment of the Rodmersham Church area has directly derived from the work on one of a series of conservation area reviews which the Borough Council is committed to undertaking, following the adoption of the Swale Heritage Strategy 2020 - 2032."

Councillor Mike Baldock,
Cabinet Member for Planning and
Swale Borough Council Heritage
Champion

Mike Baldock

1.0 INTRODUCTION

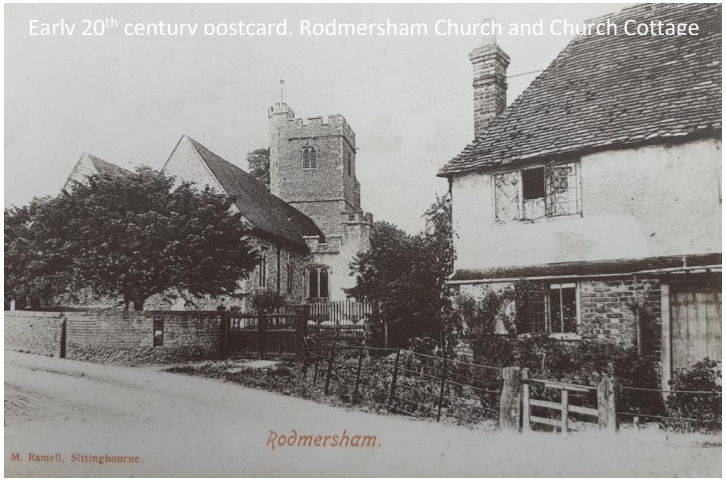
1.1 Background to this appraisal

Rodmersham, that is the hamlet on Church Street around St. Nicholas Parish Church, is not currently designated as a conservation area although it contains a number of highly significant listed buildings.

During the recent review of Rodmersham Green Conservation Area, Rodmersham was identified as having the potential to be designated as a conservation area in its own right. Consequently it has been the subject of detailed assessment and appraisal.

This appraisal assesses the architecture and history of Rodmersham and concludes that it is an area of special architectural and historic interest and that it meets the criteria for conservation area designation.

The author would like to thank all those who contributed to the production of this character appraisal.



Early 20th century postcard. Rodmersham Church and Church Cottage

1.2 The purpose of conservation areas

Conservation Areas were first introduced in the Civic Amenities Act 1967. A conservation area is defined as “an area of special architectural or historic interest, the character or appearance of which

it is desirable to preserve or enhance"[1].

It is the duty of the local planning authority "to determine whether any parts or any further parts of their area should be designated as conservation areas; and if they so determine, they shall designate those parts accordingly."[2]

The aim of conservation area designation is to protect historic places and to assist in positively managing change, so that their special character is safeguarded and sustained.

Areas may be designated for their architecture, historic layout, use of characteristic or local materials, style, or landscaping. Above all, conservation areas should be cohesive areas in which buildings and spaces create unique environments that are of special architectural or historic interest.

Conservation area designation provides extra protection in the following ways:

- Local planning authorities have control over most demolition of buildings.
- Local planning authorities have extra control over householder development.
- Special provision is made to protect trees in conservation areas.
- When assessing planning applications, the local planning authority must pay special attention to the desirability of preserving or enhancing the character or appearance of a conservation area and its setting.
- Policies in the Local Development Plan positively encourage development which preserves or enhances the character or appearance of conservation areas.

1.3 The purpose and status of this character appraisal and management strategy

A Conservation Area Character Appraisal is an assessment and a record of the special architectural or historic interest which gives rise to the character and appearance of a place. The appraisal is a factual and objective analysis, which seeks to identify the distinctiveness of a place by defining the attributes that contribute to its special character. It should be noted, however, that the appraisal cannot be all-inclusive, and that the omission of any particular building, feature or space should not be taken to imply that it is not of interest. In some cases, significance may only be fully identified at such time as a feature or a building is subject to the rigorous assessment that an individual planning application necessitates.

A fundamental part of the appraisal of Rodmersham is to assess whether it possesses the level of special architectural or historic interest which merits it being designated as a conservation area.

The appraisal includes a management strategy to help the Borough Council, the Parish Council and other stakeholders positively manage the proposed conservation area, in the event of conservation area status being granted. A management strategy may include action points, design guidance and site-specific guidance where appropriate. It can identify potential threats to the character of the area and can,

[1] Section 69 (1)(a) Planning (Listed Buildings and Conservation Areas) Act 1990.

[2] Section 69 (2) Planning (Listed Buildings and Conservation Areas) Act 1990

where appropriate, identify the potential for Article 4 Directions or local heritage listing.

An appraisal may also serve as a basis for the formulation and evaluation of Development Plan policies, as a material consideration in the making of development management decisions by the local planning authority, and by the Planning Inspectorate in determining planning appeals. It can also heighten awareness of the special character of the place to help inform local Parish Councils in the formulation of Neighbourhood Plans, Village Design Statements and individual's in design choices.

This proposed Conservation Area Character Appraisal has been compiled in consultation with local organisations, elected representatives and council officials. It is to be the subject of public consultation and is prepared with a view to being formally adopted for development management purposes in the event of the conservation area status being granted.

The purpose of this proposed Conservation Area Character Appraisal and Management Strategy is:

- To identify the heritage significance of the Rodmersham – i.e. the value that the area has to this and future generations because of its heritage interest – which may be archaeological, architectural, artistic or historic interest.
- To determine whether Rodmersham possesses the special architectural or historic character which merits designation as a conservation area.
- To increase public awareness and involvement in the preservation and enhancement of the area.
- To provide a framework for making planning decisions, to guide positive change and regeneration.
- To highlight particular issues and features which detract from the character or appearance of the proposed conservation area which offer potential for enhancement or improvement through positive management.

The map on page 7 shows the extent of the proposed Rodmersham Church Street Conservation Area. It also shows listed buildings which appeared on the National Heritage List in October 2021 and other buildings which have been assessed as having local heritage interest.


St. Nicholas Churchyard


50 m
100 ft
CHURCH STREET
Ashgores House
Pond
Glebe Cottage
Glebe House
Rodmersham
Church House
St Nicholas's
House
Church House Farm
LB
Lych Gate
Orchard
Church Cottages
CHURCH STREET
KEY
Proposed C.A. Boundary
Locally Significant Buildings
Public Rights of Way
Listed Buildings (grade I)
Listed Buildings (grade II)
Ordnance Survey - data derived from OS Premium
Proposed boundary alignment amendment to proposed Rodmersham Church Street Conservation Area
Scale: 1:2500
Printed on: 31/1/2022 at 16:41 PM by SimonA

2.0 RODMERSHAM CHURCH STREET CHARACTER APPRAISAL

2.1 The history of Rodmersham

The civil parish of Rodmersham is made up of the two small settlements of Rodmersham and Upper Rodmersham, and the larger village of Rodmersham Green.

The name Rodmersham is derived from the Anglo Saxon Hrothmaer's Ham, meaning Hrothmaer's settlement or village – Hrothmaer being a man's name. Given its early origins it is perhaps surprising that there is no mention of Rodmersham in the Doomsday survey of 1086.

In medieval times Rodmersham fell under the Manor of Milton and consisted mainly of dispersed farmhouses and cottages. If there was a centre to the parish at that time it would have almost certainly have been around the Parish Church but it is unlikely to have had a sizeable population. The church dates from the 13th century and is dedicated to St. Nicholas.

As the local population grew during the 17th and 18th centuries it gravitated towards Rodmersham Green, some 1km to the south-west, where commoners had rights to graze cattle courtesy of the Lord of the Manor. Most of the local community would have been involved in arable and pastoral farming and in fruit and hop growing.

