

Local Plan Panel Meeting	
Meeting Date	11 th June 2020
Report Title	Swale Borough Local Plan Review: Transport Modelling Evidence
Cabinet Member	Cllr Mike Baldock, Cabinet Member for Planning
SMT Lead	James Freeman
Head of Service	James Freeman
Lead Officer	Natalie Earl
Key Decision	No
Classification	Open
Recommendations	<ol style="list-style-type: none"> 1. Note the strategic transport modelling results at Appendix I; and 2. Recommend to Cabinet that this work be part of the evidence base used to inform the Preferred Option stage of the Local Plan Review.

1 Purpose of Report and Executive Summary

- 1.1 This report sets out the results of the strategic transport modelling work which has been undertaken as part of the Local Plan Review. The work has been jointly undertaken with the Kent County Council Highways team. The modelling at this stage is highways focused and intended to give a broad overview of how the network will perform with the level of development the Local Plan Review is expected to address. It tested both the Objectively Assessed Need (OAN) for Swale, 1054 dwellings per annum (dpa), and 776 dpa which was the housing target in the adopted Local Plan 2017.
- 1.2 The findings of the work at this point indicate that there are no significant, show stopping challenges to overcome in addressing the traffic network along the A2 corridor, the strategic road network and the junctions which link them. They show that Swale can meet 776 dpa with a reasonably clear network and 1054 dpa with the proposed mitigations.
- 1.3 In progressing the Local Plan Review, once the development strategy has been chosen, it will be necessary to identify further highway improvements and secure significant commitments towards implementing modal shift in order to accommodate the expected development needs over the plan period. Alongside the drafting of the Local Plan Review, the Transport Strategy is being prepared, in conjunction with Kent Highways. The Transport Strategy can 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.

- 1.4 This technical work will be part of the evidence base needed to inform the generation of the preferred development strategy of the Local Plan Review. A further modelling run will take place once members have chosen their preferred option later this year.
- 1.5 Members are asked to note the report and recommend to Cabinet that it be used to inform the next stages of Local Plan preparation.

2 Background

- 2.1 The Swale Transport Model was developed to test the traffic impacts of both new developments and transport infrastructure across Swale.
- 2.2 Following the Local Plan Option Test transport work, which was commissioned in late 2018, undertaken in May 2019 and reported to Local Plan Panel on 25th July 2019, Sweco was appointed by Swale Borough Council (SBC) earlier this year to use the model to run additional scenarios to support further assessments for the Local Plan Review with a set of new development assumptions and mitigation measures. The work was done in partnership with Kent Highways.
- 2.3 The Swale Transport Model report (Appendix I) outlines all of the key aspects of the future year traffic forecasts for each scenario and sets out the assumptions on which these forecasts have been based on.

Local Plan Re-Run Scenarios

- 2.4 The 2037 Swale Local Plan Transport Model tested two options of a “Do-Minimum” test for weekday AM and PM peak hour in the forecast year 2037 as follows:

776 Scenario Do Minimum (DM): This is the test at a growth level of 776 dpa with all Bearing Fruits Local Plan developments plus potential new development allocations post 2022. Apart from existing local committed schemes, no further transport mitigations were included. The scenario also considered two variations for with and without the following two transport schemes:

- Brenley Corner Junction Improvement; and
- Grovehurst/A249 and Key Street/A249 junction improvements.

1054 Scenario Do Minimum (DM): This is the test at a growth level of the Government’s requirement of 1054 OAN with all Bearing Fruits Local Plan developments plus potential new development allocations post 2022. Apart from existing local committed schemes already included in the reference case (RC) and the Brenley Corner Junction Improvement, no further transport mitigations have been included.

1054 Scenario Do Something (DS): Based on the 1054 Scenario Do Minimum (DM), a set of mitigation measures will be identified, along with the potential trip reduction for certain development zones due to modal shift as a result of the provision for public transport and active travel options.

2.5 These model tests are aimed to form a comparable and most importantly, a robust and defensible evidence base, to form an opinion on a suitable development strategy for Swale and to ascertain whether the OAN can be achieved. A summary of the scenarios tested can be seen in the table below:

ID	Scenario description	Two schemes	Additional Mitigation	Trip reduction
1	776 Scenario Do Minimum (DM) without two schemes	No	No	No
2	776 Scenario Do Minimum (DM) with two schemes	Yes	No	No
3	1054 Scenario Do Minimum (DM)	Yes	No	No
4	1054 Scenario Do Something (DS)	Yes	Yes	Yes

Trip Rates

2.6 It was agreed that the car trip rates for housing development would be reduced from those used in the May 2019 model in response to concerns about the first model that spatially it was producing too many movements across the borough and to ensure a more robust model this time around. These reductions in trip rates assume that mitigation measures to reduce car movements will be made and that modal shift will be a priority for the Council. This will need to be reflected in the emerging Transport Strategy.

