Jacobs

Tonbridge and Malling Local Plan

Local Plan Tests Report

October 2025

Tonbridge and Malling Borough Council

TMBC

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Appendix A: Local Plan Developments

Appendix B: Junction LOS



Limitation Statement

The sole purpose of this technical report is to describe the processes by which 2042 Local Plan demand forecasts have been carried out using the Tonbridge and Malling Local Transport Model. It should be noted that this report has been prepared for use of Kent County Council (KCC) and Tonbridge and Malling Borough Council (TMBC) and will be updated once further options have been confirmed and analysed. This report should be read in full with no excerpts out of context deemed to be representative of the report and its findings as a whole. This report has been prepared exclusively for Jacobs and Jacobs' end client (KCC and TMBC) and no liability is accepted for any use or reliance on the report by third parties.

Several of the figures within this report have been generated in the PTV VISUM software using OpenStreetMap® open source data, licensed under the Open Data Commons Open Database License (ODbL) by the OpenStreetMap Foundation (OSMF). The data is available under the ODbL. For more information see:

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1 Introduction

1.1 Background

Tonbridge and Malling Borough Council (TMBC) is preparing a Local Plan (LP) for the borough to address future growth requirements. The current Tonbridge & Malling Borough Development Plan was adopted between 2007 and 2010 and provided the housing, employment and retail development needed for 2007-2021. According to the standard methodology, the annual housing requirement will increase from the current Development Plan figure to up to approximately 1097 homes/year from 2024 to 2042.

TMBC needs to consider, and consult on, reasonable, alternative options for meeting housing and other development needs. As part of this process, TMBC commissioned Jacobs to undertake transport modelling to gather evidence on the transport implications of the emerging draft LP options.

The overall project objectives are to:

- 1. Assess the quality and capacity of transport infrastructure across the borough and its ability to meet forecast demands this can be developed through the traffic modelling proposed here.
- 2. Assess the cumulative impacts of the LP development options on the borough's transport network this can be developed through the traffic modelling proposed here.
- 3. Identify proposals and potential measures to mitigate the impacts of development to inform the infrastructure requirements associated with the LP. This should include, but is not limited to:
 - a. Identification of potential measures to enable and achieve higher levels of sustainable transport mode share across the borough.
 - b. Identification of the potential barriers to the utilisation of sustainable transport modes across the borough.
 - c. Identification of potential intervention measures on the transport network

The Tonbridge and Malling Local Transport Model has been checked and enhanced using available data to prepare it for developing forecast scenarios and undertaking spatial assessments. More information can be found in the *Stage 2 Tonbridge and Malling and Sevenoaks - Local Model Validation Report v2*.



1.2 Purpose of this Document

This Local Plan Tests Report outlines the assumptions, approach, and results of developing the Local Plan scenarios. This aims to understand the likely impacts of the local plan development's traffic on the road network.

Flow difference plots, junction level of service, link volume / capacity ratio and journey time comparison were extracted from the transport models to identify key junction and link issues.

1.3 Document Structure

Following this introduction, the structure of this report is as follows:

- Chapter 2 provides an overview of the methodology and assumptions.
- Chapter 3 provides an overview of the Local Plan Options.
- Chapter 4 presents the forecast results and analysis.
- Chapter 5 provides a summary and recommendations.



2 General Methodology and Assumptions

The overall methodology and assumptions used to develop the Local Plan Tests follow the one for the Forecast Baseline and are summarised below. More details can be found in the *Stage 2 T&M 2042 Forecast Baseline Draft Report*.

 Uncertainty Log and Background Growth – Table 1 below presents the assumptions for developing the future demand for the Local Plan Tests. These were consistent with the Forecast Baseline, and the only difference is the addition of the demand from Local Plan Tests

Table 1 Tonbridge and Malling – 2042 Local Plan Tests Uncertainty Log and Background Growth Assumptions

| Area | Assumptions |
|--|---|
| Tonbridge and Malling | Forecast Baseline + Local Plan Low / Local Plan Medium / Local Plan High |
| Neighbouring Authorities (Sevenoaks, Maidstone, Tunbridge Wells, Gravesham, Medway, Dartford, Surrey and London) | As the growth assumptions used in the Forecast Baseline. TEMPro (with adjustment of the default Housing and Job assumptions to match updated housing need/LP targets where known). Committed development (and potentially larger LP sites close to District boundary) agreed on a case-by-case basis (and subtracted from TEMPro v8 to avoid double-counting). |
| Other Areas | As the growth assumptions used in the Forecast Baseline. TEMPro v8 growth was applied. |

- Goods Vehicle Growth As the Forecast Baseline. DfT's Road Traffic Forecast 2022 (RTF22) Scenario 1 for Southeast of England LGV and HGV was used. RTF22 scenario 1 is the reference case based on central projections for GDP (OBR), for fuel prices and for population (ONS).
- Trip Generation The trip rates used in the Forecast Baseline and were extracted from TRICs were also used to calculate the vehicular trips of the local plan developments for the AM and PM peaks.
- Trip Distribution Base donor zone with similar land use in the vicinity of the new development
 was used to get a similar origin and destination information for each development to distribute
 vehicle trips around the network.
- Forecast Network Development As the 2042 Forecast Baseline network.



3 Local Plan Options

The 2042 Tonbridge and Malling Forecast Baseline serves as the foundation for developing the three Local Plan scenarios. Table 2 outlines the estimated residential and employment space for each scenario, while Figure 1 illustrates the locations of the proposed developments.

In general, most developments across the scenarios are situated in the same locations, with only the scale of development varying. Between the LP Low and LP Medium scenarios, the number of residential dwelling units rises by 2,841, accompanied by an increase in employment space of 39,160 sqm. When transitioning from the LP Medium to the LP High scenarios, the residential dwelling units are projected to increase by approximately 6,890, with employment space expanding by 21,400 sqm.

Detailed information for each of the potential development sites can be found in Appendix A. It is important to note that the scenarios represent a point in time. A further scenario will be tested between the Regulation 18 and Regulation 19 stages of the Local Plan to incorporate any changes arising from the Regulation 18 consultation. This will also consider potential opportunities for modal shift, trip internalisation, and revised land use allocations to inform the Transport Assessment.

Table 2: Local Plan Scenarios - Total Residential and Employment Space Estimates

| Scenarios | Total Residential Estimates (dwelling units) | Employment Estimate (sqm) | | |
|------------------------|--|------------------------------|--|--|
| Local Plan (LP) Low | 9,338 | 425,174 | | |
| Local Plan (LP) Medium | 12,179 | 464,334 | | |
| Local Plan (LP) High | 19,069 | 485,734 | | |



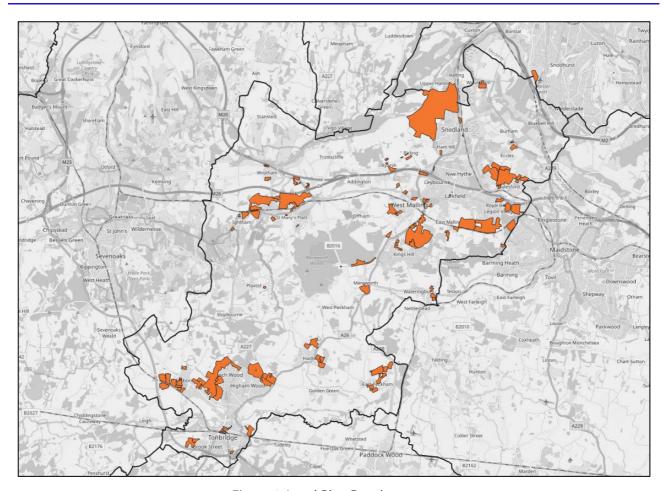


Figure 1: Local Plan Developments



4 Results and Analysis

4.1 Local Plan Low Scenario

4.1.1 Flow Difference Plots

Figure 2 to Figure 7 show the flow difference plots (presented in total actual vehicles) for each peak period comparing the 2042 Local Plan Low Scenario and 2042 Forecast Baseline. The figures include northern and southern areas zoomed in to demonstrate predicted changes across the borough in more detail.

In the AM, significant traffic increases (greater than 100 vehicles per direction) are predicted on the following corridors.

Northern part of the borough

- M20 (between M20 J3 and M20 J7)
- Bull Lane (near Aylesford) showing an increase and reduction due to highway scheme changes related to the Bushey Wood Development
- Station Road (Aylesford to Ditton)
- Forstal Road
- A228 (south of M20 J4)
- A229 (between M20 and M26)
- Coldharbour Lane
- A20 London Road (near Coldharbour Roundabout until Woodlands Road)
- Woodlands Road
- Kiln Barn Road
- A227 (Wrotham to Borough Green)
- A25 Borough Green Road
- A25 Maidstone Road

Southern Part of the Borough

- A227 Tonbridge Road
- B245 Tonbridge Road
- A26 Maidstone Road
- Three Elm Lane



Some traffic increases (less than 100 vehicles) are also predicted on the following corridors.

Northern Part of the Borough

- A20 London Road
- Seven Mile Lane
- M2
- A21
- M25

Southern Part of the Borough

- Brook Street, Tonbridge
- A227 Shipbourne Road
- Higham Lane
- A26 Tonbridge Road
- Old Street, Hale Street (near East Peckham)

Similar trip patterns can be seen in the PM peak with higher difference in traffic than the AM in a few roads in the northern area such as the M20, Bull Lane, A228 Castle Way, Woodlands Road and A20 London Road near Coldharbour Roundabout and B245 London Road in the southern area.

It is also noticeable the reduction of traffic along Rochester Road in Aylesford, M20 westbound direction (between J7 and J3) and A20 London Road in Wrotham Heath. This reduction can be attributed to additional queues at the junctions of Rochester Road/Forstal Road/High Street, M20 Junction 6, and the A20 London Road/A25 Maidstone Road.



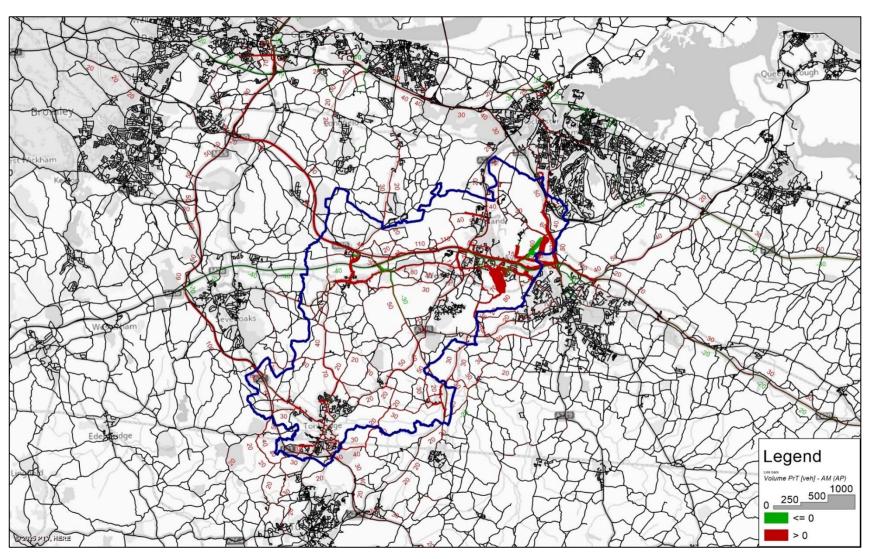


Figure 2: 2042 Local Plan Low Scenario vs 2042 Forecast Baseline Flow Difference Plots - AM Peak



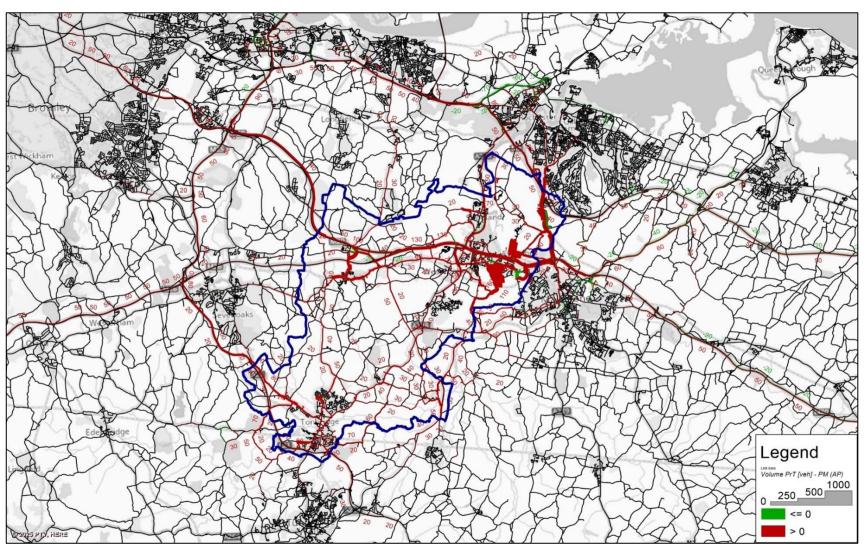


Figure 3: 2042 Local Plan Low Scenario vs 2042 Forecast Baseline Flow Difference Plots - PM Peak