In 1798 Edward Hasted described the Parish of Rodmersham as: "The land in the lower or northern part of this parish is rich and fertile for corn, and is let at a high rent, but higher up among the hills it becomes chalky and light, and much of it very poor. It is not an unpleasant situation, and considering its nearness to a very unwholesome country, is not so unhealthy as might be expected."[3]

Limited expansion during the 19th and 20th centuries mainly consisted of tied cottages provided by the farms for farm labourers.

2.2 Topography, geology, landscape and setting

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[3] Edward Hasted. *The History and Topographical Survey of the County of Kent* (1798).

Rodmersham lies 3 kilometres (2 miles) south-east of Sittingbourne town centre, on the northern edge of the North Downs dip slope and to the east of Highsted Valley. It is a small linear settlement along Church Street~~Road~~ which connects the former Watling Street to the north with Dungate to the south. The hamlet is 40m above sea level and the surrounding topography is characterised by undulating chalk downland with dry valleys supporting productive farmland on loamy soils (plate 1).

For a large part of the 20th century Rodmersham was surrounded by fruit orchards and hop gardens. However, many ~~but not all of the orchards~~ have been grubbed out and arable farming is now predominant. The aerial photograph at 1A was taken in 2012 and shows the extent of orchards at that time.

The local landscape is identified in the Swale Local Landscape Designation as the Rodmersham Mixed Farmlands[4] and described as "a rural landscape, much opened up for intensive arable farmland, although locally valued elements are present including a sense of openness and long views". Views across the landscape are particularly important when approaching Rodmersham from the north or the south as they provide its distinctive agricultural setting. They also feature in 360 degree views from the church tower.

Rodmersham has always been a small, distinctly separate settlement, in a characterful countryside setting. However, because of the historic ~~type of~~ land tenure, the landscape is peppered with farmhouses, cottages and farm buildings. Consequently, landscape views are frequently punctuated by dispersed and isolated buildings or groups of buildings.

Rodmersham Court Farm complex is a significant historic group in itself and forms an important part of the setting, to the south of the proposed conservation area.

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[4] in the Swale Local Landscape Designation LUC October 2018 and the Swale Landscape Character and Biodiversity Appraisal, Jacobs 2011

The aerial photograph on page 10 illustrates the strong relationship ~~which exists~~ between Rodmersham and its surrounding landscape.

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~~2.3 Buildings~~

~~Rodmersham is made up of a small number of highly significant listed buildings and a slightly larger number of less significant buildings.~~

~~The Parish Church, dedicated to St. Nicholas, is prominently located close to Church Street. (plates 2 and 4). It is possible that there was a pre-conquest church on the site but the current building dates from the 13th, 14th and 15th centuries and was heavily restored by architect S. S. Saltwood between 1875 and 1893 including the addition of the south porch. Constructed predominantly of knapped flint with stone dressings under a Kent peg tile roof, the church is renowned for its handsome west tower which is visible for some considerable distance from all directions. It also has some particularly fine internal fittings.~~

~~The surrounding graveyard is well maintained and is a place of distinct character and tranquillity.~~

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The timber-framed lych gate (plate 3) and the long knapped flint boundary wall and a row of yew trees (plate 4) contribute to the distinct sense of place and have a strong presence on Church Street. They provide interesting glimpses of the church.

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date, they are relatively restrained and have a neutral impact on the character of the place.

Number 5 Church Cottage has the appearance of an estate cottage (plate 6). It dates from circa 1880 and was originally occupied by the church sexton. Built of local yellow stock brickwork it has a distinctive open gabled porch, a decorative plaque above the porch and a hipped slate roof. The introduction of uPVC windows in place of the original timber sash windows and uPVC cladding to the south elevation are unfortunate, but easily reversed, alterations.

Facing the church on the south–east side of Church Street are two pairs of tied cottages (plate 5) dating from the 1960s. Although late in

Church Cottage (plate 7) is located immediately north-east of the church, close to the road, behind a flint boundary wall. It dates from the 16th century and is noteworthy for its steeply pitched Kent peg tile roof and close-studded timber-framing on its first floor.

To its north, in the centre of the hamlet, two Georgian houses face each other on opposite~~, either~~ side of Church Street. Both are well set back and partly hidden behind well-established hedges and trees.

Church Farm House (formerly known as Matsons) (plate 8) is located on the south-east side of the road. Its polite Georgian frontage conceals a much earlier 16th century range at the rear. The 2-storey front elevation is constructed of red brick with a handsome central doorcase with pilasters, a fanlight and an open pediment. Its slate roof sits behind a dentilled parapet.

The tithe map and early Ordnance Survey maps at appendix 1 show that this former farm house originally had more extensive farm buildings. Those that survive today include stables, a coach house and the evidence of an oast house with two round kilns, all of significance in their own right.

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The unexpected geometry of the front brick boundary wall facing Church Street ~~may~~, in part, reflects the footprint of an original barn and the entrance to a former farm track.

~~8~~

Church House (plate 9) on the north-east side of Church Street, is best appreciated from the public footpath that skirts the south eastern edge of its leafy, well-established garden. Its original five-bay Georgian elevation displays attractive chequered red and grey brickwork under a Kent peg tile roof with dormer windows. A gabled early 19th century range was added to the south creating an interesting architectural juxtaposition from different periods.

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Brick boundary walls extend to the north of Church Farmhouse and Church House on both sides of Church Street as far as open paddocks.

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The wall on the north--west side of the road continues as far as two sets of 20th century red brick agricultural tied cottages: 1-3 Church Street Cottages (plate 10) date from the 1960s, whereas 4-5 Church Street Cottages (plate 11) date from the 1930s.

Glebe House and Glebe Cottage (plate 12) first appear on the 1896 Ordnance Survey map as 'vicarage'. Glebe Cottage originally served the purpose of coach house and stables before being converted to a house. Both buildings exhibit distinct architectural characteristics of the late 19th century Arts and Crafts Movement including: steeply pitched clay tile roofs with decorative ridge tiles; a mix of hips, half hips and gables, the gables include decorative close studding or openwork trusses; prominent brick chimney stacks; a weather vane; and red brick banding to yellow brick walls. A brick garden wall extends from Glebe Cottage to the east, enclosing the garden to Glebe House.

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Ordnance Survey maps until 1938 so it is not as old as it appears at first glance. It has heightened presence because of its elevated position and relative isolation.

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Ashgores House (plate 12a) marks the start of the village when approaching from the north. The house does not appear on

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2.4 Building Materials

The distinct character of Rodmersham owes much to the variety of architectural styles, materials and details displayed in its buildings. Building materials were used to express architectural aspirations as well as changing fashions. Until the transport revolution of the mid-19th century, virtually all building materials were locally sourced and manufactured. Consequently they are often a true expression of the locality and its natural resources. Even materials that were in common use at the time make a valuable contribution to local character and distinctiveness.

The earlier domestic buildings of Rodmersham were built of timber-framed construction and are important survivals because of their age

12a

and type. As oak for building became harder to source, brick became universally fashionable during the 17th and 18th centuries. Brick was used extensively for new buildings and to over-clad old buildings to give them a more fashionable appearance. Kent peg tiles were the preferred choice for roofing in the 17th and 18th centuries but they gave way to slate during the early 19th century, particularly once the railway came to Sittingbourne in 1848. Modern machine made bricks, concrete roof tiles and uPVC windows are less characterful materials introduced during the mid to late 20th century. Flint, sourced

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from local fields or from chalk quarrying, was the only stone available locally.

