

2042 Sevenoaks Local Plan Local Junction Modelling and Mitigation Design

07 July 2026

Agenda

1. **Key Considerations**
2. **Introduction - Strategic Modelling Overview**
3. **Junction Modelling Methodology**
4. **Junction Modelling Results and Mitigation Design**
5. **Summary**

Key Considerations for the Meeting

- Discussion

- Lower Thames Crossing has been included in both the Forecast Baseline and the Local Plan scenarios. This generally reduces traffic along the M20, A2 and Dartford Crossing and may therefore offset the additional trips associated with the Local Plan.
- For each junction, the results of the junction modelling and the proposed mitigation measures will be presented.

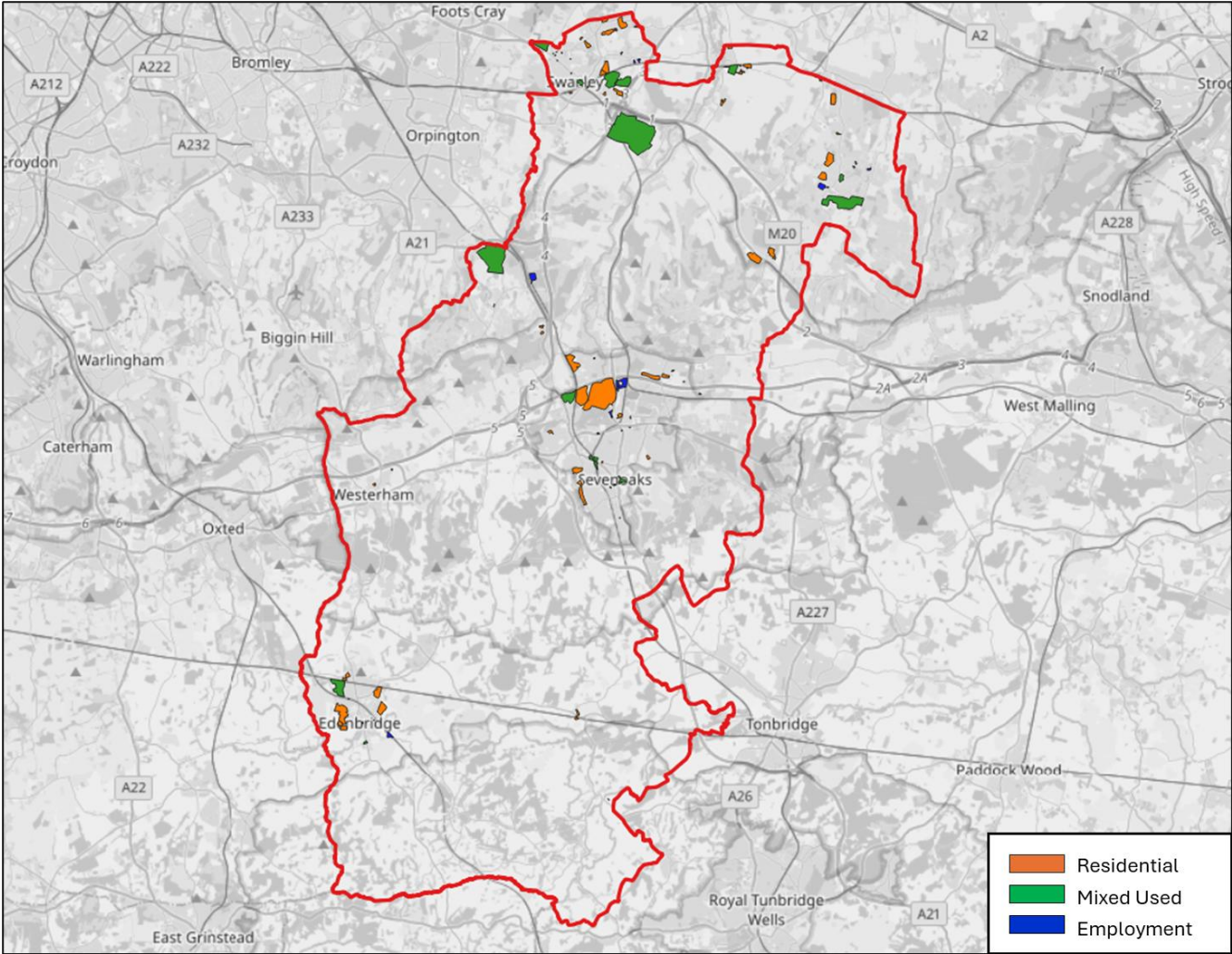
Introduction

- Following the Regulation 18 Consultation, Sevenoaks District Council (SDC) commissioned Jacobs to update the Sevenoaks Local Transport Model **to incorporate changes to the local plan site allocations as part of the Regulation 19 and understand the likely impacts of these developments on the network.**
- The following scenarios were tested using the Sevenoaks Local Transport Model.