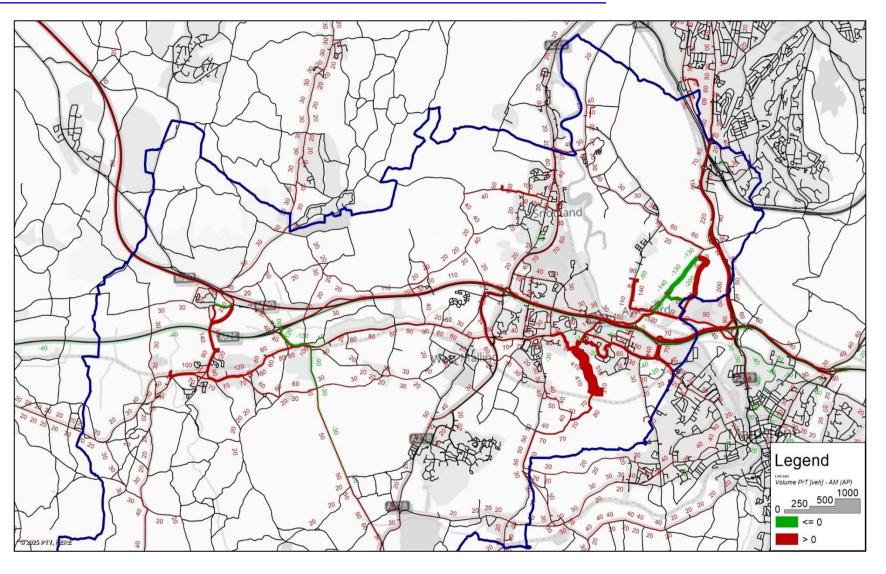


Figure 4: 2042 Local Plan Low Scenario vs 2042 Forecast Baseline Flow Difference Plots (Northern Area) - AM Peak



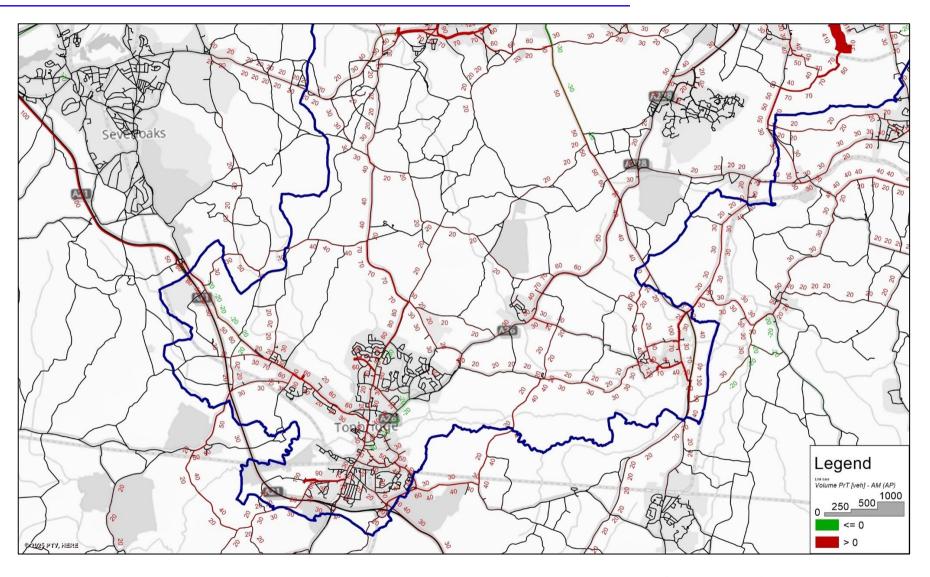


Figure 5: 2042 Local Plan Low Scenario vs 2042 Forecast Baseline Flow Difference Plots (Southern Area) - AM Peak



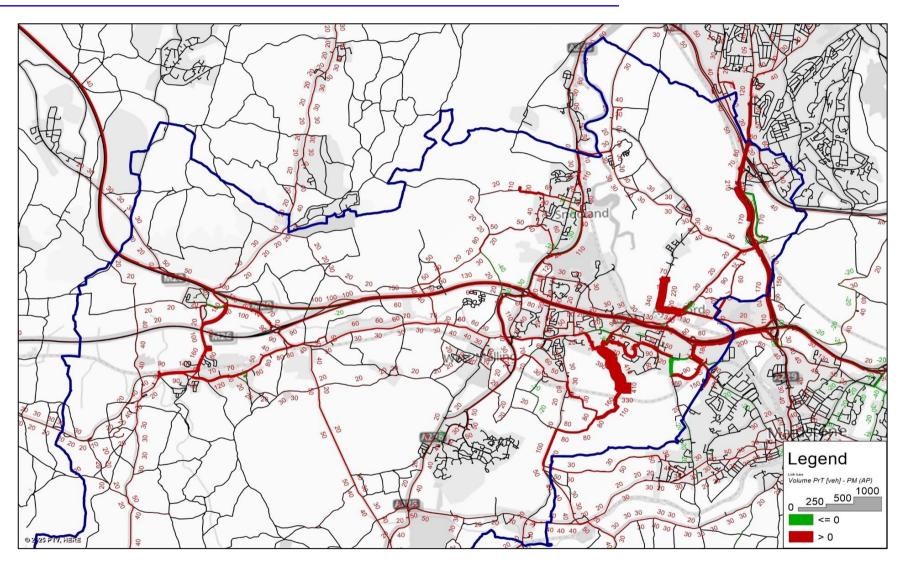


Figure 6: 2042 Local Plan Low Scenario vs 2042 Forecast Baseline Flow Difference Plots (Northern Area) - PM Peak



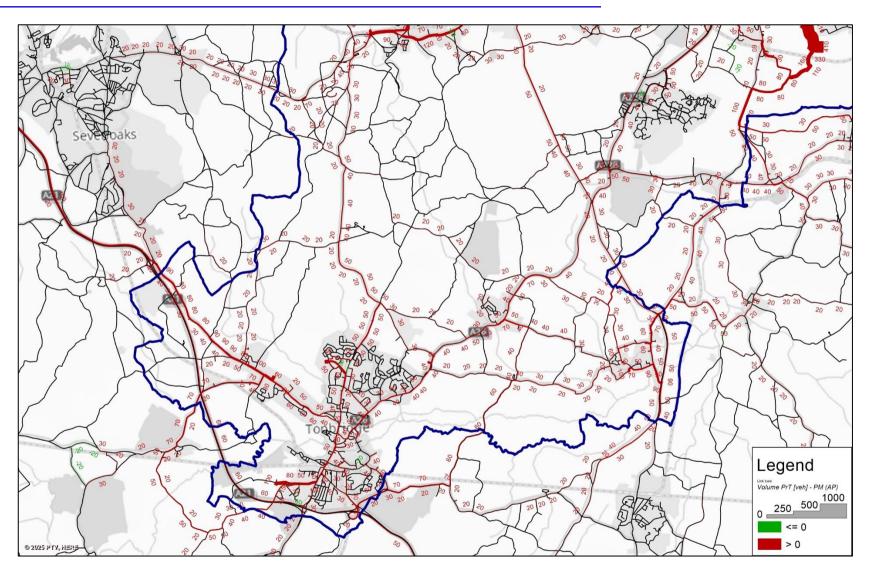


Figure 7: 2042 Local Plan Low Scenario vs 2042 Forecast Baseline Flow Difference Plots (Southern Area) - PM Peak



4.1.2 Junction and Link "Hot-Spots"

Figure 8 and Figure 9 show the junction level of service and link volume capacity ratios for the Local Plan Low Scenario AM and PM peak periods. Figure 10 and Figure 11 present the list of key junctions and links showing LOS E and F for the junctions and V/C > 85% for the links.

In the AM peak, most of the junction and link "hot spots" identified in the 2042 Forecast Baseline also exist in the Local Plan Low Scenario (highlighted in **black** on the map).

In addition, a number of junctions and links in the Local Plan Low Scenario were added to the list, which exhibits severe delays (highlighted in **blue** on the map). These include the following:

Northeast

• A20 / Church Road / Trottiscliffe Road

Northwest

- A228 / Bull Road Roundabout
- M20 J5

East

• A26 Tonbridge Road / Bow Road / Red Hill (from LOS E to F)

South

• Vauxhall Roundabout (A2014 Pembury Road Arm)

Similar patterns are anticipated during the PM peak; however, this projection includes additional junctions and corridors. Notably, some junctions in Borough Green, previously identified as hot spots in the 2042 Forecast Baseline, have worsened in the Local Plan Low Scenario.

Northeast

- A20 (extended between Old Coach Road and A25 Nepicar Lane)
- Seven Mile Lane / Comp Lane Junction (from LOS E to F)
- A25 / Quarry Hill Road / High Street (from LOS E to F)
- A25 / A20 (from LOS E to F)

Northwest

M20 J6



South

• B2260 Railway Approach

More information can be found in Appendix B showing the LOS comparison on key signalized junctions between the 2042 Local Plan Low Scenario and 2042 Forecast Baseline.



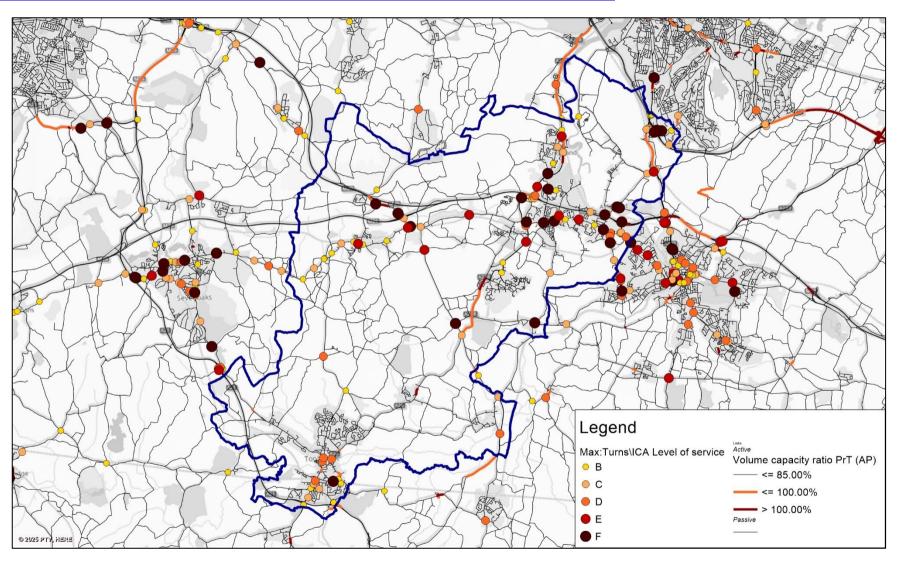


Figure 8: Local Plan Low Scenario Junction LOS and Link Volume Capacity Ratio – AM Peak



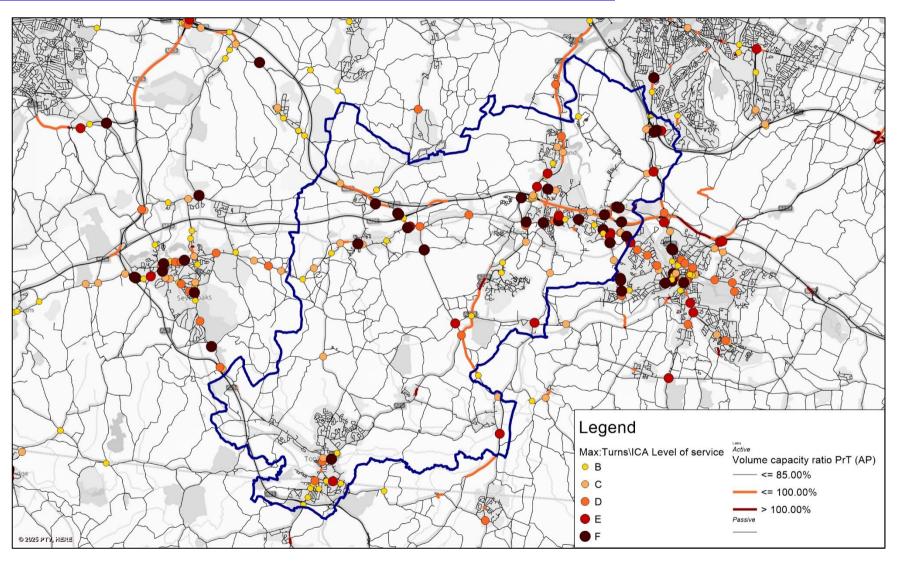


Figure 9: Local Plan Low Scenario Junction LOS and Link Volume Capacity Ratio – PM Peak