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Stone: Good building stone was not readily available in this part of Kent with the exception of flint which was the only naturally occurring building stone around Rodmersham. Flints appear in seams within the chalk bedrock and were either brought to the surface naturally by farming or uncovered as a by-product of lime quarrying which took place locally. Flints were either laid as field flints or split and knapped with a hammer in order to reveal the dark shiny inner surface in more polite architecture. Flint is used extensively on the Parish Church and in boundary walls (plate 13).

Timber frame: Oak framing was commonly used in building construction during the medieval period when local woodlands offered an ample supply of good and durable building materials. Church Cottage is the only house in Rodmersham that still exhibits oak timber framing externally (plate 14). Other buildings have had their frames concealed behind later facades. The timber-framed tradition continued in softwood framing well into the Georgian period and even later in farm and utility buildings.

Brick: Brick earth was in plentiful supply in North Kent so, not surprisingly, brickwork is a familiar building material in Rodmersham. There is a wide variety in the size, bond, colour and character of the bricks, depending on their age, style or function.

Earlier examples of brickwork are irregular clamp-fired red bricks used during the 17th century. However, in the centuries that followed, the shape, size and coursing of brickwork became more regularised and uniform. Local yellow stock brickwork was fashionable from the Regency period and the combination of yellow and red brick achieved the polychromatic effect that was associated with the High Victorian

era and the Arts and Crafts Movement (plate 15). Wood-fired red brickwork often includes smoky grey header bricks (plate 16) which were sometimes used for decorative effect, such as at Church House (plate 9)

Kent peg tiles: The name 'peg tile' refers to a plain clay tile suspended from the top edge of a tiling lath. Traditionally peg tiles were held in place by a small wooden peg or latterly an aluminium 'drop', wedged into, or passed through one of the two holes in the head of the tile. Simple firing methods and local clays produced strong, durable and light peg tiles, many in warm orange/red terracotta colours. Imperfections in the raw clay and the hand manufacturing process resulted in a richness and variety in colour and shape. They are renowned for their warm and varied colours and the rich texture which cannot be replicated in modern machine-made tiles.

Until the 19th century, hand-made clay peg tiles were the preferred roof covering for buildings throughout Kent. Tiles continued to be handmade from local clays well into the 20th century and there are still a handful of manufacturers today. They are a characteristic roofing material of the south-east of England and dominate the roofscapes of many towns and villages, including Rodmersham. Kent peg tile roofs are visually prominent because of the steep pitch of the roofs on which they are laid (typically steeper than 35 degrees). Kent peg tiles are used as tile hanging as well as roofs in the example at (plate 17).

17

Slate: Slate roofs rarely appear before the turn of the 19th century. However, they became very widely used in the area after rail transport made it more easily accessible. Slate was imported, mainly from Wales, and gave rise to shallower roof pitches of between 30 and 35 degrees. Slate appears on a handful of buildings in Rodmersham.

Modern building materials: In recent decades mass produced concrete roof tiles and uPVC windows have been used within Rodmersham but they do not generally sit comfortably within the context of the historic village architectural language.

2.5

Boundary fences, railings and walls

Boundary treatments are an important aspect of the character of Rodmersham. Long boundary walls in flint and brick are a defining characteristic of the place, particularly on Church Street where walls follow and define the geometry of the highway. Picket fences, agricultural fences, cleft chestnut fences and wrought iron estate railings also appear in places and also contribute to character.

The wrought iron estate railings ~~found south of the church~~ facing Church Street between the parish church and Rodmersham Court are a good survival. They could beneficially be used as a pattern for fencing elsewhere in the hamlet as they retain the openness of their surroundings in an elegant and traditional way.

The post box built into the churchyard wall (plate 18) is a pleasing feature.

2.6 Trees

Trees play an important role in contributing to the special character of Rodmersham. They create enclosure, provide the backdrop to buildings and define space as one passes through the hamlet, in contrast to the relative openness of the surrounding landscape. Plate 19, taken from the church tower, shows just how important they are in defining the character of the place.

Indigenous species predominate but there are a couple of mature Cedars of Lebanon (plates 12 and 20) which are often associated with historic estates or parklands. Yew trees are found in the churchyard, including a formal row of Yews planted behind the boundary wall on Church Street (plate 2).

2.6 Archaeology

The Kent Heritage Environment Record (HER) documents little of archaeological significance in Rodmersham, most likely due to the lack of investigation. Most of its entries relate to prehistoric flints dating from the Palaeolithic age.

There are earthworks in Highsted Wood to the west and findings during nearby quarrying show rich Iron Age and Roman remains as well as Bronze Age and Neolithic.

2.7 The Public Highway

As it passes through the hamlet, slight bends in the geometry of Church Street reveal ever changing views and vistas. On approach from both north and south there is a marked contrast between the rural informality of the countryside with its grassy verges, and the slight formality of the village where grassy verges give way to 20th century concrete kerbs in places, particularly around the church.

Fortunately, Rodmersham has escaped the ubiquitous highway signs, road markings, speed restriction signs and traffic calming measures seen in other villages, much to its benefit.

Overhead utility cables and poles are, however, an unfortunate visual intrusion in places.

3.0 SUMMARY AND CONCLUSION

Rodmersham is small geographically but it has a strong and coherent character based on its medieval church and its long farming history. The variety of building styles, spanning several centuries, and their close relationship to Church Street and to the surrounding countryside are a defining feature of the hamlet.

Local building materials are strongly in evidence, including flintwork, timber framing, yellow and red brickwork, Kent peg tiles and slate. Walls, fences, hedgerows and trees also make a distinct contribution to the special character of the place.

The caliber of the buildings and the spaces between them make Rodmersham an area of special architectural or historic interest, the

character or appearance of which it is desirable to preserve or enhance. As such it meets the criteria for conservation area designation.

Some of the buildings are already protected by statutory listing and this has undoubtedly contributed to their conservation in recent decades. Other buildings and spaces have been well managed over time and will no doubt continue as such.

However, there is always potential for unsympathetic development or even small alterations which could have a disproportionate and harmful impact on the special character of Rodmersham or its setting. Conservation area designation would provide a positive framework to help manage change sensitively in the future.

Summary of significance

The special interest of Rodmersham can be summarised as follows:

- A small settlement which originated as a farming community in the medieval period.
- The ancient Parish Church and graveyard which provides a visual focus to the village and contrasts vividly with the domestic buildings roundabout.
- The architectural contribution made by several listed buildings as well as some noteworthy non-designated buildings.
- The eclectic mix of traditional local building styles, forms and building materials.
- The contribution which boundary walls, railings and fences make is a defining feature.
- The strong historic, visual and functional link between the settlement and its surrounding landscape, in particular the views which connect Rodmersham with its surrounding landscape and vice versa.
- The contribution which mature trees make to the character and appearance of the hamlet.

Summary of Key Characteristics

Key Positive Characteristics:

- The strong sense of visual identity provided by the Parish Church and by Church Street.
- The mix of building styles exhibited in buildings from several centuries. Key historic buildings such the Parish Church, Church Cottage, Church House and Church House Farm play a key role in defining the character of Rodmersham.

- The use of vernacular building materials: in particular timber-framing, flintwork, brickwork and Kent peg tiles.
- The character of Church Street, its typically soft green verges and the changing vistas that it provides.
- The contribution made by mature trees, hedgerows and planting.
- The strong relationship between the village and the surrounding landscape, experienced through views and vistas and through the public footpath network.
- Despite its close proximity to suburban Sittingbourne, it retains a strong and independent sense of identity and place.

Key Negative Characteristics:

- The occasional use of non-indigenous building materials such as uPVC windows, uPVC cladding or concrete roof tiles.
- Overhead cables and utility poles which are visually intrusive in places.
- Concrete highway kerbs which detract from the rural character of the village but which are fortunately limited in number.