Model Results

2.7 Tables 8.1 and 8.2 in Appendix I summarise the overall performance of the network in the AM and PM peaks over the different scenarios (776 scenarios with and without 2 sets of schemes, and 1054 scenario without mitigations) within the area including the key roads such as A249, A2, M2, M20 etc. It looks at the:

- Total travel time;
- Total travel distance; and
- Simulation network speed.

2.8 The comparisons of the outputs highlighted the following findings:

- i. The average network speed is quite similar between the scenarios which is higher than the Reference Case and previous LP Scenario 1, with 776 Scenario with 2 schemes having the highest average speed largely due to less demand being assigned to the local network;
- ii. Total travel distance and total travel time in these scenarios are lower than the Reference Case and the previous LP Scenario 1, which is lowest in 776 Scenario with 2 schemes, and highest in 1054 Scenario.
- iii. Overall, the outputs of the network performance statistics are sensible.

Traffic Flows

The 1054 scenario vs previous LP Scenario 1

2.9 In the 1054 scenario AM Peak, flows are increased in Sittingbourne Town Centre and Faversham Town Centre, and on the A2 West Bound from M2 J7 to Sittingbourne. There are decreases along A249 between M2 J5 and B2005/Grovehurst Road. The PM flow show a similar pattern as there is an increase in flows around Sittingbourne and Faversham in the 1054 scenario. There is also wider reassignment of traffic from the M20 in both directions to the M2, resulting in increased flows along the M2 in both directions. One of the reasons is that the Brenley Corner scheme was not included in the previous LP scenario 1 model.

The 776 scenarios with and without 2 schemes

2.10 The 776 scenarios with and without 2 schemes have the same additional housing allocations. The only difference between the two scenarios is the network: Brenley Corner Junction Improvement, Grovehurst/A249 and Key Street/A249 junction improvement. In the 776 scenario without 2 schemes, the M2 J7 is overloaded. With the Brenley Corner scheme in place in the 776 Scenario with 2 scheme, the traffic condition at the junction has improved significantly. There is also wider reassignment of traffic from the M20 to the M2.

The 1054 scenarios vs 776 scenarios with 2 schemes

2.11 The 1054 scenarios and 776 scenarios with 2 schemes have the same networks, but 1054 scenarios have more additional housing developments. In the 1054 scenario, it is found that flows are increased slightly in Faversham Town Centre, Isle of Sheppey and along A249, as well as on the west of M2 J5.