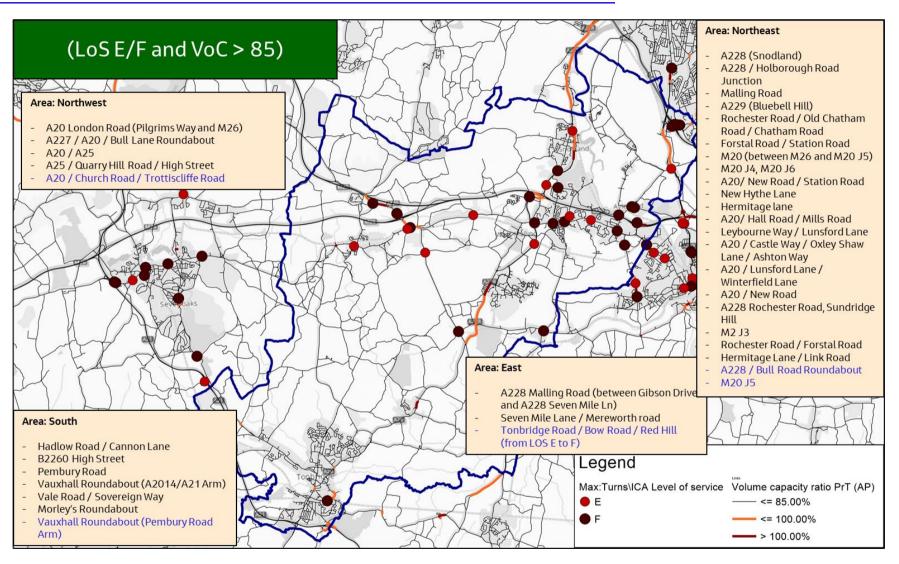


Figure 10: Local Plan Low Scenario Junctions and Links 'Hotspots' – AM Peak



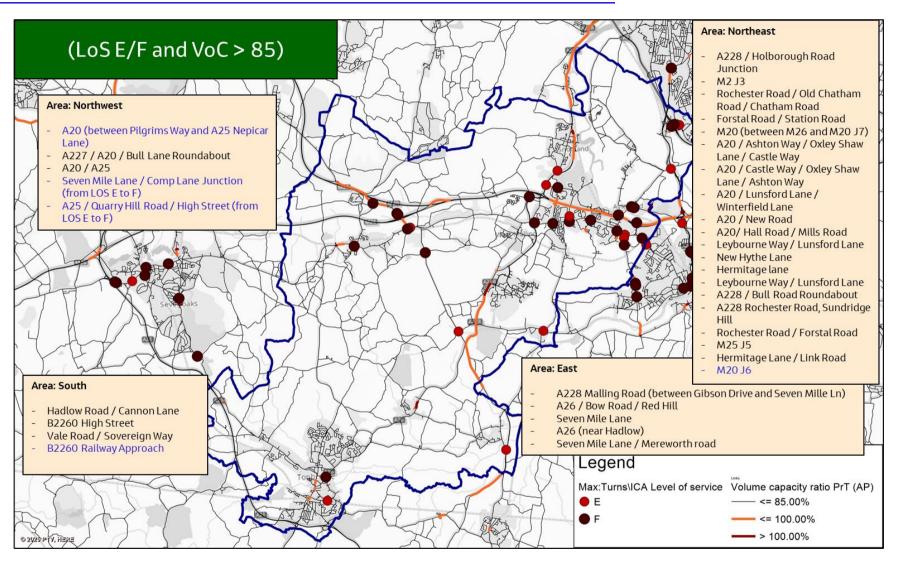


Figure 11: Local Plan Low Scenario Junctions and Links 'Hotspots' – PM Peak



4.1.3 Journey Time Comparison

Figure 12 presents the routes considered for the journey time comparison. Detailed journey time comparison between the 2042 Local Plan Low Scenario and Forecast Baseline is shown in Table 3.

It is important to highlight that routes 1 to 12 were the original routes utilised in the base model validation. To account for additional delays observed in other areas of the model, the following list outlines some of the original routes that have been extended, as well as new routes that have been incorporated.

Extended Routes

- Route 1 M20 (extended to M20 J7)
- Route 6 A26 / B2260 / A227 (extended to Higham Lane)
- Route 7 A21 (extended to Westerham Road Interchange)

New Routes

- Route 13 Pilgrims Way and Rochester Road
- Route 14 A20 (Wrotham Heath)
- Route 15 A227 (Borough Green)
- Route 16 M20 and A229 Blue Bell Hill

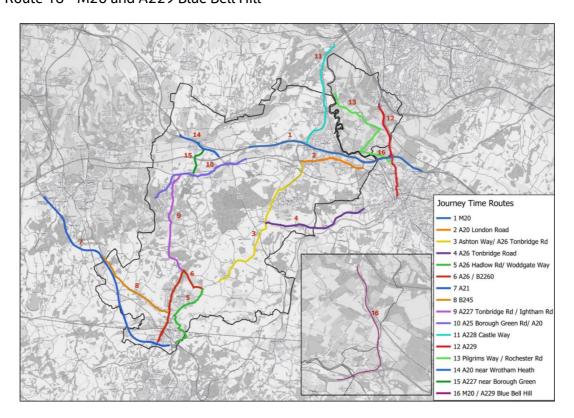


Figure 12: Journey Times Routes in Tonbridge and Malling



The following routes exhibit a travel time increase more significant than 10% between the 2042 Local Plan Low Scenario and Forecast Baseline.

AM Peak

- Route 1 (M20 WB) shows an increase of 10% or almost 1 minute in the journey time westbound direction. This is due to delays and queues on the M20 J6.
- Route 5 (A26 Hadlow Road/Woodgate Way) shows an increase of 10% or around 1 minute in the journey time southbound direction. This is due to delays and queues shown on the A26 Hadlow Road from Higham Lane to Cannon Lane.
- Route 13 (Pilgrims Way/Rochester Road) shows an increase of 63% or around 10 minutes in the journey time southbound direction. This reflects delays along Rochester Road, High Street and Bull Lane in Aylesford.
- Route 16 (M20/A229 Blue Bell Hill) shows an increase of 11% or around half a minute southbound and 23% or around 1 minute and a half northbound. This is related to the delays and queues along M20 J6 and Blue Bell Hill roundabout.

PM Peak

- Route 2 (A20 London Road WB) shows an increase of 30% or around 3 to 4 minutes in the
 journey time westbound direction. This is due to the additional traffic in the A20 London Road
 and Woodlands Road which can be attributed to the inclusion of site "Land East of Kiln Barn
 Road and west of Hermitage" (1300 dwellings) and other delays along the A20 London Road
 corridor.
- Route 13 (Pilgrims Way/Rochester Road) shows an increase of 55% or around 7 minutes in the journey time southbound direction. This reflects delays in roads such as Rochester Road, High Street and Bull Lane in Aylesford.
- Route 14 (A20 near Wrotham Road) shows an increase of 18% or almost 1 minute in the
 journey time northbound direction. This reflects delays in junction connecting A20 London
 Road and A25 Maidstone Road.
- Route 16 (M20/A229 Blue Bell Hill) shows an increase of 11% or around half a minute in the northbound direction. This reflects delays and queues along M20 J6 and Blue Bell Hill roundabout.

Although the report highlights the routes with a journey time difference of greater than 10%, it should be noted that a low percentage increase can still impact junction delays, especially in areas where congestion currently exists. Hence, the routes with actual time differences close to 1 minute are also highlighted in the table.



Table 3 2042 Local Plan Low Scenario vs Forecast Baseline Journey Times Comparison

| | AM Peak | | | | | | PM Peak | | | | |
|-------------|------------------------------------|-------|----------------------------|--------------------------------|-----------------------------|-----------------|----------------------------|--------------------------------|-----------------------------|-----------------|--|
| Description | | | 2042 Baseline TM [s] | 2042 LP Low Scenario [s] | Actual Difference [s] | % Difference | 2042 Baseline TM [s] | 2042 LP Low Scenario [s] | Actual Difference [s] | % Difference | |
| 1 | M20 | 01_EB | 07:30 | 07:33 | 00:03 | 1% | 09:27 | 09:32 | 00:05 | 1% | |
| ľ | M20 | 01_WB | 08:15 | 09:04 | 00:49 | 10% | 07:19 | 07:20 | 00:01 | 0% | |
| 2 | A20 London Road | 02_EB | 08:09 | 08:26 | 00:17 | 3% | 08:51 | 09:16 | 00:25 | 5% | |
| | A20 London Road | 02_WB | 08:19 | 08:47 | 00:28 | 6% | 12:23 | 16:09 | 03:46 | 30% | |
| 3 | A228 Ashton Way / A26 Tonbridge Rd | 03_SB | 14:38 | 14:37 | 00:01 | 0% | 13:02 | 13:17 | 00:15 | 2% | |
| 3 | A228 Ashton Way / A26 Tonbridge Rd | 03_NB | 14:23 | 14:50 | 00:27 | 3% | 14:57 | 15:17 | 00:20 | 2% | |
| 4 | A26 Tonbridge Road | 04_EB | 10:02 | 10:08 | 00:06 | 1% | 10:37 | 10:41 | 00:04 | 1% | |
| 4 | A26 Tonbridge Road | 04_WB | 10:36 | 10:39 | 00:03 | 0% | 09:46 | 09:55 | 00:09 | 2% | |
| 5 | A26 Hadlow Road / Woodgate Way | 05_SB | 11:47 | 12:55 | 01:08 | 10% | 07:44 | 07:57 | 00:13 | 3% | |
| 5 | A26 Hadlow Road / Woodgate Way | 05_NB | 07:56 | 08:07 | 00:11 | 2% | 12:00 | 12:03 | 00:03 | 0% | |
| 6 | A26 / B2260 | 06_SB | 14:26 | 14:41 | 00:15 | 2% | 13:50 | 14:03 | 00:13 | 2% | |
| 0 | A26 / B2260 | 06_NB | 11:45 | 12:00 | 00:15 | 2% | 11:48 | 12:09 | 00:21 | 3% | |
| 7 | A21 | 07_SB | 09:11 | 09:11 | 00:00 | 0% | 09:09 | 09:14 | 00:05 | 1% | |
| , | A21 | 07_NB | 09:05 | 09:09 | 00:04 | 1% | 08:53 | 08:54 | 00:01 | 0% | |
| 8 | B245 | 08_EB | 08:18 | 08:31 | 00:13 | 3% | 08:11 | 08:35 | 00:24 | 5% | |
| 0 | B245 | 08_WB | 08:42 | 08:57 | 00:15 | 3% | 08:20 | 08:37 | 00:17 | 3% | |
| 9 | A227 Tonbridge Road / Ightham Road | 09_NB | 07:32 | 07:37 | 00:05 | 1% | 07:38 | 07:41 | 00:03 | 1% | |
| 9 | A227 Tonbridge Road / Ightham Road | 09_SB | 07:45 | 07:47 | 00:02 | 0% | 07:35 | 07:39 | 00:04 | 1% | |
| 10 | A25 Borough Green Rd/A20 London Rd | 10_EB | 09:28 | 09:34 | 00:06 | 1% | 10:36 | 11:19 | 00:43 | 7% | |
| 10 | A25 Borough Green Rd/A20 London Rd | 10_WB | 09:26 | 09:49 | 00:23 | 4% | 08:36 | 08:44 | 00:08 | 2% | |
| 11 | A228 Castle Way | 11_NB | 10:11 | 10:19 | 00:08 | 1% | 12:18 | 12:44 | 00:26 | 4% | |
| 11 | A228 Castle Way | 11_SB | 10:45 | 10:53 | 00:08 | 1% | 09:25 | 09:43 | 00:18 | 3% | |
| 12 | A229 | 12_SB | 07:37 | 07:38 | 00:01 | 0% | 06:56 | 07:01 | 00:05 | 1% | |
| 12 | A229 | 12_NB | 11:17 | 10:34 | 00:43 | -6% | 09:21 | 08:18 | 01:03 | -11% | |
| 12 | Pilgrims Way / Rochester Road | 28_SB | 16:20 | 26:36 | 10:16 | 63% | 13:07 | 20:20 | 07:13 | 55% | |
| 13 | Pilgrims Way / Rochester Road | 28_NB | 11:54 | 12:09 | 00:15 | 2% | 12:11 | 12:35 | 00:24 | 3% | |
| 14 | A20 near Wrotham Heath | 33_SB | 05:46 | 05:46 | 00:00 | 0% | 06:00 | 05:23 | 00:37 | -10% | |
| | A20 near Wrotham Heath | 33_NB | 05:45 | 05:47 | 00:02 | 1% | 05:15 | 06:12 | 00:57 | 18% | |



| | | | AM Peak | | | | PM Peak | | | |
|-------------|-------------------------|-------|----------------------------|--------------------------------|-----------------------------|-----------------|----------------------------|--------------------------------|-----------------------------|-----------------|
| Description | | | 2042 Baseline TM [s] | 2042 LP Low Scenario [s] | Actual Difference [s] | % Difference | 2042 Baseline TM [s] | 2042 LP Low Scenario [s] | Actual Difference [s] | % Difference |
| 15 | A227 near Borough Green | 30_SB | 05:57 | 06:04 | 00:07 | 2% | 05:39 | 05:47 | 00:08 | 2% |
| | A227 near Borough Green | 30_NB | 05:51 | 06:10 | 00:19 | 5% | 06:14 | 06:33 | 00:19 | 5% |
| 16 | M20/A229 Blue Bell Hill | 34_SB | 05:23 | 05:57 | 00:34 | 11% | 06:28 | 05:19 | 01:09 | -18% |
| | M20/A229 Blue Bell Hill | 34_NB | 06:30 | 07:58 | 01:28 | 23% | 05:22 | 05:59 | 00:37 | 11% |



4.2 Local Plan Medium Scenario

4.2.1 Flow Difference Plots

Figure 13 to Figure 18 show the flow difference plots (presented in total actual vehicles) for each peak period comparing the 2042 Local Plan Medium Scenario and 2042 Forecast Baseline. The figures include northern and southern areas zoomed in to demonstrate the changes in more detail.

Overall, the flow changes between 2042 Local Plan Medium Scenario and 2042 Forecast Baseline provide similar patterns to that of Local Plan Low Scenario but with slight traffic increases in areas closer to the locations of the sites included in the Local Plan Medium Scenario (i.e., The Rocks Road near East Malling).