4.0 CONSERVATION AREA MANAGEMENT STRATEGY

If the decision is taken to designate a conservation area, then that is not an end in itself. Designation is a way of recognising the special architectural or historic character of an area so that appropriate steps can be taken to preserve or enhance it.

Conservation is not about preventing change; the proposed Rodmersham Church Street Conservation Area is part of a living community and change is inevitable to sustain and meet its future needs. It is about positively managing change so that what the community cherishes today can be properly looked after and passed on to future generations in good condition.

This management strategy is intended to encourage active involvement in the future management of the proposed Rodmersham Church Street Conservation Area. It provides the opportunity for the Borough Council, the Parish Council, local amenity groups, Kent Highways, Kent County Council, individual householders and local businesses to take part in positively managing the area.

4.1 Statutes and policies

When a conservation area is designated, there are statutes, planning policies and regulations which govern which types of development requires planning permission and the way that the local planning authority undertakes plan making and decision taking. The statutes and policies that directly affect designated conservation areas are outlined in appendix 3.

It is those statutes and policies which provide the framework for managing change in conservation areas. Most significantly, the local planning authority is legally required to pay special attention to the desirability of preserving or enhancing the character or appearance of any conservation area in the exercise of all its planning functions.

The Swale Borough Local Plan aims to ensure that the significance of conservation areas is sustained and enhanced through:

- Preservation or enhancement of the area's special character or appearance.
- Preservation or enhancement of the setting of the conservation area and of other designated heritage assets.
- Safeguarding and better revealing the significance of any archaeology.
- Protection and enhancement of landmarks, views and vistas within and without the conservation area.
- Safeguarding non-designated heritage assets which make a positive contribution to the significance of the area.
- Safeguarding significant spaces.
- Safeguarding significant trees.
- Promotion of high quality design in new development which responds positively to context and the distinct character of the conservation area.
- Continued sensitive management of the public realm.
- Requiring development to respond positively to the Borough Council's conservation area character appraisal where these have been adopted.

4.2 Published guidance

There is a wealth of published guidance on positively managing change in conservation areas. Historic England has published a range of guidance and advice notes which are listed in the bibliography at appendix 4. Swale Borough Council has adopted supplementary planning documents which are listed at appendix 3.

4.3 Householder alterations

Where householder alterations are proposed which require planning permission, the Council will typically seek to ensure that those alterations enhance the special character and appearance of the conservation area.

Opportunities to reinstate missing architectural features (such as sash windows, panelled doors or original roof coverings) and traditional boundary treatments will be encouraged by the Council and may be requested in relation to planning applications for extensions and/or alterations, where appropriate.

The Conservation Area Character Appraisal has identified some householder alterations which have involved the removal of historic features such as period windows, doors, roof coverings and chimney stacks.

Even in conservation areas, some householder alterations to unlisted buildings can be undertaken without the need for planning permission. In particular, the cumulative impact of ill-considered alterations to traditional properties can have a harmful effect on the character and appearance of a conservation area. Such alterations have, and could continue to erode the character of the proposed Rodmersham Church Conservation Area over time.

In light of the above, Swale Borough Council as local planning authority consider that the use of an Article 4 Direction would be appropriate and justified in order to bring some householder alterations (which are currently classed as permitted development) under planning control, to ensure that all alterations are positively managed.

Householder alterations which could be brought under control with an Article 4 Direction in Rodmersham include the following:

- Replacement windows and doors.
- Changes to roof coverings.
- Removal of chimney stacks.
- The installation of satellite dishes and solar photovoltaic panels on the front wall or roofslope.
- Alterations to fences, railings and boundary walls.
- Adding a porch.
- Installing rooflights in the front roofslope.
- Replacing a soft-landscaped front garden with hard surfacing.
- Outbuildings

The possible introduction of any Article 4 Direction limiting householder permitted development rights would be subject to a separate public consultation.

4.4 Swale local heritage list

Arising from Swale's adopted Heritage Strategy 2020 - 2032, the Borough Council is compiling a Local Heritage List in order to identify heritage assets which are not formally designated as listed buildings.

The Local Heritage List:

- raises awareness of an area's local heritage assets and their importance to local distinctiveness;
- informs developers, owners, council officers and members about buildings within the local authority boundary that are desirable to retain and protect;
- provides guidance and specialist advice to owners to help protect the character and setting of those buildings, structures, sites and landscapes;
- helps the council in its decision making when discussing proposals and determining planning applications; and
- records the nature of the local historic environment more accurately.

The impact of any development on a building or site which is included within the Local Heritage List will be a material consideration when the council considers an application for planning permission.

A small number of unlisted buildings in the proposed Rodmersham Church Street Conservation Area could be considered for inclusion within the Swale Local Heritage List including: Ashgores House, 5 Church Cottages, Glebe Cottage, Glebe House, Orchard Cottage, and Outbuildings to south east and south-west of Church Farm House

4.5 Public realm

The public realm (that is those areas which fall between the buildings and are enjoyed by the public) makes a significant positive contribution to the special character of the proposed ~~Rodmersham~~ Rodmersham Church Street Conservation Area. The churchyard, Church Street and public footpaths, all fall within the public realm and provide limited opportunities for enhancement.

In rural conservation areas, it is especially necessary to guard against standard highway 'improvements' which do not necessarily respect the special character of the place. The injudicious use of concrete kerbs and off-the-shelf or unnecessary road signs can have a disproportionate and harmful impact.

The retention of soft verges (without concrete kerbs) is fundamental to the future sensitive management of the highway. The avoidance of non-critical highway signing and road markings is also very important.

Future highway maintenance, improvements and alterations will be carried out in accordance with *Streets for All*, Historic England (2018) and *Highway Works and Heritage Assets: the Kent Protocol for Highway Works in Relation to Designated Heritage Assets*, KCC and

KCOG (2011). Both provide advice on good practice for highway and public realm works in historic places. Early consultation with all stakeholders (including Swale Borough Council's Conservation and Design Team and Rodmersham Parish Council) will be fundamental to achieving appropriate standards in future changes.

There is an unfortunate concentration of utility posts, poles and covers adjacent to the church carpark entrance (plate 21). Overhead utility cables and poles have also been identified as being visually obtrusive (plate 22). Where possible, opportunities should be taken to investigate the removal of redundant overhead cables, reducing the number of poles and undergrounding of services.

The Parish Council, Swale Borough Council and Kent County Council will seek to ensure that the public realm continues to be sensitively managed.

Summary of opportunities for enhancement in the public realm:

- An audit of overhead supply lines, utility posts and poles with the statutory undertakers to establish whether there is scope to remove any overhead cables or poles or to underground services.
- The removal of concrete road kerbs and their replacement with grassy verges, hedges, or more appropriate kerbs.

4.6 Landscape and ecology

Trees and hedgerows play a vital role in the special character of Rodmersham as well as providing opportunities for enhanced biodiversity and ecosystems.

22

The retention and active management of trees and hedgerows should be encouraged and opportunities for new planting should be considered. Planting which contributes to the form and structure of the local environment in and around Rodmersham should normally be comprised of native species, although other species now assimilated into the Kentish rural scene may also be appropriate.

Six weeks' notice must be given to the Borough Council in writing before any works are undertaken to trees within conservation areas.

Opportunities for enhancing landscape and ecology:

- An audit of trees, hedgerows, green spaces and orchards may be undertaken to establish whether there is any scope for better management or for further planting.
- Positive management may occasionally involve the removal of trees to restore, preserve or open up significant views.

4.7 New development opportunities

Potential for new development within the Rodmersham is extremely limited. If proposals for development come forward they will be considered against local and national planning policies which attach great weight to the conservation of designated heritage assets and their settings.