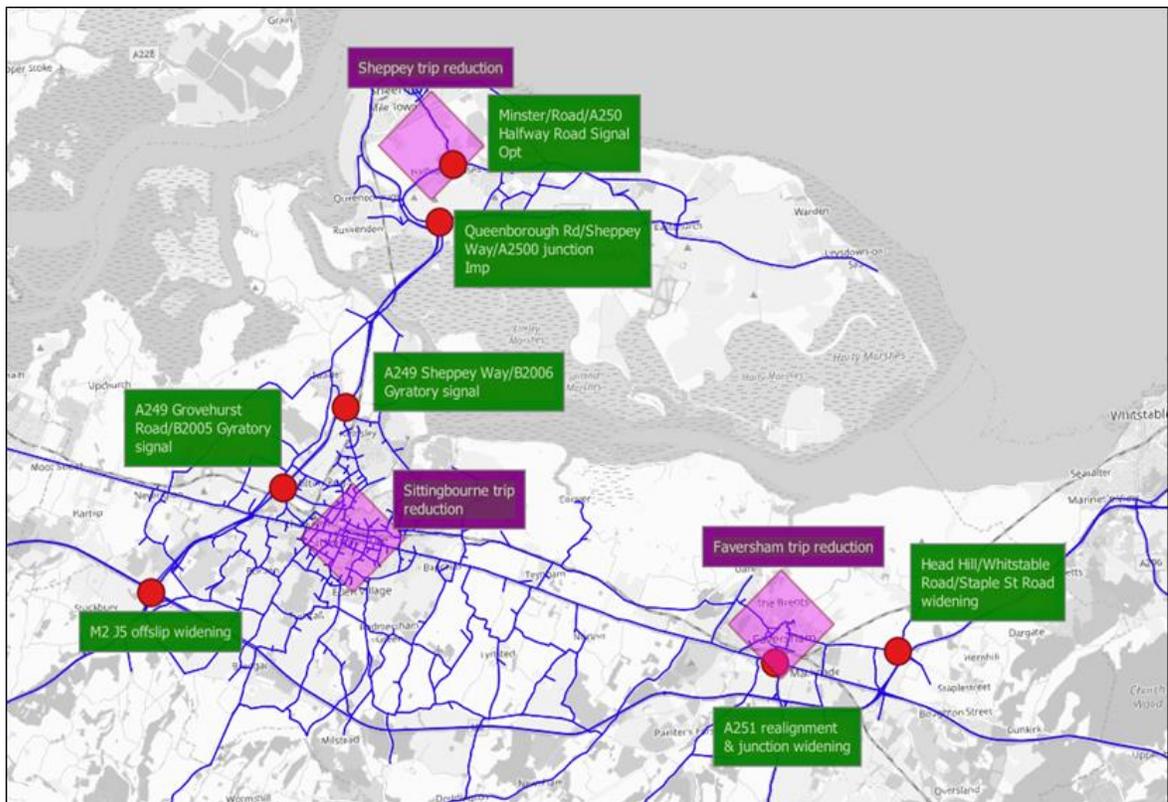
Network Delays and Congestion

2.12 The model runs have shown that several junctions on the Isle of Sheppey, Sittingbourne town centre and Faversham town centre, junctions along the A249 and Head Hill/Whitstable Road/Staple Street Road junction show heavy

congestion, especially in the AM Peak, in all of the scenarios tested. The detailed results can be seen in Tables 8.3 and 8.4 in Appendix I.

Mitigation Measures

2.13 Based on the results of 1054 Scenario DM (without mitigations), potential transport mitigation measures to offset the additional vehicle trips generated by the modelled Local Plan developments were identified, along with the potential trip reductions for certain development zones due to the required modal shift as a result of the provision for public transport and active travel options. The key mitigation measures for the Swale LP 2054 scenario in the year 2037 are shown in the picture below. It is assumed that these mitigation measures would be in conjunction with demand reduction methods such as internalisation of trips on development sites and modal shift opportunities.



2.14 Improvements to Brenley Corner have been included as a mitigation measure in the modelling as it has now been announced as a project in RIS2 (Road Investment Strategy) for design purposes so Highways England will work up a potential design. However, a successful RIS3 bid would be required to provide the funding (alongside developer contributions.) It should be noted that any development in East Kent would require an improvement to this junction, so it is

vital that discussions are held between East Kent Council officers and Members to resolve this key issue.

- 2.15 These mitigation measures, alongside additional ones, will need to be reflected in the Swale Transport Strategy and in development allocation policies in the Local Plan.

3 Proposals

- 3.1 The proposal is that the transport modelling forms part of the evidence base which will inform the generation of the preferred development strategy for the Local Plan process. The recommendations are therefore to:
- I. Note the strategic transport modelling results at Appendix I; and
 - II. Recommend to Cabinet that this work be part of the evidence base to inform the Preferred Option stage of the Local Plan Review.

4 Alternative Options

- 4.1 A range of potential development scenarios and highway transport mitigations were tested in 2018/2019 and the results can be seen in the Local Plan Panel report in July 2019. A Local Plan cannot proceed without robust transport evidence and therefore there are no reasonable alternatives to those proposed in 3.1 above

5 Consultation Undertaken or Proposed

- 5.1 A well-attended Member presentation was held on 14th May where Sweco explained the inputs into the model and the results and their implications for Swale and the Local Plan process.
- 5.2 As a highly technical piece of evidence base no consultation is proposed at this stage. However, when the Local Plan is consulted on in January 2021 at the Regulation 19 stage, consultees will be able to be make comments on this document if they wish to.

6 Implications

Issue	Implications
Corporate Plan	Priority 1: Building the right homes in the right places and supporting quality jobs for all. Priority 2: Investing in our environment and responding positively to global challenges
Financial,	None identified at this stage.

Resource and Property	
Legal, Statutory and Procurement	None identified at this stage.
Crime and Disorder	None identified at this stage.
Environment and Sustainability	The whole Local Plan will be subject to a Sustainability Appraisal in the coming months.
Health and Wellbeing	None identified at this stage.
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

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

- Appendix I: Swale Highway Model Local Plan Model Rerun Summary Report – Draft (Sweco, 20th April 2020)

8 Background Papers

8.1 Swale Highway Model: Local Plan Option Testing Report - Final Draft” (20th May 2019) which was an appendix to the Local Plan Panel on 25th July 2019.