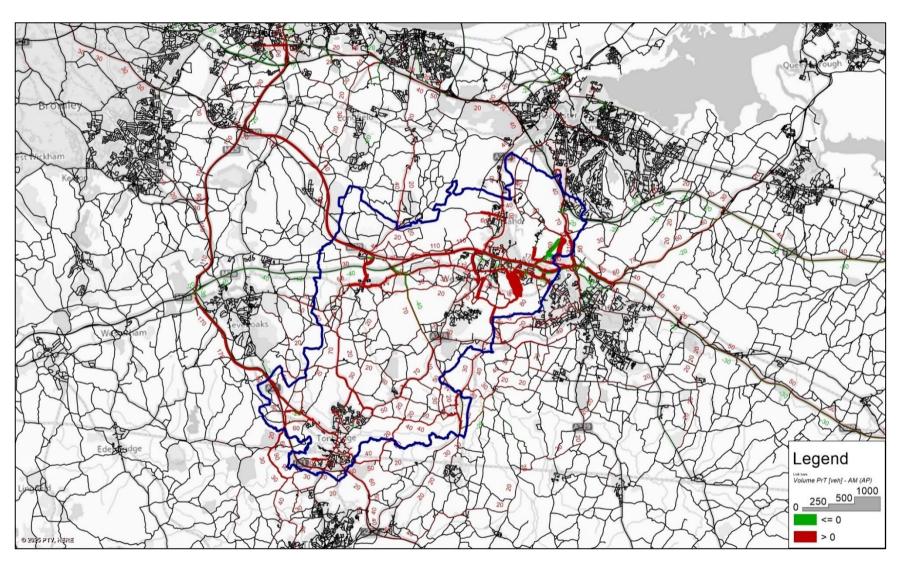


Figure 13: 2042 Local Plan Medium Scenario vs 2042 Forecast Baseline Flow Difference Plots - AM Peak



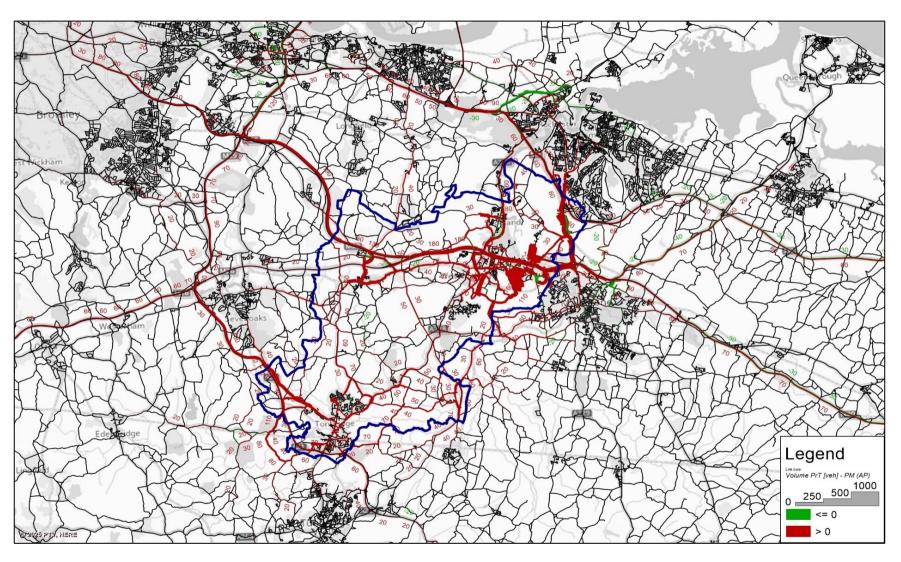


Figure 14: 2042 Local Plan Medium Scenario vs 2042 Forecast Baseline Flow Difference Plots - PM Peak



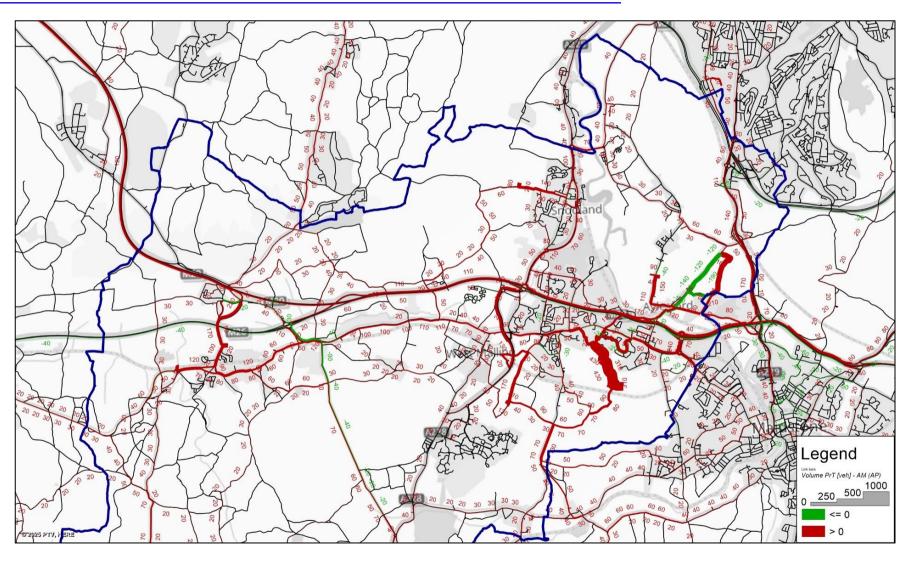


Figure 15: 2042 Local Plan Medium Scenario vs 2042 Forecast Baseline Flow Difference Plots (Northern Area) - AM Peak



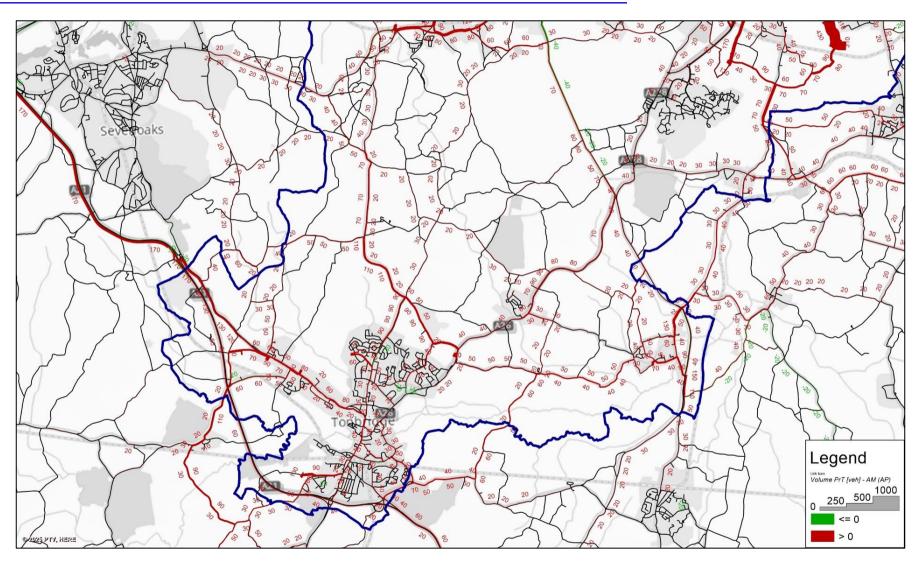


Figure 16: 2042 Local Plan Medium Scenario vs 2042 Forecast Baseline Flow Difference Plots (Southern Area) - AM Peak



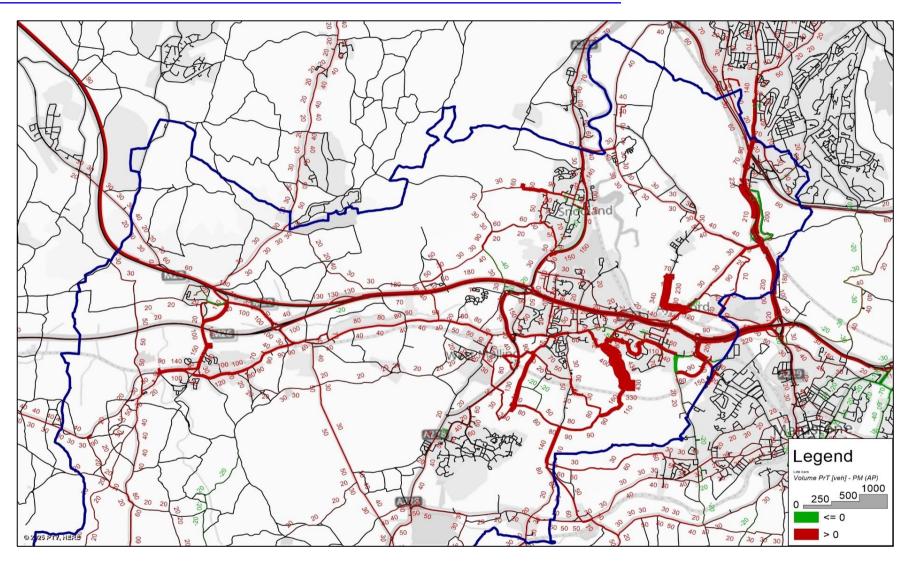


Figure 17: 2042 Local Plan Medium Scenario vs 2042 Forecast Baseline Flow Difference Plots (Northern Area) - PM Peak



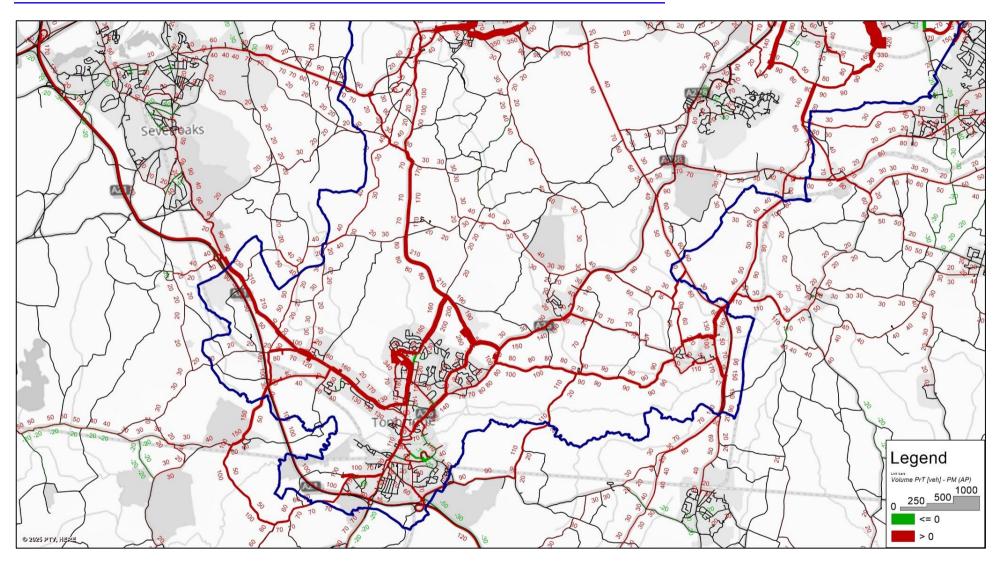


Figure 18: 2042 Local Plan Medium Scenario vs 2042 Forecast Baseline Flow Difference Plots (Southern Area) - PM Peak



4.2.2 Junction and Link "Hot-Spots"

Figure 19 and Figure 20 show the junction level of service and link volume capacity ratios for the Local Plan Test 2 in the AM and PM peak periods. Figure 21 and Figure 22 present the list of key junctions and links showing LOS E and F for the junctions and V/C > 85% for the links.

Most of the junction and link "hot spots" identified in the 2042 Forecast Baseline also exist in the Local Plan Medium Scenario (highlighted in **black** on the map).

In the AM, the Local Plan Medium Scenario shows similar patterns as the Local Plan Low Scenario with slightly more junctions and corridors exhibiting severe delays (highlighted in **blue** on the map). These include the following:

Northeast

- A20 / Church Road / Trottiscliffe Road
- A25 / A20

Northwest

- A228 / Bull Road Roundabout
- M20 J5
- M20 J6 (from LOS E to F)

East

- A26 Tonbridge Road / Bow Road / Red Hill (from LOS E to F)
- Seven Mile Lane

South

- Vauxhall Roundabout (A2014 Pembury Road Arm)
- Vale Road / Sovereign Way (from LOS E to F)

Similar patterns are predicted during the PM peak with some junctions and corridors getting worse due to the potential additional growth in this scenario.