Development within the setting of the proposed conservation area may affect its heritage significance. The local planning authority is required to pay special attention to preserving the setting of the conservation area (or any listed buildings) in any plan making or decision taking.

4.8 Heritage at risk

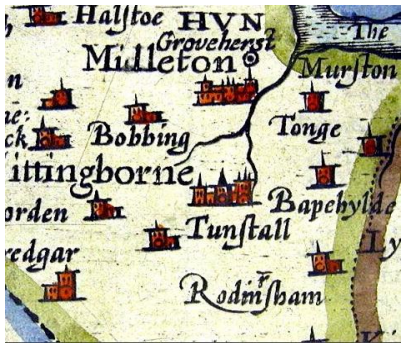
There are no designated heritage assets within Rodmersham on Historic England's Heritage at Risk Register or on the Swale Heritage at Risk Register. Neither has this appraisal identified any heritage assets which are currently at risk.

However, if any of the identified locally significant features or buildings become at risk in the future, these may be added to the Heritage at Risk Registers if their significance is threatened by their condition or lack of appropriate use.

In such cases the Council will notify respective owners and, where appropriate, work with them and other stakeholders to investigate opportunities for removing the risk and securing the asset's future.

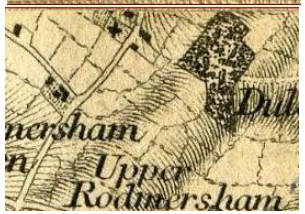
APPENDIX 1

Map regression



Saxton's map of Kent 1575

Andrews topographical map of the county of Kent 1769



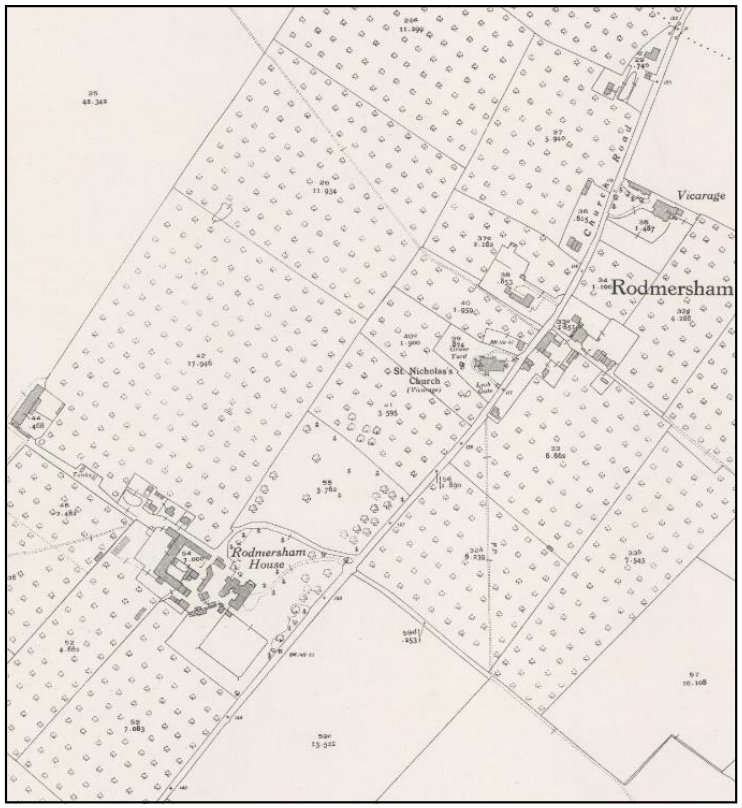
Captain William Mudge's map of Kent c.1800

Ordnance Survey First Series 1816

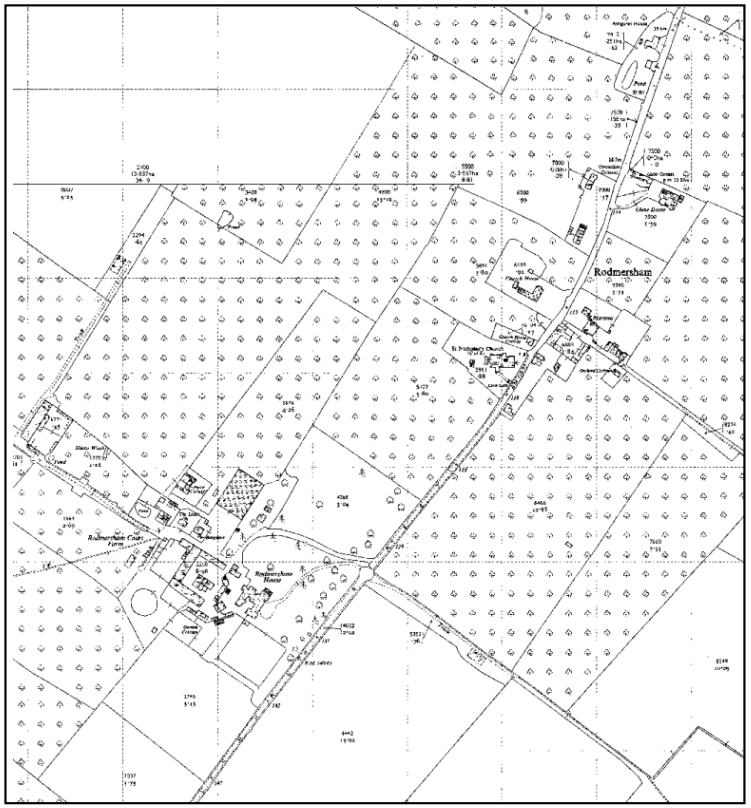
Tithe map 1838 (Kent Archives)

1871 Ordnance Survey map

1896 Ordnance Survey map



1938 Ordnance Survey map



1957 Ordnance Survey map

APPENDIX 2

Extracts from the National Heritage List for England (the Statutory List of Buildings of Special Architectural or Historic Interest)

The statutory list for Rodmersham is compiled by the Secretary of State for Digital, Culture, Media and Sport and is altered and amended from time to time. The list descriptions below are taken from the statutory list and were current in October 2021. For more detailed and up to date information please refer to the National Heritage List for England www.historicengland.org.uk/listing/the-list

Features and structures which are not specifically mentioned in the statutory list are not necessarily excluded from statutory protection which extends to the listed building as well as to any object or structure fixed to the building and to any object or structure within the curtilage of the building which predates July 1948.

The omission of a building from this list should not necessarily be taken to indicate that it is not listed without first referring to the National Heritage List.

CHURCH OF ST NICHOLAS Grade I

Parish church. C13 chancel, C14 nave, C15 west tower, restored 1875-93 by S.S. Stallwood. Flint with plain tiled roofs. Nave and aisles, west tower and chancel with south chapel. West tower in coursed and knapped flint with 4 times offset diagonal buttresses and plinth, string course, cornice and battlements, and battlemented octagonal vice to south east. C15 perpendicular lights, and double hollow chamfered and roll-moulded west doorway. C19 south porch, with wrought iron outer gates. Aisles with plinth and cornice to parapetted low pitch roof, with C15 Perpendicular traceried lights. Gable-roofed south chapel with C14 decorated windows. C19 Perpendicular style east window to chancel. Interior: double hollow chamfered tower-arch partly obscured by organ loft. Three bay nave arcade, with hollow chamfered and roll-moulded arches on octagonal piers with moulded bases and caps. North and south arcades with variations in moulding indicate different periods of build within C14. Roof of 4 crown- posts, with moulded tie beams. Cross-beam lean-to aisle roofs. North aisle with stair to (missing)rood loft. South aisle with double hollow chamfered arch and hollow chamfered surround to chapel on octagonal responds. South east chapel with 2 bay arcade of c.1200, now sedilia with billet roll mould, attached shafts with debased capitals after the Bapchild manner (see Church of St. Lawrence, Bapchild). Roof of 3 crown posts. Chamfered 2 bay arcade to form a canopy. Restored screen to chancel from nave. Sculptural fragment of medieval coffin lid on east wall of north aisle. The altar, reredos, brass altar rail, pulpit, octagonal font and reading desk are all C19. (See B.O.E. Kent II 1983, 435).

CHURCH COTTAGE, CHURCH STREET Grade II

House. C16. Timber framed and exposed close studding with plaster infill on first floor, rendered on ground floor, with plain tiled roof. Two storeys with exposed bressumer at first floor, and stacks projecting to end left and end right. Three wood casements on each floor. Entry by boarded door in rear, weatherboarded wing.

Church Cottage. Historic England Archive 1955

CHURCH HOUSE, CHURCH STREET Grade II

House. Early C18 and early C19. Chequered red and grey brick with plain tile roof. Rectangular 5 bay C18 house with 7 bay C19 wing added to left return elevation. Two storeys and paired modillion eaves cornice to roof with 3 gabled dormers and stack to end right with gable end of left return front to left with projecting end stack. Regular fenestration in C18 block of 5 glazing bar sashes in moulded surrounds on first floor and 4 C19 glazing bar sashes on ground floor with central door of 6 raised and fielded panels with semi-circular fanlight and open pediment on pilasters. One glazing bar sash on first floor and 1 tripartite sash on ground floor in gable end left. Over the door a fire insurance plate dated 1704.

Church House. Historic England Archive 1955

MATSONS, CHURCH STREET (now Church House Farm)
Grade II

House. C16 and early C19. Red brick and slate roof with timber framed range to rear clad with red brick. Two storeys and basement with brick dentil cornice and parapet and stacks projecting at end left and to rear end left and rear right. Regular fenestration of 2 tripartite sashes and central sash on first floor, each under moulded pediments, and French door to left and tripartite sash to right on ground floor, with central door of 6 raised and fielded panels with semi-circular traceried fanlight and open pediment on pilasters. Basement opening bottom left. Interior: rear range with internal evidence of close-studded walls and crown post roof. C16 brick fireplace and stack.

Matsons (now Church House Farm) Historic England Archive 1955

APPENDIX 3

Legislation, national policy and local policy

Planning (Listed Buildings and Conservation Areas) Act 1990

Section 66 General duty as respects listed buildings in exercise of planning functions:

(1) In considering whether to grant planning permission or permission in principle for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

Section 69 Designation of conservation areas:

(1) Every local planning authority— (a) shall from time to time determine which parts of their area are areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance, and (b) shall designate those areas as conservation areas.

(2) It shall be the duty of a local planning authority from time to time to review the past exercise of functions under this section and to determine whether any parts or any further parts of their area should be designated as conservation areas; and, if they so determine, they shall designate those parts accordingly.

(3) The Secretary of State may from time to time determine that any part of a local planning authority's area which is not for the time being designated as a conservation area is an area of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance; and, if he so determines, he may designate that part as a conservation area.

(4) The designation of any area as a conservation area shall be a local land charge.

Section 71 Formulation and publication of proposals for preservation and enhancement of conservation areas.

(1) It shall be the duty of a local planning authority from time to time to formulate and publish proposals for the preservation and enhancement of any parts of their area which are conservation areas.

(2) Proposals under this section shall be submitted for consideration to a public meeting in the area to which they relate.

(3) The local planning authority shall have regard to any views concerning the proposals expressed by persons attending the meeting.

Section 72 General duty as respects conservation areas in exercise of planning functions:

(1) In the exercise, with respect to any buildings or other land in a conservation area, of any functions under or by virtue of any of the provisions mentioned in subsection (2), special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area.

National Planning Policy Framework (NPPF)

The NPPF sets out the government's planning policies and how they should be applied. It provides the national framework for conserving and enhancing the historic environment, including conservation areas.

National Planning Practice Guidance (NPPG)

The NPPG sets out government's guidance on how the act and national planning policy should be applied.

Adopted Local Plan - Bearing Fruits 2031: The Swale Borough Local Plan (2017)

Relevant objectives and policies within the local plan include:

Policy ST 1 Delivering sustainable development in Swale
To deliver sustainable development in Swale, all development proposals will, as appropriate:…… 8. Achieve good design through reflecting the best of an area's defining characteristics; 9. Promote healthy communities through:….. maintaining the individual character, integrity, identities and settings of settlements; 12. Conserve and enhance the historic environment by applying national and local planning policy through the identification, assessment and integration of development with the importance, form and character of heritage assets (including historic landscapes).

Policy CP 4 Requiring good design
All development proposals will be of a high quality design that is appropriate to its surroundings. Development proposals will, as appropriate:… 2. Enrich the qualities of the existing environment by promoting and reinforcing local distinctiveness and strengthening sense of place; 5. Retain and enhance features which contribute to local character and distinctiveness;…….. 8. Be appropriate to the context in respect of materials, scale, height and massing; 9. Make best use of texture, colour, pattern, and durability of materials; 10. Use densities determined by the context and the defining characteristics of the area; 11. Ensure the long-term maintenance and management of buildings, spaces, features and social infrastructure;……..

Policy DM 32 Development involving listed buildings
Development proposals, including any change of use, affecting a listed building, and/ or its setting, will be permitted provided that:
1. The building's special architectural or historic interest, and its setting and any features of special architectural or historic interest which it possesses, are preserved, paying special attention to the: a. design, including scale, materials, situation and detailing; b. appropriateness of the proposed use of the building; and c. desirability of removing unsightly or negative features or restoring or reinstating historic features.
2. The total or part demolition of a listed building is wholly exceptional, and will only be permitted provided convincing evidence has been submitted showing that: a. All reasonable efforts have been made to sustain existing uses or viable new uses and have failed; b. Preservation in charitable or community ownership is not possible or suitable; and c. The cost of maintaining and repairing the building outweighs its importance and the value derived from its continued use.
3. If as a last resort, the Borough Council is prepared to consider the grant of a listed building consent for demolition, it may, in appropriate circumstances, consider whether the building could be re-erected elsewhere to an appropriate location. When re-location is not possible and demolition is permitted, arrangements will be required to allow access to the building prior to demolition to make a record of it and to allow for the salvaging of materials and features.

Policy DM 33 Development affecting a conservation area

Development (including changes of use and the demolition of unlisted buildings or other structures) within, affecting the setting of, or views into and out of a conservation area, will preserve or enhance all features that contribute positively to the area's special character or appearance. The Borough Council expects development proposals to:

1. Respond positively to its conservation area appraisals where these have been prepared;
2. Retain the layout, form of streets, spaces, means of enclosure and buildings, and pay special attention to the use of detail and materials, surfaces, landform, vegetation and land use;
3. Remove features that detract from the character of the area and reinstate those that would enhance it; and
4. Retain unlisted buildings or other structures that make, or could make, a positive contribution to the character or appearance of the area.

Policy DM 34 Scheduled Monuments and archaeological sites

1. Development will not be permitted which would adversely affect a Scheduled Monument, and/or its setting, as shown on the Proposals Map, or subsequently designated, or any other monument or archaeological site demonstrated as being of equivalent significance to scheduled monuments. Development that may affect the significance of a non-designated heritage asset of less than national significance will require a balanced judgement having regard to the scale of any harm or loss and the significance of the heritage asset.
2. Whether they are currently known, or discovered during the Plan period, there will be a preference to preserve important archaeological sites in-situ and to protect their settings. Development that does not achieve acceptable mitigation of adverse archaeological effects will not be permitted.
3. Where development is permitted and preservation in-situ is not justified, the applicant will be required to ensure that provision will be made for archaeological excavation and recording, in advance of and/or during development, including the necessary post-excavation study and assessment along with the appropriate deposition of any artefacts in an archaeological archive or museum to be approved by the Borough Council.