Northeast

- A20 (extended between Old Coach Road and A25 Nepicar Lane)
- Seven Mile Lane / Comp Lane Junction (from LOS E to F)



- A25 / Quarry Hill Road / High Street (from LOS E to F)
- A25 / A20 (from LOS E to F)

Northwest

- M20 J6
- A20 / Beatrix Drive
- Forstal Road / Rochester Road / High Street

South

- B2260 Railway Approach
- B2260 High Street (VC ratio > 100%)
- Vale Road / Sovereign Way (from LOS E to F)

More information can be found in Appendix B showing the LOS comparison on key signalised junctions between the 2042 Local Plan Low Scenario and 2042 Forecast Baseline



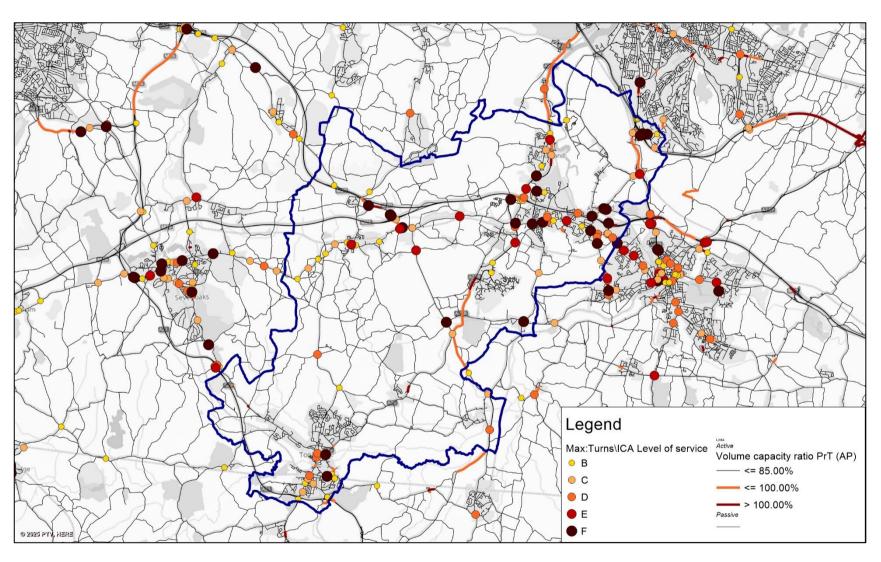


Figure 19: Local Plan Medium Scenario Junction LOS and Link Volume Capacity Ratios – AM Peak



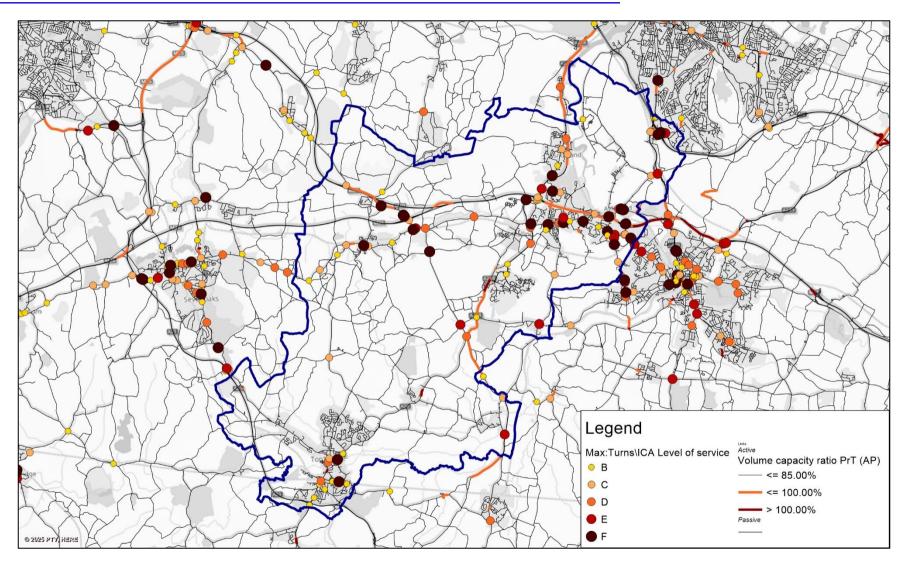


Figure 20: Local Plan Medium Scenario Junction LOS and Link Volume Capacity Ratios – PM Peak



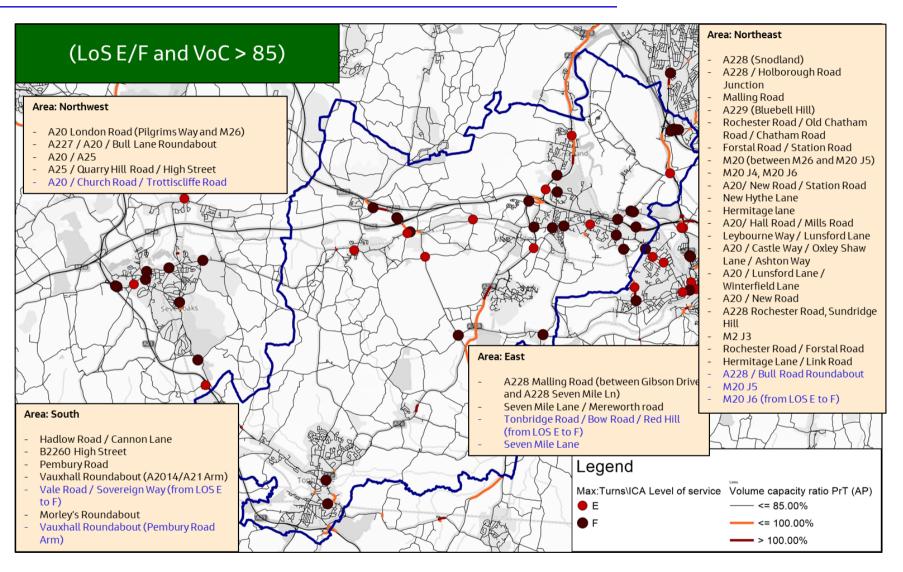


Figure 21: Local Plan Medium Scenario Junctions and Links 'Hotspots' – AM Peak



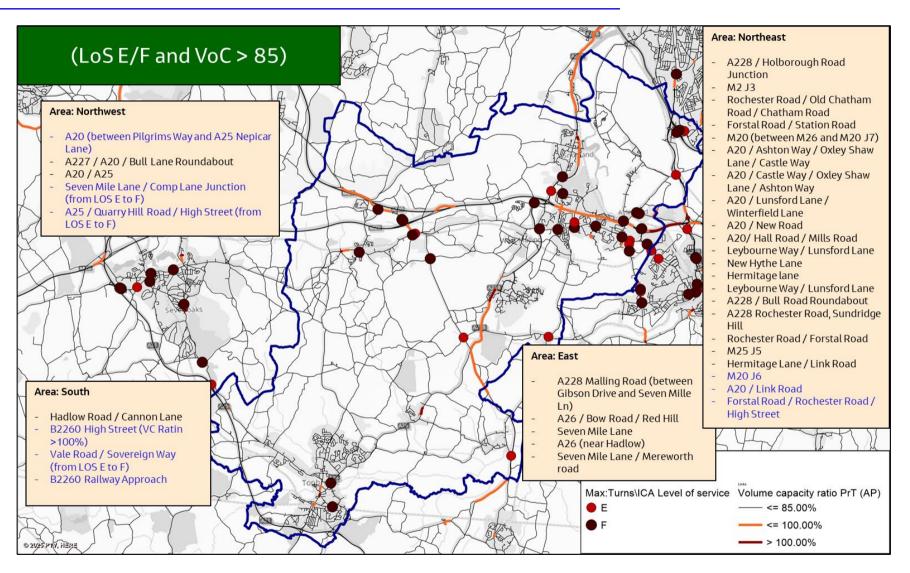


Figure 22: Local Plan Medium Scenario Junctions and Links 'Hotspots' – PM Peak



4.2.3 Journey time comparison

The detailed journey time comparison between the 2042 Local Plan Medium Scenario and 2042 Forecast Baseline is shown in Table 4. The following routes exhibit a travel time increase of greater than 10% between the 2042 Local Plan Medium Scenario and Forecast Baseline.

AM Peak

- Route 1 (M20 WB) shows an increase of 11% or almost 1 minute in the journey time westbound direction. This is due to the delays and queues along M20 J6.
- Route 5 (A26 Hadlow Road/Woodgate Way) shows an increase of 13% or around 1 minute and a half in the journey time southbound direction. This is due to delays and queues along the A26 Hadlow Road from Higham Lane to Cannon Lane.
- Route 13 (Pilgrims Way/Rochester Road) shows an increase of 59% or almost 10 minutes in the journey time southbound direction. This reflects the delays along Rochester Road, High Street and Bull Lane in Aylesford.
- Route 16 (M20/A229 Blue Bell Hill) shows an increase of 13% or almost 1 minute in the southbound direction and 23% or around 1 minute and a half in the northbound direction. This reflects the delays and queues along M20 J6 and Blue Bell Hill Roundabout.

PM Peak

- Route 2 (A20 London Road WB) shows an increase of 30% or around 3 to 4 minutes in the
 journey time westbound direction. This is due to the additional traffic in the A20 London Road
 and Woodlands Road which can be attributed to the inclusion of site "Land East of Kiln Barn
 Road and West of Hermitage" (1300 dwellings) and other delays along the A20 London Road
 corridor.
- Route 13 (Pilgrims Way/Rochester Road) shows an increase of 38% or around 5 minutes in the journey time southbound direction. This reflects delays along Rochester Road, High Street and Bull Lane in Aylesford.
- Route 16 (M20/A229 Blue Bell Hill) shows an increase of 16% or almost 1 minute in the northbound direction. This reflects delays and queues along M20 J6 and Blue Bell Hill Roundabout.

Although the report highlights the routes with a journey time difference of greater than 10%, it should be noted that a low percentage increase can still impact junction delays, especially in areas where congestion currently exists. Hence, the routes with actual time differences close to 1 minute are also highlighted in the table.

The Local Plan Medium Scenario identifies similar hotspot areas and journey time impacts as those found in the Local Plan Low Scenario. However, it is important to note that certain junctions and corridors in the Local Plan Medium Scenario have worsened.



Table 4 2042 Local Plan Medium Scenario vs Forecast Baseline Journey Times Comparison

| | | | | | | | _ | | | | |
|----|------------------------------------|-------|----------------------------|-----------------------------------|-----------------------------|-----------------|----------------------------|-----------------------------------|-----------------------------|-----------------|--|
| | AM Peak | | | | | | PM Peak | | | | |
| | Description | | 2042 Baseline TM [s] | 2042 LP Medium Scenario [s] | Actual Difference [s] | % Difference | 2042 Baseline TM [s] | 2042 LP Medium Scenario [s] | Actual Difference [s] | % Difference | |
| 1 | M20 | 01_EB | 07:30 | 07:33 | 00:03 | 1% | 09:27 | 09:32 | 00:05 | 1% | |
| 1 | M20 | 01_WB | 08:15 | 09:08 | 00:53 | 11% | 07:19 | 07:20 | 00:01 | 0% | |
| - | A20 London Road | 02_EB | 08:09 | 08:32 | 00:23 | 5% | 08:51 | 09:22 | 00:31 | 6% | |
| 2 | A20 London Road | 02_WB | 08:19 | 08:48 | 00:29 | 6% | 12:23 | 16:03 | 03:40 | 30% | |
| 3 | A228 Ashton Way / A26 Tonbridge Rd | 03_SB | 14:38 | 14:38 | 00:00 | 0% | 13:02 | 13:21 | 00:19 | 2% | |
| 3 | A228 Ashton Way / A26 Tonbridge Rd | 03_NB | 14:23 | 14:54 | 00:31 | 4% | 14:57 | 15:14 | 00:17 | 2% | |
| 4 | A26 Tonbridge Road | 04_EB | 10:02 | 10:17 | 00:15 | 2% | 10:37 | 10:52 | 00:15 | 2% | |
| 4 | A26 Tonbridge Road | 04_WB | 10:36 | 10:37 | 00:01 | 0% | 09:46 | 09:57 | 00:11 | 2% | |
| 5 | A26 Hadlow Road / Woodgate Way | 05_SB | 11:47 | 13:19 | 01:32 | 13% | 07:44 | 08:02 | 00:18 | 4% | |
| 5 | A26 Hadlow Road / Woodgate Way | 05_NB | 07:56 | 08:16 | 00:20 | 4% | 12:00 | 12:22 | 00:22 | 3% | |
| 6 | A26 / B2260 | 06_SB | 14:26 | 14:46 | 00:20 | 2% | 13:50 | 14:05 | 00:15 | 2% | |
| 0 | A26 / B2260 | 06_NB | 11:45 | 12:01 | 00:16 | 2% | 11:48 | 12:15 | 00:27 | 4% | |
| 7 | A21 | 07_SB | 09:11 | 09:11 | 00:00 | 0% | 09:09 | 09:16 | 00:07 | 1% | |
| , | A21 | 07_NB | 09:05 | 09:12 | 00:07 | 1% | 08:53 | 08:54 | 00:01 | 0% | |
| 8 | B245 | 08_EB | 08:18 | 08:38 | 00:20 | 4% | 08:11 | 08:47 | 00:36 | 7% | |
| 0 | B245 | 08_WB | 08:42 | 09:06 | 00:24 | 5% | 08:20 | 08:50 | 00:30 | 6% | |
| 9 | A227 Tonbridge Road / Ightham Road | 09_NB | 07:32 | 07:40 | 00:08 | 2% | 07:38 | 07:41 | 00:03 | 1% | |
| 9 | A227 Tonbridge Road / Ightham Road | 09_SB | 07:45 | 07:47 | 00:02 | 0% | 07:35 | 07:41 | 00:06 | 1% | |
| 10 | A25 Borough Green Rd/A20 London Rd | 10_EB | 09:28 | 09:35 | 00:07 | 1% | 10:36 | 11:26 | 00:50 | 8% | |
| 10 | A25 Borough Green Rd/A20 London Rd | 10_WB | 09:26 | 09:50 | 00:24 | 4% | 08:36 | 08:45 | 00:09 | 2% | |
| 11 | A228 Castle Way | 11_NB | 10:11 | 10:28 | 00:17 | 3% | 12:18 | 12:41 | 00:23 | 3% | |
| 11 | A228 Castle Way | 11_SB | 10:45 | 10:58 | 00:13 | 2% | 09:25 | 09:46 | 00:21 | 4% | |
| 12 | A229 | 12_SB | 07:37 | 07:38 | 00:01 | 0% | 06:56 | 07:02 | 00:06 | 1% | |
| | A229 | 12_NB | 11:17 | 10:52 | 00:25 | -4% | 09:21 | 08:16 | 01:05 | -12% | |
| 42 | Pilgrims Way / Rochester Road | 28_SB | 16:20 | 26:02 | 09:42 | 59% | 13:07 | 18:05 | 04:58 | 38% | |
| 13 | Pilgrims Way / Rochester Road | 28_NB | 11:54 | 12:07 | 00:13 | 2% | 12:11 | 12:35 | 00:24 | 3% | |
| 14 | A20 near Wrotham Heath | 33_SB | 05:46 | 05:48 | 00:02 | 1% | 06:00 | 06:15 | 00:15 | 4% | |
| 14 | A20 near Wrotham Heath | 33_NB | 05:45 | 05:47 | 00:02 | 1% | 05:15 | 05:24 | 00:09 | 3% | |



| | | | AM Peak | | | | PM Peak | | | |
|----|-------------------------|-------|----------------------------|-----------------------------------|-----------------------------|-----------------|----------------------------|-----------------------------------|-----------------------------|-----------------|
| | Description | | 2042 Baseline TM [s] | 2042 LP Medium Scenario [s] | Actual Difference [s] | % Difference | 2042 Baseline TM [s] | 2042 LP Medium Scenario [s] | Actual Difference [s] | % Difference |
| 15 | A227 near Borough Green | 30_SB | 05:57 | 06:05 | 00:08 | 2% | 05:39 | 05:48 | 00:09 | 3% |
| | A227 near Borough Green | 30_NB | 05:51 | 06:11 | 00:20 | 6% | 06:14 | 06:33 | 00:19 | 5% |
| 16 | M20/A229 Blue Bell Hill | 34_SB | 05:23 | 06:05 | 00:42 | 13% | 06:28 | 05:20 | 01:08 | -18% |
| | M20/A229 Blue Bell Hill | 34_NB | 06:30 | 08:00 | 01:30 | 23% | 05:22 | 06:13 | 00:51 | 16% |