Swale Borough Council Key Supplementary Planning Guidance

Swale Borough Council Planning and Development Guidelines No 2: Listed Buildings – A Guide for Owners and Occupiers

Swale Borough Council No 3: The Conservation of Traditional Farm Buildings.

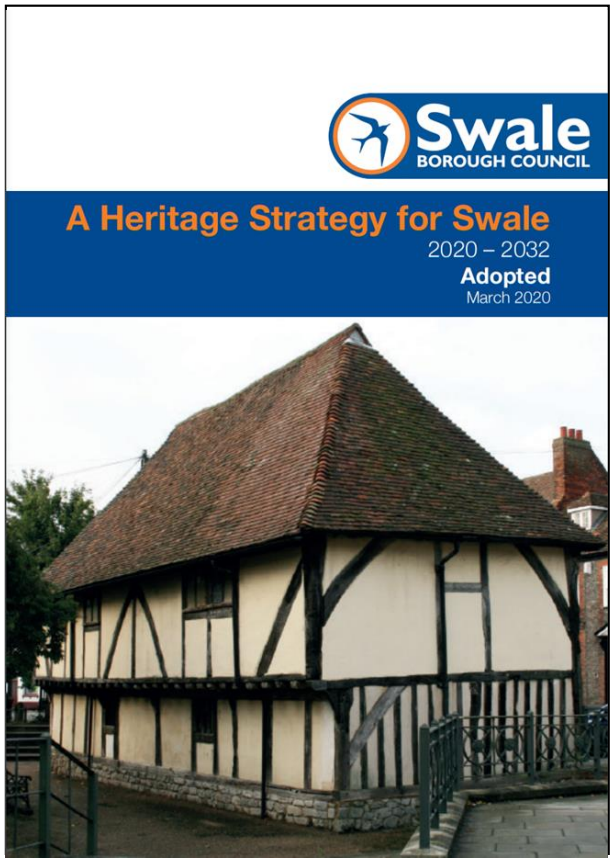
Swale Borough Council Planning and Development Guidelines No 8: Conservation Areas

Swale Borough Council Heritage Strategy 2020 - 2032

The Council has developed a borough-wide heritage strategy to help it, along with key stakeholders and other interested parties, to protect and manage the historic environment in Swale in a positive and sustainable way, on a suitably informed basis.

A key element of the strategy is setting out the Council's overall vision and priorities, which it is hoped will align with the vision and priorities of local communities and local amenity societies as far as possible, in order that the strategy can be widely supported.

The strategy sets out a series of proposals in the associated initial 3-year action plan which are aimed at enabling the positive and sustainable management of different elements of the borough's historic environment for the foreseeable future. Priority is given to those parts of the borough's historic environment which are already suffering from, and at risk from negative change, and/or which face significant development pressure, threatening their special character. The proposed set of actions will involve joint project working with amenity societies and/or volunteers from the community wherever this is possible.



APPENDIX 4

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Kent County Council *South east Archaeological Research Framework* www.kent.gov.uk

Kent County Council *Historic Environment Record* www.kent.gov.uk

Kent County Council *Exploring Kent's Past* www.kent.gov.uk

LUC *Swale Local Landscape Designation* (October 2018)

Jacobs *Swale Landscape Character and Biodiversity Appraisal* (2011)

Rodmersham 2000, The Storey of a Village (2000)

Historic England Guidance, Advice and Publications

Historic England Good Practice Advice Notes (GPAs) provide supporting advice on good practice and how national policy and guidance should be applied.

GPA1: *The Historic Environment in Local Plan Making* (March 2015)
GPA2 - *Managing Significance in Decision-Taking in the Historic Environment* (March 2015)
GPA3 – *The Setting of Heritage Assets* (December 2017)

Historic England Advice Notes (HEANs) include detailed, practical advice on how to implement national planning policy and guidance.

HEAN 1: *Conservation Areas: Designation, Appraisal and Management* (Feb 2019)
HEAN 2: *Making Changes to Heritage Assets* (February 2016)
HEAN 9: *The Adaptive Reuse of Traditional Farm Buildings* (October 2017)
HEAN 10: *Listed Buildings and Curtilage* (February 2018)
HEAN 12: *Statements of Heritage Significance* (October 2019)
HEAN 16: *Listed Building Consent* (June 2021)

Streets For All (May 2018)

APPENDIX 54

Assessment of Significant V~~v~~iews

Views make a valuable contribution to the way in which the character or appearance of an place is enjoyed and appreciated. Identifying significant views allows the contribution they make to be protected and enables the effective management of development in and around those views. Significant views are annotated on the aerial photograph on page 10 and described below:

View 1: Panoramic views from the top of the Rodmersham church tower reveal the hamlet in its historic agrarian landscape. They illustrate the strong connection between the hamlet and the surrounding farmland. They also provide visual links to other historic landmarks including the former Providence Chapel at Rodmersham Green, Scuttington Manor to the south-east, Rodmersham House to the south-west, Upper Rodmersham to the south and villages to the north. Views from the church tower are of high heritage significance.

Plates 23 and 24: Views from the church tower looking east and north-west (also see plate 1 looking south-east)

View 2: Views on approach to the hamlet from the north and south provide the immediate setting for the hamlet. The expansive farmland has provided the historic approach and the setting to Rodmersham for as long as it has existed. The contrast between the open landscape views and the relative enclosure created by buildings, walls and trees as one enters the settlement is all part of the experience of entering or passing through Rodmersham. Consequently the views are of heritage significance.

Plates 25 and 26: Views on approach from the north and the south (also see plate 20)

Plate 27: View from Ashgores House towards Scuttington Manor and Oast

View 3: Views along Church Street are the way in which the most people enjoy and experience Rodmersham. Vistas develop with the subtle changes in the geometry of the road and with the seasons and buildings come and go from view in a way that enriches the experience. Views along Church Street are consequently of high heritage significance.

Plate 28: One of many views experienced as one passes along Church Street

View 4: The view towards Rodmersham from the slightly elevated land at Providence Chapel, Rodmersham Green, provides a visual connection between the two settlements. The footpath which connects them has been well used for centuries. The interplay between the church, the historic buildings around it, the mature trees, and the surrounding farmland provides a picturesque landscape panorama. The view is of high significance.

View 5 and 8: These are views of Rodmersham from well-used public footpaths. These views across farmland give a good impression of the modest scale of the settlement and the hierarchy of buildings around the church and its tower. These views are of high significance

~~These v~~**Plates 29 and 30:** Views from well used public footpaths

View 6: From Dully Road in the east the whole village is seen, the church tower providing a focal point. The view is of moderate to high significance.

Plate 31: View of Rodmersham from Dully Road

View 7: Views from within the heart of the village looking out across open countryside are few in number. Those that do exist are important as they provide a link between the agricultural history of the village and its farmland. farmland. They are of high significance.

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For further information contact:

Swale Borough Council Planning Services 01795 417850

www.Swale.gov.uk

Post card image from 1905

This Conservation Area Character Appraisal was prepared by: **Peter Bell Historic Building Consultancy** Peter@Bell.uk.com

on behalf of: **Swale Borough Council** **Swale House, East Street, Sittingbourne, Kent ME10 3HT**

Rodmersham Church Proposed Conservation Area

Rodmersham Parish Council supports the proposal for the area around Church Street as a Conservation Area as it has all the special qualities befitting a conservation status and therefore should be designated a Conservation Area. Just to be clear Rodmersham is a collection of hamlets and settlements; Rodmersham Green, Church Street/St Nicholas Church, Upper Rodmersham, Dungate, Pitstock and Highsted Valley are all part of "Rodmersham".