4.3 Local Plan High Scenario

4.3.1 Flow Difference Plots

Figure 23 and Figure 28 show the flow difference plots (presented in total actual vehicles) for each peak period comparing the 2042 Local Plan High Scenario and 2042 Forecast Baseline. The figures include northern and southern areas zoomed in to demonstrate changes in more detail.

The traffic flow changes projected between the 2042 Local Plan High Scenario and the 2042 Forecast Baseline exhibit patterns similar to those observed in the Local Plan Medium Scenario. However, the High Scenario indicates notable traffic increases in areas adjacent to sites designated for additional housing units and employment spaces (specifically, A227 Borough Green Road, Paddlesworth Road in Snodland, local roads in Aylesford, A20 London Road, Kiln Barn Road, A228, A227 Shipbourne Road, A227 Tonbridge Road, Higham Lane, and B245 in Tonbridge).

As explained in the earlier section of the report, some of the corridors show a reduction in traffic. This is attributed to delays and congestion that hinder the smooth passage of vehicles through key junctions. In the context of the Local Plan High Scenario, affected routes include the M20, Rochester Road in Aylesford, A20 London Road in Wrotham Heath, A227 in Borough Green and Wrotham, A26 Hadlow Road/Higham Lane, The Ridgeway in Tonbridge, and Morley's Roundabout.



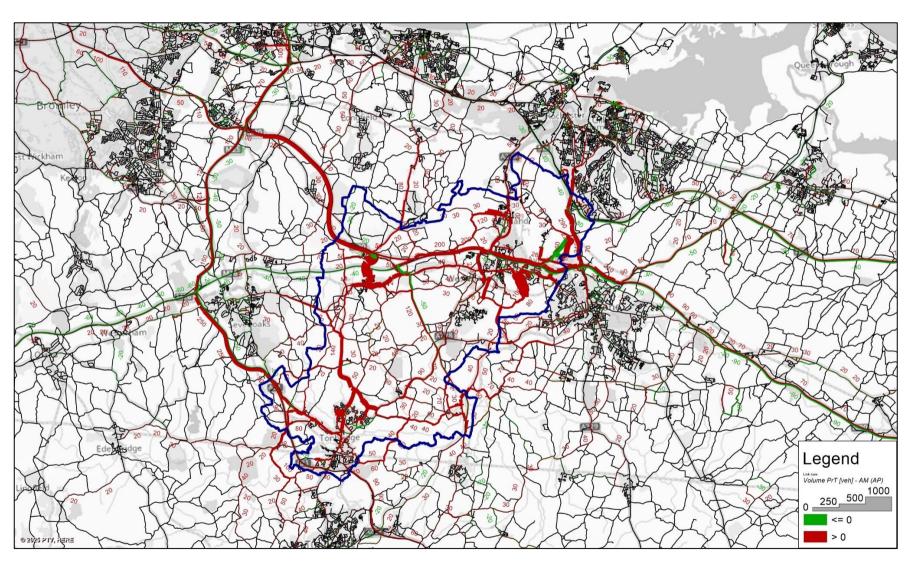


Figure 23: 2042 Local Plan High Scenario vs 2042 Forecast Baseline Flow Difference Plots - AM Peak



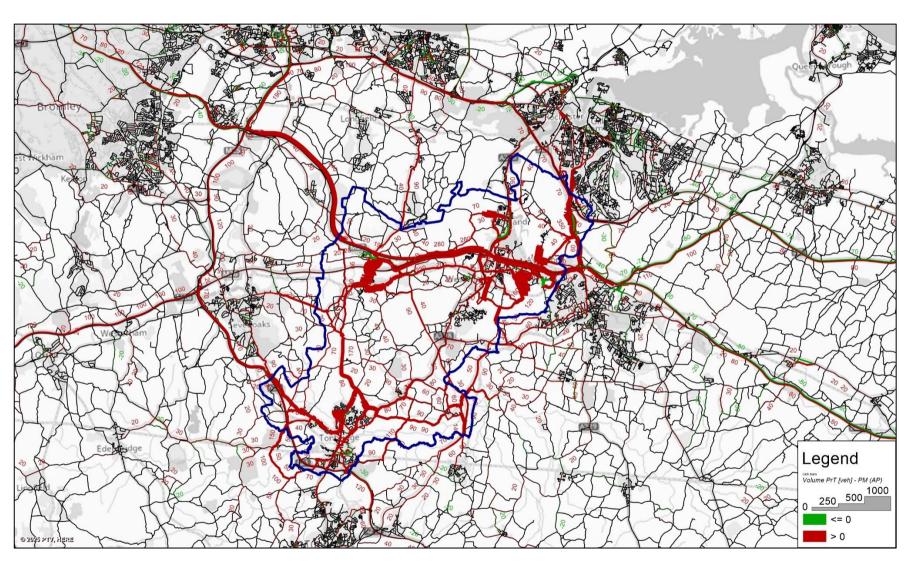


Figure 24: 2042 Local Plan High Scenario vs 2042 Forecast Baseline Flow Difference Plots - PM Peak



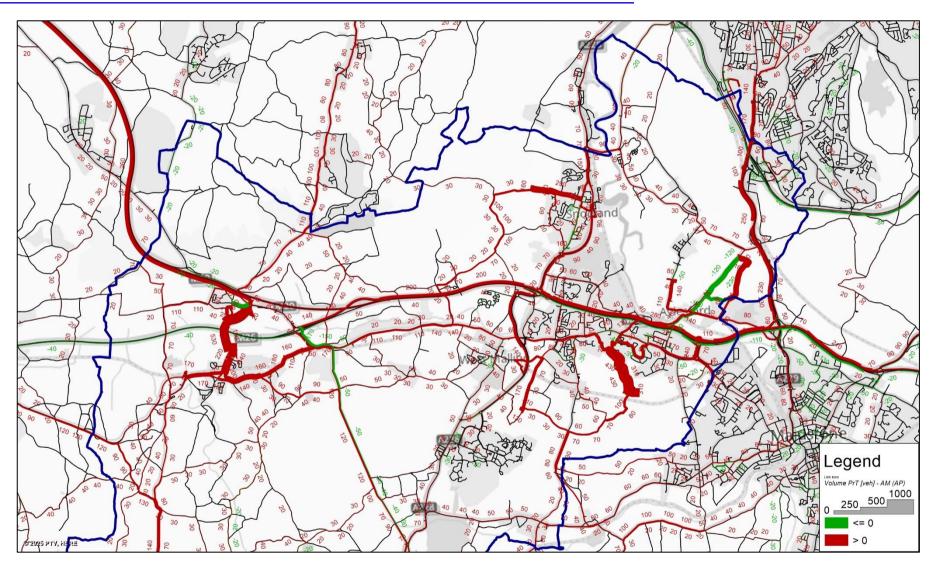


Figure 25: 2042 Local Plan High Scenario vs 2042 Forecast Baseline Flow Difference Plots (Northern Area) - AM Peak



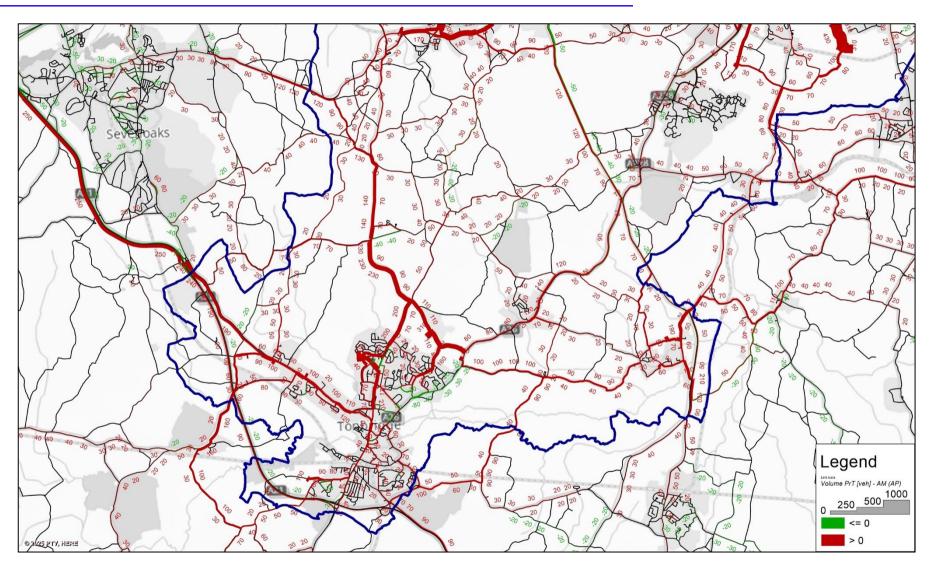


Figure 26: 2042 Local Plan High Scenario vs 2042 Forecast Baseline Flow Difference Plots (Southern Area) - AM Peak



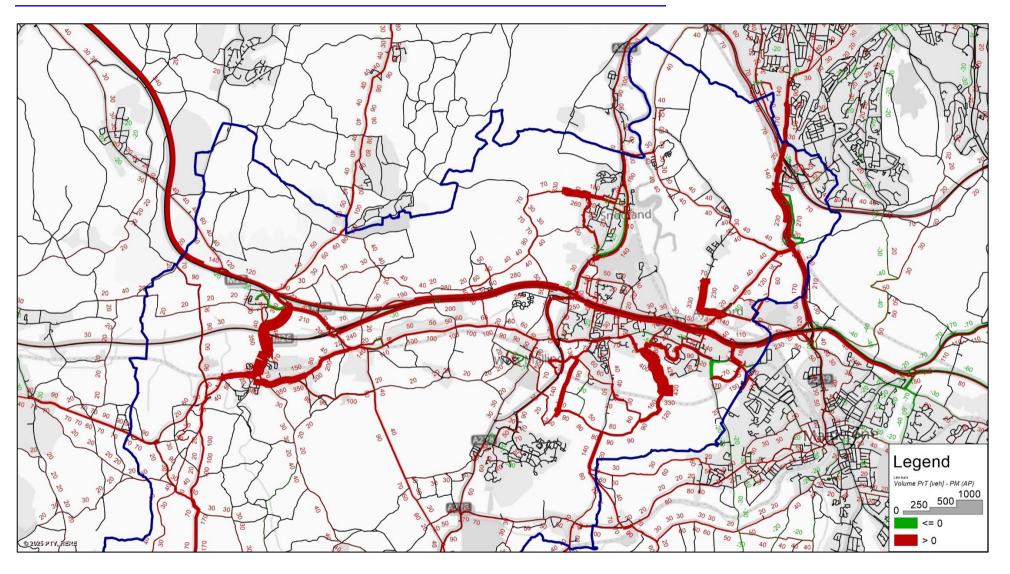


Figure 27: 2042 Local Plan Medium Scenario vs 2042 Forecast Baseline Flow Difference Plots (Northern Area) - PM Peak



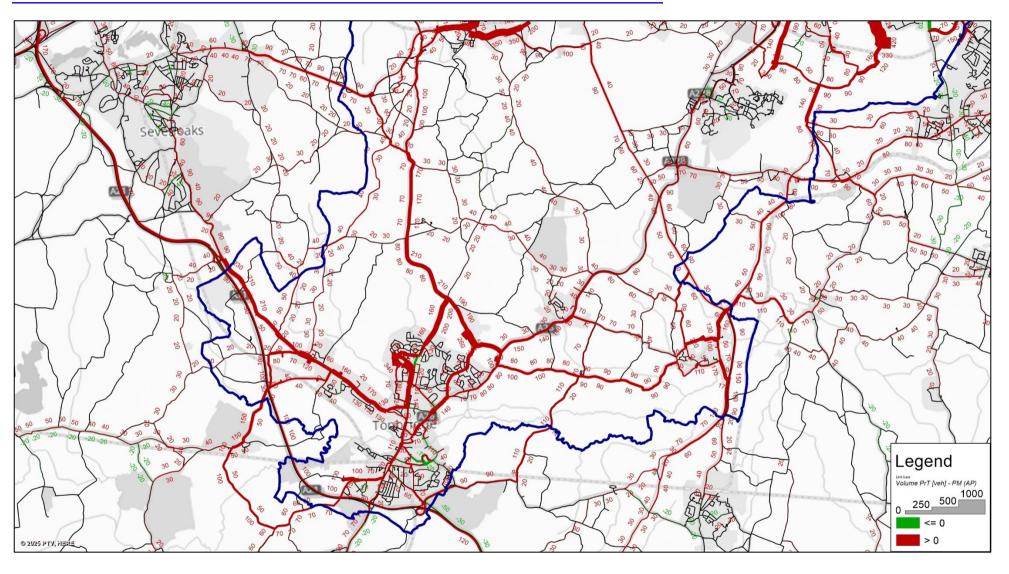


Figure 28: 2042 Local Plan High Scenario vs 2042 Forecast Baseline Flow Difference Plots (Southern Area) - PM Peak



4.3.2 Junction and Link "Hot-Spots"

Figure 29 and Figure 30 show the junction level of service and link volume capacity ratios for the Local Plan High Scenario in the AM and PM peak periods. Figure 31 and Figure 32 present the list of key junctions and links showing LOS E and F for the junctions and V/C > 85% for the links.

The substantial increase in traffic within the Local Plan High Scenario has led to several junctions and corridors experiencing potential capacity challenges. As in the other two scenarios, the junctions and link "hot spots" identified in the 2042 Forecast Baseline are marked in **black** on the map, while additional areas are highlighted in **blue**.

Northeast

- A25 / Quarry Hill Road / High Street (from LOS E to F)
- A20 / Church Road / Trottiscliffe Road
- A25 / A20

Northwest

- A228 Rochester Road, Sundridge Hill (VC Ration >100%)
- A228 / Bull Road Roundabout
- M20 J5
- M20 J6 (from LOS E to F)

East

- A26 Tonbridge Road / Bow Road / Red Hill (from LOS E to F)
- Seven Mile Lane

South

- A21 Morley's Roundabout (B245 Arm)
- Vauxhall Roundabout (A2014 Pembury Road Arm)
- Vale Road / Sovereign Way (from LOS E to F)
- B2260 Railway Approach
- B245 Tonbridge Road
- A227 Tonbridge Road / Hildenborough Road / Back Lane



Similar trends are anticipated during the PM peak, with certain junctions and corridors likely to experience increased congestion due to the additional growth in the area.

Northeast

- A20 (extended between Old Coach Road and A25 Nepicar Lane)
- Seven Mile Lane / Comp Lane Junction (from LOS E to F)
- A25 / Quarry Hill Road / High Street (from LOS E to F)
- A25 / A20 (from LOS E to F)
- A227 (Wrotham)

Northwest

- M20 J6
- A20 / Beatrix Drive
- Forstal Road / Rochester Road / High Street

East

• A26 Tonbridge Road / Bow Road / Red Hill (from LOS E to F)

South

- B2260 Railway Approach
- B2260 High Street (VC ratio > 100%)
- B245 Tonbridge Road

More information can be found in Appendix B showing the LOS comparison on key signalized junctions between the 2042 Local Plan High Scenario and 2042 Forecast Baseline.



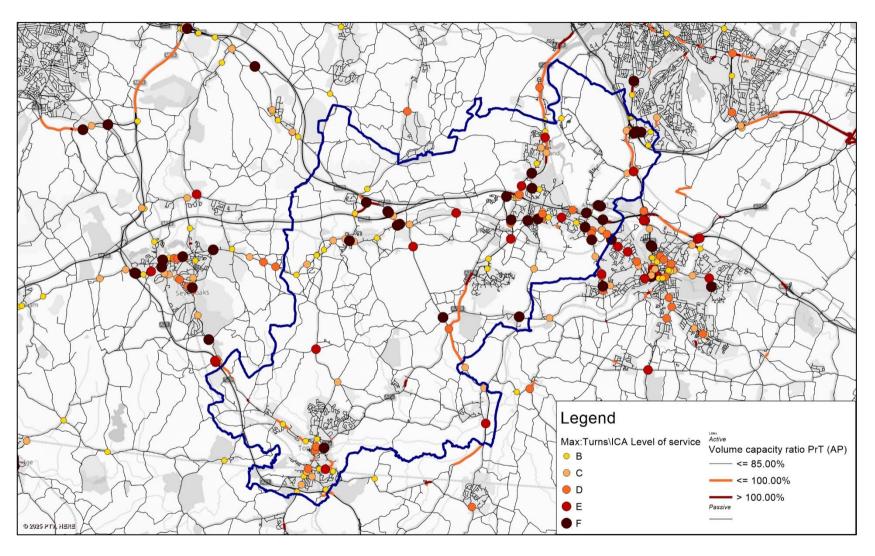


Figure 29: Local Plan High Scenario Junction LOS and Link Volume Capacity Ratios – AM Peak



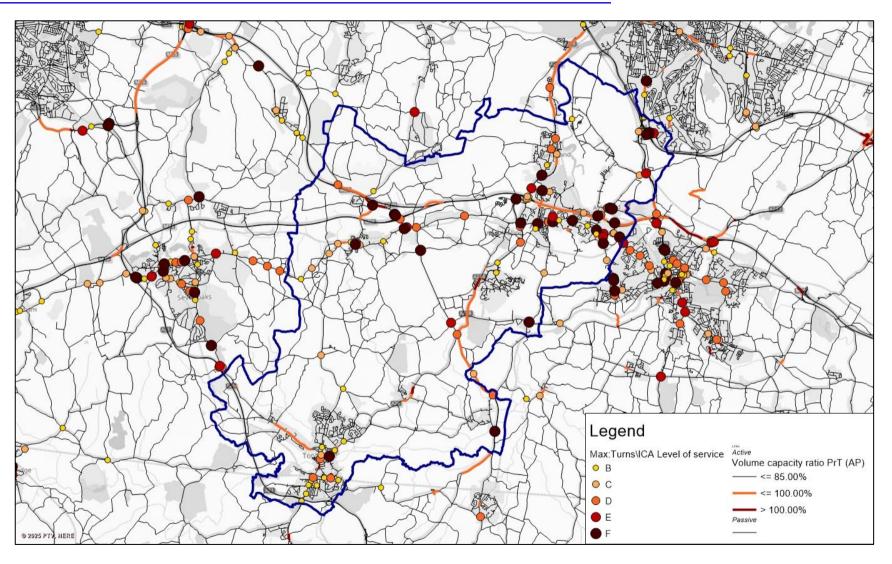


Figure 30: Local Plan Medium Scenario Junction LOS and Link Volume Capacity Ratios – PM Peak



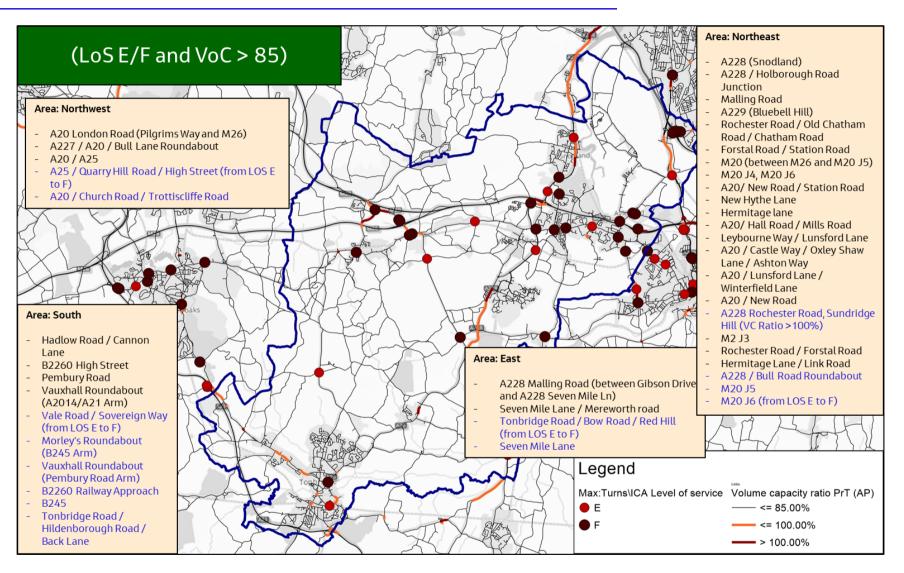


Figure 31: Local Plan High Scenario Junctions and Links 'Hotspots' – AM Peak



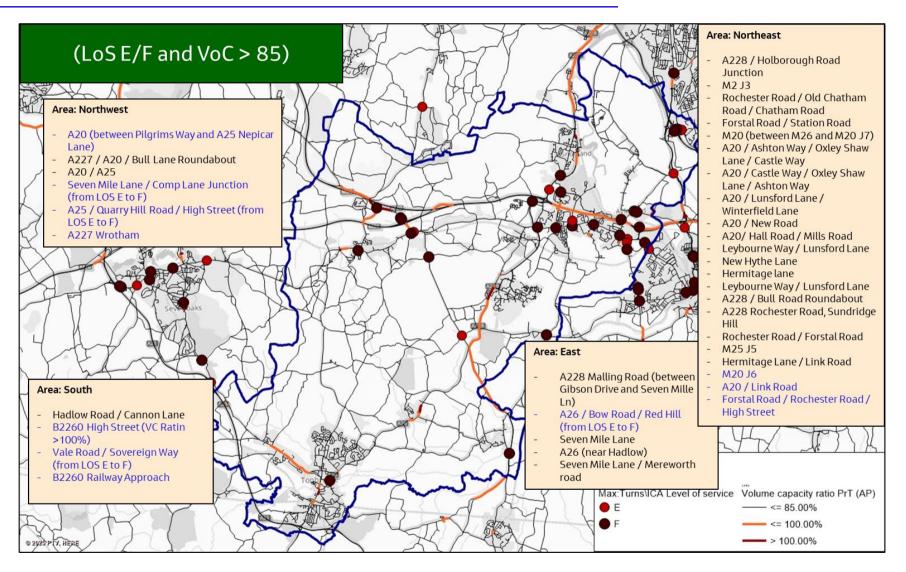


Figure 32: Local Plan High Scenario Junctions and Links 'Hotspots' – PM Peak



4.3.3 Journey time comparison

The detailed journey time comparison between the 2042 Local Plan High Scenario and 2042 Forecast Baseline are shown in Table 4.

The following routes exhibit a travel time increase of greater than 10% between the 2040/41 Local Plan Test 1 and Forecast Baseline.

AM Peak

- Route 1 (M20 WB) shows an increase of 11% or almost 1 minute in the journey time westbound direction. This is due to the delays and queues on the M20 J6.
- Route 5 (A26 Hadlow Road/Woodgate Way) shows an increase of 31% or around 3 to 4 minutes in journey time in the southbound direction. This is due to the delays and queues along A26 Hadlow Road from Higham Lane to Cannon Lane.
- Route 10 (A25 Borough Green Road/A20 London Road) shows an increase of 13% or around 1 minute in journey time in the eastbound direction. This reflects delays in A25 Borough Green Road in Borough Green and delays along A20 London Road near Wrotham Heath.
- Route 13 (Pilgrims Way/Rochester Road) shows an increase of 66% or around 11 minutes in journey time in the southbound direction. This reflects delays in roads such as Rochester Road, High Street and Bull Lane in Aylesford.
- Route 15 (A227 near Borough Green) shows an increase of 50% or around 3 minutes in journey time in the northbound direction. This reflects delays along A227 / A20 London Road junction in Borough Green.
- Route 16 (M20/A229 Blue Bell Hill) shows an increase of 25% or almost 2 minutes in the northbound direction. This reflects delays and queues M20 J6 and Blue Bell Hill Roundabout.

PM Peak

- Route 2 (A20 London Road WB) shows an increase of 29% or around 3 to 4 minutes in
 journey time in the westbound direction. This is due to the additional traffic along A20 London
 Road and Woodlands Road which can be attributed to the additional traffic related to "Land
 East of Kiln Barn Road and west of Hermitage" sites (1300 dwellings) and other delays along
 the A20 London Road corridor.
- Route 5 (A26 Hadlow Road/Woodgate Way) shows an increase of 10% or almost 1 minute in the southbound direction and 26% or around 3 minutes in the northbound direction. This is due to the delays and queues along A26 Hadlow Road from Higham Lane to Cannon Lane.
- Route 8 (B245) shows an increase of 13% or around 1 minute in the eastbound direction. This is due to delays and queues along B245 near Leigh Road.



- Route 13 (Pilgrims Way/Rochester Road) shows an increase of 44% or around 6 minutes in the journey time southbound direction. This reflects the delays along Rochester Road, High Street and Bull Lane in Aylesford.
- Route 15 (A227 near Borough Green) shows an increase of 12% to 14% or almost 1 minute in both directions. This reflects delays along A227 / A20 London Road junction in Borough Green.
- Route 16 (M20/A229 Blue Bell Hill) shows an increase of 33% or almost 2 minutes northbound. This reflects delays and queues along M20 J6 and Blue Bell Hill Roundabout.