We would like to add the following comments to this document which we hope will be considered when the decision is made.

The farmland (with the orchard) adjacent to St Nicholas Church is a key part of the setting of church. The Lord of the Manor (GH Dean) has allowed visitors and users of the church to park on the farmland next to the church yard. Over the last few years, the boundary between the church yard and the farmland has been removed, this has created an openness and when standing in either the church yard or the farmland it is difficult to distinguish either, creating a borrowed landscape. We therefore feel strongly that at the very least, part of the adjacent field should be included inside the conservation boundary. We fear that the car-park may become more heavily hard landscaped which would detract from the visual appearance of the setting of the Grade I Listed Church. The setting of the church is vital to this hamlet.

The kerbing referred to p23 (plate 21) has been installed to prevent vehicles eroding the soft landscaping that has just been planted with bulbs. If the conservation officer has any suggestion as to how this landscaping can be better protected we would welcome their advice. Posts and bollards at this location have not worked to date.

Ashgores House---We feel very strongly as a Parish Council that Ashgores House should be included in the Conservation Area. Whilst it may not be listed, it is an attractive period building that is seen, and often commented upon, as the first house in Rodmersham and is visually the gateway into the hamlet and the Rodmersham area. This is then reinforced as the village welcome sign is adjacent to Ashgores house. The welcome sign "Rodmersham....please drive slowly" is deemed by most villagers to be the beginning of the Rodmersham settlement but also the hamlet on Church Street. Its prominence is obvious in the landscape. The fields between Ashgores House and the next property is relatively small, given the large open expanse of agricultural land around; the rolling hills and valleys with far reaching views –all the way to Sheppey ,Whitstable and beyond. The boundary of Ashgores House is totally in keeping with the rest of the Rodmersham settlement, it has hedges, trees and gates.

We feel strongly that there should be mention of Rodmersham Court Farm. This settlement,--the large listed house –Rodmersham House ---with adjacent listed farm complex, including stables, dog kennels and barns was the home to the Lord of the Manor. The house and estate have taken responsibility for the surrounding farmland and for the church. The relationship between the estate and the church can be evidenced with the

presence of the Mercers grand Memorial in the church yard. Most recently the occupants have contributed significant sums towards the church repairs.

If you look at the estate fencing i.e. the ironwork fencing- p23 (plate 21) -it is all around the Rodmersham settlement in both directions along Church Street, including up to the front wall of the church. Until recently there was an ancient cherry orchard beside the churchyard. Unfortunately this historic orchard was removed and replanted with modern dwarf apple stocks.

We feel the estate complex should also be part of the Conservation Area. We acknowledge there is a gap between it and the church, however, they together still form the settlement—this settlement is completely isolated from any other,-- but is commonly accepted by visitors and villagers alike. The estate still owns the majority of the properties in the Church Street hamlet—farm workers cottages etc.

We should like to also point out Church Farm House – (previously Eagle Lodge and Matsons) is all that remains of Church Farm, a significant fruit farm for over a century.

We do agree with other comments that this area should be called the Rodmersham Church Street Conservation Area and not just Rodmersham Church Conservation Area due to the many listed /graded buildings in this vicinity.

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14 January 2022

Dear Sir, Madam

DRAFT RODMERSHAM CHURCH CONSERVATION AREA APPRAISAL RESPONSE TO THE DRAFT APPRAISAL ON BEHALF OF QUINN ESTATES

We write on behalf of our client Quinn Estates in response to the proposed designation of a new Conservation Area at Rodmersham Church and to comment on the Proposed Conservation Area Character Appraisal and Management Strategy (Public Consultation Draft November 2021).

We understand that the area including Rodmersham Church and areas to each side of Church Street, encompassing all of the buildings in the village core, are being considered for designation.

Comments on the draft Conservation Area Appraisal

The Appraisal identifies the key buildings in the Conservation Area to comprise the Church of St Nicholas, and the collection of grade II buildings to the north of the church, to each side of Church Street. These comprise: Church House, Church House Cottage and Church House Farm (Matsons).

The principal elements of the area which are identified as comprising the main reasons for designation are:

- The medieval grade I listed Church of St Nicholas and its boundary wall and lych gate;
- The collection of grade II listed buildings to the northeast of the church, including Church House, Church House Farm, and Church House Cottage;
- The locally significant buildings Glebe House, Orchard Cottage and 5, Church Street.

The setting of the Conservation Area is discussed and described in the draft Appraisal. We note the following key points are made:

- The Appraisal places emphasises the relationship between the village group and its wider setting. The “sense of openness and long views” (section 2.3) and “strong” relationship between village and landscape setting (summary of significance on page 19) are described.

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A list of members' names is available at the above address.

- The Appraisal states that “Views across the landscape are particularly important when approaching Rodmersham from the north or south”. It is noted that “Landscape views are frequently punctuated by dispersed and isolated buildings or groups of buildings.”

- The Appraisal indicates that these can be appreciated particularly on the approach from the north, as the viewer looks eastwards (to their left), where long views are afforded across open fields and the isolated farmsteads can be appreciated.

Observations and Response

The Council will already be aware that Montagu Evans are acting on behalf of Quinn Estates, in support of the emerging proposals for Highsted Park which have been submitted to Swale Borough Council. The applications have been validated with application references 21/503906/EIOUT which relates to the north site (land north of the London Road) and ref: 21/503914/EIOUT which relates to the south site (land south of the London Road). The latter application should be considered in relation to this proposed designation of the Conservation Area.

The proposals for the south site is an application for Outline Planning Permission with all matters reserved for the phased development of up to 578.65 hectares of land comprising: up to 8,000 residential dwellings[…]”) . The application seeks to deliver residential, commercial and community uses as well as open space, green infrastructure and new vehicular routes. Part of the boundary of the south site is close to the village and the boundary of the proposed Rodmersham Church Conservation Area.

The village and its existing heritage designations were taken into account in the formulation and development of the proposals and through pre-application discussions with Swale Borough Council and Historic England.

The masterplan identifies some areas of land to the south of the village to be developed for residential housing. Care has been taken to ensure the historic core of the village remains intact and well defined and that the new residential areas are located to the south, southeast and northeast with a significant landscaped bund that would be approximately 20m deep, acting as a noise and visual buffer. As set out in the ES assessment submitted with the application, there will be some impacts on the long views afforded across open fields from the edges of the proposed Conservation Area, in particular to the south east. The Church will however remain the focus of the village and the Conservation Area designation.

There is likely to be an increase in traffic movements and noise along Church Street which is the central spine of the proposed Conservation Area, however this is not expected to be significant as the Southern Relief Road is expected to take the majority of the traffic travelling north and south between the London Road and the M2.

Following consultation with Swale Borough Council and Historic England, the proposals are being revised and adapted to protect heritage assets further in order to further safeguard and protect the setting of the church and views to the northwest.

This change will also preserve the appearance and setting of the proposed Conservation Area to the west, helping to preserve the “sense of openness and long views” and “strong” relationship between village and landscape.

CLOSING

We hope the contents of this letter are taken into account in consideration of the designation of Rodmersham Church Conservation Area. We look forward to acknowledgment of receipt.

Should you have any queries on the content of this letter, please contact Kate Falconer Hall or Cicely Barnett of this office:

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Kind Regards

Montagu Evans

MONTAGU EVANS LLP

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