Although the report highlights the routes with a journey time difference of greater than 10%, it should be noted that a low percentage increase can still impact junction delays, especially in areas where congestion currently exists. Hence, the routes with actual time differences close to 1 minute are also highlighted in the table.

In comparison to the other two scenarios, the Local Plan High Scenario significantly affected journey times on several routes due to the substantial increase in development quantum in specific areas.



Table 5 2042 Local Plan High Scenario vs Forecast Baseline Journey Times Comparison

| | | | AM Peak | | | | PM Peak | | | |
|-----|------------------------------------|-------|----------------------------|---------------------------------|-----------------------------|-----------------|----------------------------|---------------------------------|-----------------------------|-----------------|
| | Description | | 2042 Baseline TM [s] | 2042 LP High Scenario [s] | Actual Difference [s] | % Difference | 2042 Baseline TM [s] | 2042 LP High Scenario [s] | Actual Difference [s] | % Difference |
| 4 | M20 | 01_EB | 07:30 | 07:34 | 00:04 | 1% | 09:27 | 09:28 | 00:01 | 0% |
| 1 | M20 | 01_WB | 08:15 | 09:07 | 00:52 | 11% | 07:19 | 07:22 | 00:03 | 1% |
| 2 | A20 London Road | 02_EB | 08:09 | 08:35 | 00:26 | 5% | 08:51 | 09:19 | 00:28 | 5% |
| 2 | A20 London Road | 02_WB | 08:19 | 08:50 | 00:31 | 6% | 12:23 | 16:01 | 03:38 | 29% |
| 3 | A228 Ashton Way / A26 Tonbridge Rd | 03_SB | 14:38 | 14:35 | 00:03 | 0% | 13:02 | 13:36 | 00:34 | 4% |
| 3 | A228 Ashton Way / A26 Tonbridge Rd | 03_NB | 14:23 | 15:15 | 00:52 | 6% | 14:57 | 15:12 | 00:15 | 2% |
| 4 | A26 Tonbridge Road | 04_EB | 10:02 | 10:24 | 00:22 | 4% | 10:37 | 10:55 | 00:18 | 3% |
| 4 | A26 Tonbridge Road | 04_WB | 10:36 | 10:40 | 00:04 | 1% | 09:46 | 10:08 | 00:22 | 4% |
| _ | A26 Hadlow Road / Woodgate Way | 05_SB | 11:47 | 15:28 | 03:41 | 31% | 07:44 | 08:29 | 00:45 | 10% |
| 5 | A26 Hadlow Road / Woodgate Way | 05_NB | 07:56 | 08:01 | 00:05 | 1% | 12:00 | 15:06 | 03:06 | 26% |
| 6 | A26 / B2260 | 06_SB | 14:26 | 15:27 | 01:01 | 7% | 13:50 | 14:30 | 00:40 | 5% |
| О | A26 / B2260 | 06_NB | 11:45 | 12:08 | 00:23 | 3% | 11:48 | 12:52 | 01:04 | 9% |
| 7 | A21 | 07_SB | 09:11 | 09:09 | 00:02 | 0% | 09:09 | 09:17 | 00:08 | 1% |
| ′ | A21 | 07_NB | 09:05 | 09:15 | 00:10 | 2% | 08:53 | 08:54 | 00:01 | 0% |
| 8 | B245 | 08_EB | 08:18 | 08:45 | 00:27 | 5% | 08:11 | 09:15 | 01:04 | 13% |
| 8 | B245 | 08_WB | 08:42 | 09:29 | 00:47 | 9% | 08:20 | 08:53 | 00:33 | 7% |
| 9 | A227 Tonbridge Road / Ightham Road | 09_NB | 07:32 | 07:49 | 00:17 | 4% | 07:38 | 07:47 | 00:09 | 2% |
| 9 | A227 Tonbridge Road / Ightham Road | 09_SB | 07:45 | 07:55 | 00:10 | 2% | 07:35 | 07:53 | 00:18 | 4% |
| 10 | A25 Borough Green Rd/A20 London Rd | 10_EB | 09:28 | 10:43 | 01:15 | 13% | 10:36 | 12:02 | 01:26 | 14% |
| 10 | A25 Borough Green Rd/A20 London Rd | 10_WB | 09:26 | 10:08 | 00:42 | 7% | 08:36 | 09:17 | 00:41 | 8% |
| 11 | A228 Castle Way | 11_NB | 10:11 | 10:50 | 00:39 | 6% | 12:18 | 12:31 | 00:13 | 2% |
| 11 | A228 Castle Way | 11_SB | 10:45 | 11:08 | 00:23 | 4% | 09:25 | 09:55 | 00:30 | 5% |
| 12 | A229 | 12_SB | 07:37 | 07:38 | 00:01 | 0% | 06:56 | 07:03 | 00:07 | 2% |
| | A229 | 12_NB | 11:17 | 09:55 | 01:22 | -12% | 09:21 | 08:30 | 00:51 | -9% |
| 4.0 | Pilgrims Way / Rochester Road | 28_SB | 16:20 | 27:07 | 10:47 | 66% | 13:07 | 18:53 | 05:46 | 44% |
| 13 | Pilgrims Way / Rochester Road | 28_NB | 11:54 | 12:08 | 00:14 | 2% | 12:11 | 12:40 | 00:29 | 4% |
| 1/ | A20 near Wrotham Heath | 33_SB | 05:46 | 05:57 | 00:11 | 3% | 06:00 | 06:31 | 00:31 | 9% |
| 14 | A20 near Wrotham Heath | 33_NB | 05:45 | 05:48 | 00:03 | 1% | 05:15 | 05:37 | 00:22 | 7% |



| | | | AM Peak | | | | PM Peak | | | |
|----|-------------------------|-------|----------------------------|---------------------------------|-----------------------------|-----------------|----------------------------|---------------------------------|-----------------------------|-----------------|
| | Description | | 2042 Baseline TM [s] | 2042 LP High Scenario [s] | Actual Difference [s] | % Difference | 2042 Baseline TM [s] | 2042 LP High Scenario [s] | Actual Difference [s] | % Difference |
| 15 | A227 near Borough Green | 30_SB | 05:57 | 06:19 | 00:22 | 6% | 05:39 | 06:20 | 00:41 | 12% |
| | A227 near Borough Green | 30_NB | 05:51 | 08:48 | 02:57 | 50% | 06:14 | 07:07 | 00:53 | 14% |
| 16 | M20/A229 Blue Bell Hill | 34_SB | 05:23 | 05:27 | 00:04 | 1% | 06:28 | 05:28 | 01:00 | -15% |
| | M20/A229 Blue Bell Hill | 34_NB | 06:30 | 08:09 | 01:39 | 25% | 05:22 | 07:08 | 01:46 | 33% |



5 Summary and Recommendations

This report outlines the assumptions and methodology used to develop the 2042 Local Plan Tests. Three scenarios Low, Medium, and High were created and evaluated based on their potential impacts on road traffic throughout the borough.

The Low and Medium scenarios exhibit similar traffic patterns, although the Medium scenario anticipates a slightly higher volume of traffic. Traffic increases are projected on the roads surrounding Borough Green, Aylesford, Ditton, East Malling, and Tonbridge.

Compared to the 2042 Forecast Baseline, additional junctions and corridors are predicted to likely have capacity issues.

Northeast

- A20 (extended between Old Coach Road and A25 Nepicar Lane)
- Seven Mile Lane / Comp Lane Junction (from LOS E to F)
- A25 / Quarry Hill Road / High Street (from LOS E to F)
- A20 / Church Road / Trottiscliffe Road
- A25 / A20

Northwest

- A228 / Bull Road Roundabout
- M20 J5
- M20 J6 (from LOS E to F)
- A20 / Beatrix Drive
- Forstal Road / Rochester Road / High Street

East

- A26 Tonbridge Road / Bow Road / Red Hill (from LOS E to F)
- Seven Mile Lane

South

- Vauxhall Roundabout (Pembury Road Arm)
- Vale Road / Sovereign Way (from LOS E to F)



- B2260 Railway Approach
- B2260 High Street (VC ratio > 100%)

In terms of journey time, the following routes show more than 10% travel time increases. Most of these routes cover the hot-spots areas mentioned above.

- Route 1 M20
- Route 2 A20 London Road
- Route 5 A26 Hadlow Road and Woodgate Way
- Route 13 Pilgrims Way and Rochester Road
- Route 16 M20 and A229 Blue Bell Hill

The Local Plan High scenario forecasts significant traffic increases in areas adjacent to sites designated for additional housing units and employment spaces. Key locations expected to experience these increases include A227 Borough Green Road, Paddlesworth Road in Snodland, local roads in Aylesford, A20 London Road, Kiln Barn Road, A228, A227 Shipbourne Road, A227 Tonbridge Road, Higham Lane, and B245 in Tonbridge.

Regarding junction Level of Service (LOS) and link Volume-to-Capacity (VC) ratios, the aforementioned junctions and corridors are analysed, along with several additional ones specified in the Local Plan High scenario. To enhance clarity, these additional locations are highlighted in **bold** below.

Northeast

- A20 (extended between Old Coach Road and A25 Nepicar Lane)
- Seven Mile Lane / Comp Lane Junction (from LOS E to F)
- A25 / Quarry Hill Road / High Street (from LOS E to F)
- A20 / Church Road / Trottiscliffe Road
- A25 / A20
- A227 (Wrotham)

Northwest

- A228 / Bull Road Roundabout
- M20 J5
- M20 J6 (from LOS E to F)
- A20 / Beatrix Way



- Forstal Road / Rochester Road / High Street
- A228 Rochester Road, Sundridge Hill (VC Ratio >100%)

East

- Tonbridge Road / Bow Road / Red Hill (from LOS E to F)
- Seven Mile Lane
- A26 Tonbridge Road / Bow Road / Red Hill (from LOS E to F)

South

- Vauxhall Roundabout (Pembury Road Arm)
- Vale Road / Sovereign Way (from LOS E to F)
- B2260 Railway Approach
- B2260 High Street (VC ratio > 100%)
- A21 Morley's Roundabout (B245 Arm)
- B245 Tonbridge Road
- A227 Tonbridge Road / Hildenborough Road / Back Lane

In comparison to the other two scenarios, the Local Plan High Scenario significantly affected journey times on several routes due to the substantial increase in development quantum in specific areas. The following routes show travel time increases of more than 10%. Routes highlighted in **bold** are those additionally included in the list for the Local Plan High Scenario.

- Route 1 M20
- Route 2 A20 London Road
- Route 5 A26 Hadlow Road and Woodgate Way
- Route 8 B245
- Route 10 A25 Borough Green Road / A20 London Road
- Route 13 Pilgrims Way and Rochester Road
- Route 16 M20 and A229 Blue Bell Hill



Based on the analysis above, considering the additional flows, junction level of service, link volume capacity ratio and journey time comparison, the following junctions have been taken forward to local junction modelling. More information can be found in the *Tonbridge and Malling Local Plan Junction Modelling Draft Report*. It is recommended reading this report to understand the capacity issues of each junction arm in detail and how these differ across scenarios.

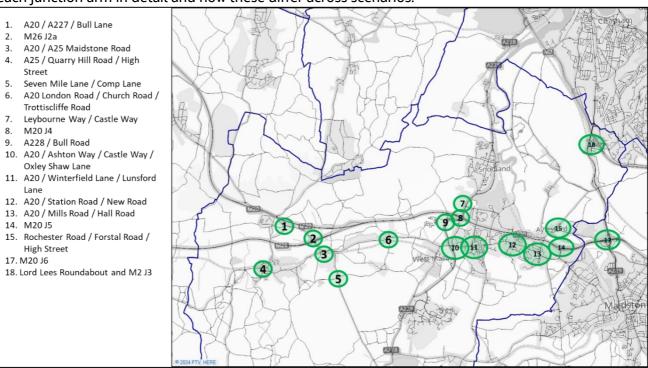


Figure 33: Location of the Junctions – Northern Part of the Borough

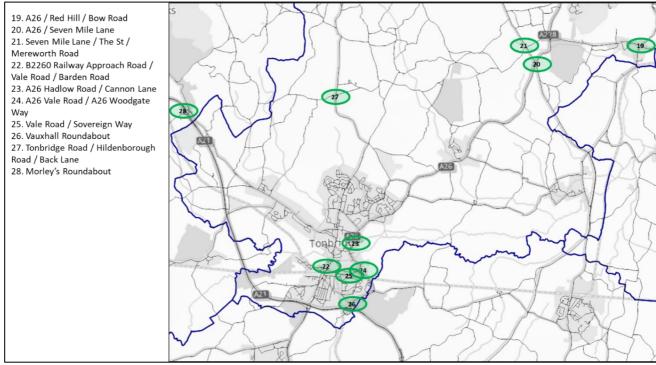


Figure 34: Location of the Junctions – Northern Part of the Borough



The outcomes of the strategic and local junction models will help provide an early indication of junction capacity issues to inform Tonbridge and Malling Borough Council's (TMBC) emerging spatial strategy, although further scenario testing will be required to reflect evolving policy priorities and community feedback.

To support this, the following tasks have been identified as key next steps:

- Update the Local Plan test to incorporate any changes arising from the Regulation 18 consultation, including potential opportunities for modal shift, trip internalisation, and revised land use allocations.
- Refresh traffic flow inputs and rerun the local junction models to reflect updated assumptions and network conditions.
- Undertake junction modelling with mitigation to assess the effectiveness of proposed interventions at identified locations.
- Conduct a Local Plan test with mitigation to evaluate the cumulative impact of all proposed measures across the network