- 2042 Local Plan**

2042 Local Plan Scenario	
Completed Developments (from 2019)	2,509
Extant Permissions	3,878
Windfall Sites	949
Proposed Site Allocation	12,348
Total (excluding completed developments)	17,211

- 2042 Local Plan + Modal Shift** (as the 2042 Local Plan but with the modal shift assumption)
- Results of the strategic transport modelling show “**hot-spot**” areas across the borough. The list of junctions are presented in the next two slides.
- Using the turning flows from the 2019 Base, 2042 Forecast Baseline and 2042 Local Plan scenarios, **local junction modelling were undertaken to assess the junction performance in detail.**



Modal Shift Assumption

- A separate site assessment was undertaken to evaluate the potential for modal shift across individual sites. This assessment considered the characteristics of each site, including accessibility to sustainable transport modes, existing infrastructure, and opportunities to encourage non-car travel behaviours.

- The assessment was structured in two stages.

Stage 1 – Existing Conditions

In this stage, each cluster of sites is assessed against existing infrastructure within its vicinity (400m or 800m walking distance, depending on the metric).

Stage 2 – Potential / Proposed Conditions

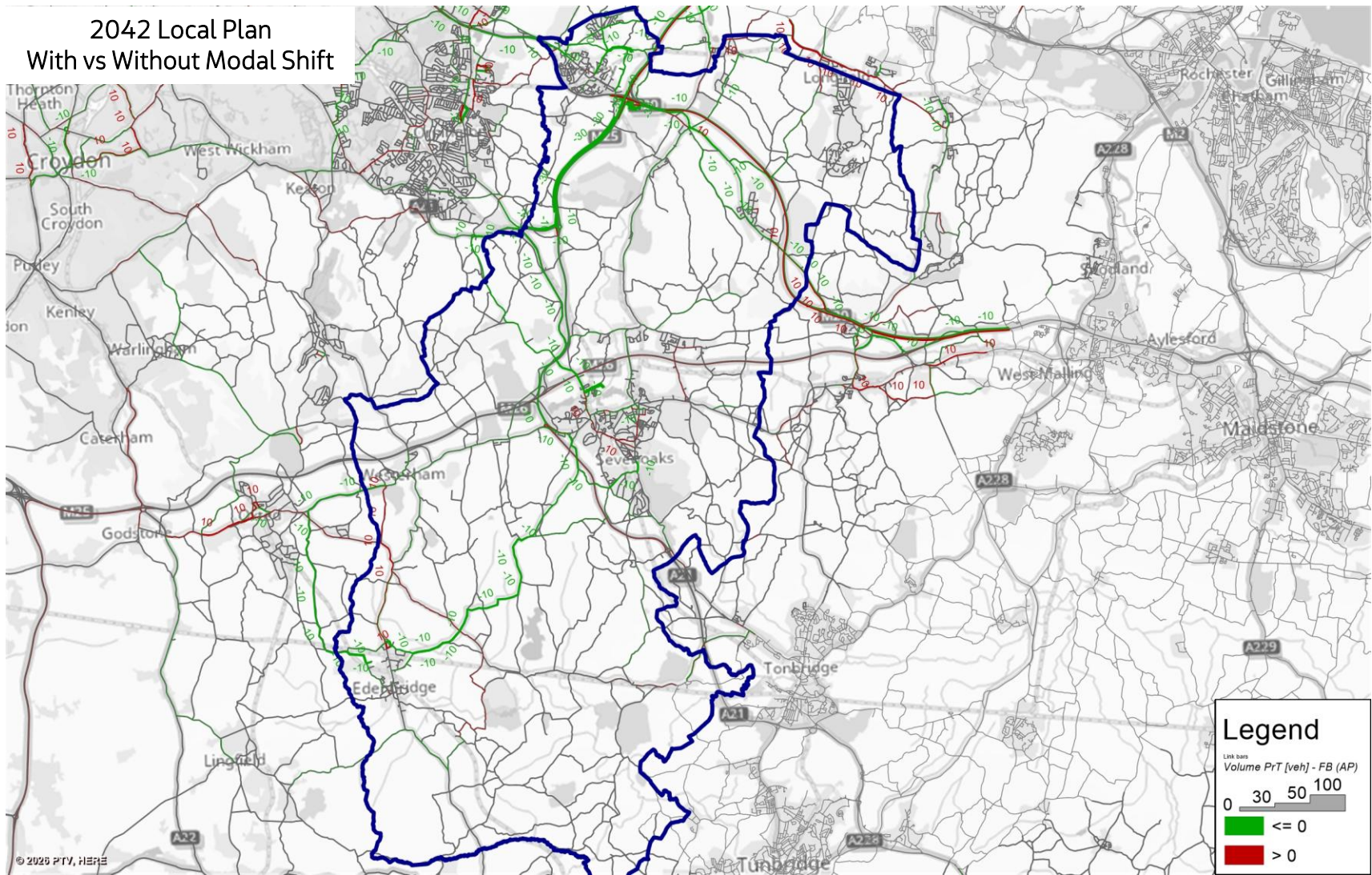
In this stage, each cluster is evaluated against relevant planned or proposed transport measures. These may include:

- LCWIP routes
- Internalisation (where there is potential for strong interaction between housing and employment sites, both existing and proposed)
- Bus Study interventions
- Other transport measures proposed within the borough

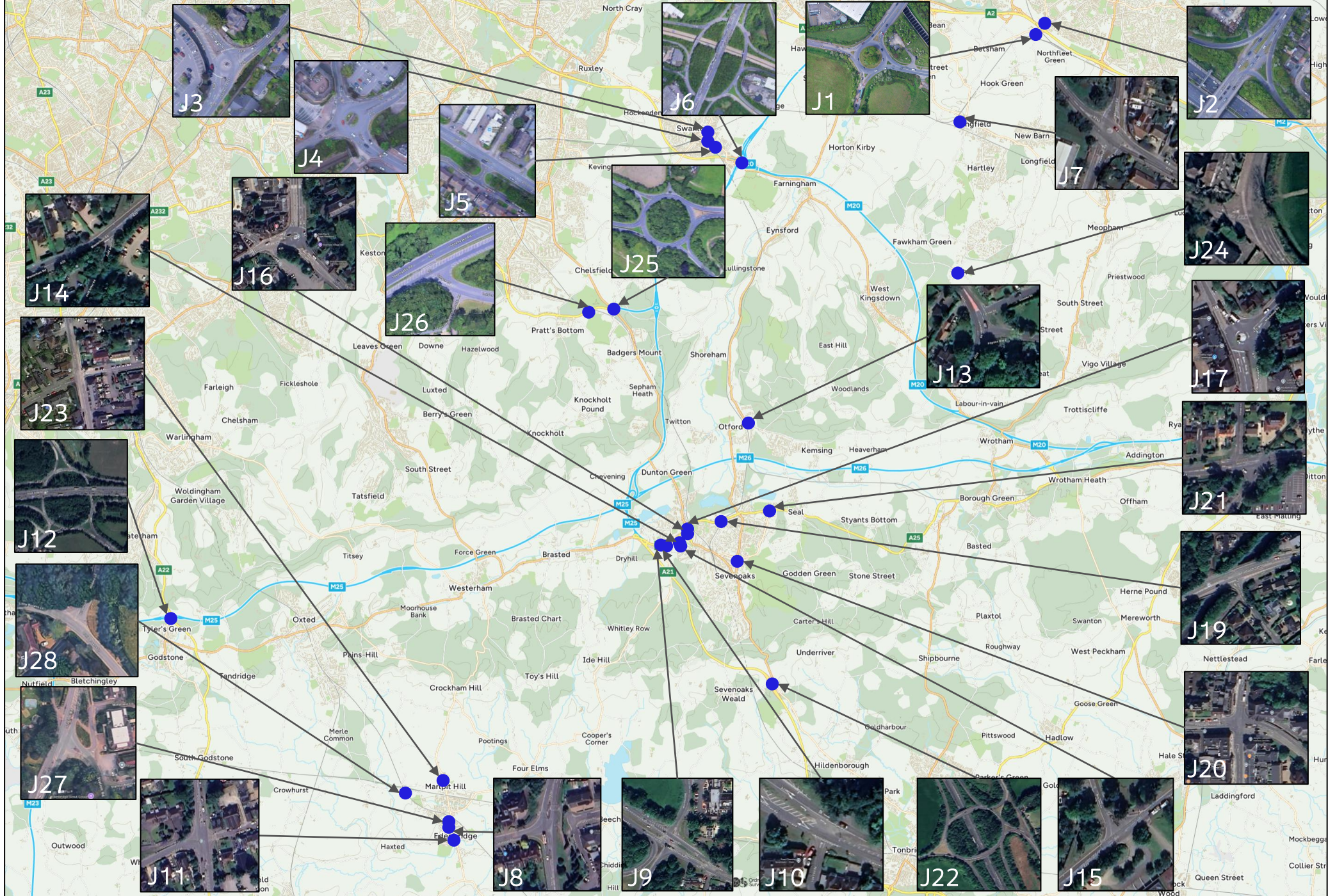
- The outcome of this assessment is a Red, Amber, or Green rating for Stage 1 and 2:
 - **Red** – Clusters that are likely to be predominantly car-oriented
 - **Amber** – Clusters with some potential for mode shift (i.e. a proportion of trips could move away from car use)
 - **Green** – Clusters in well-connected locations with viable alternatives to private car use (e.g. sites adjacent to a rail station)

Stage 1 result	Stage 2 result	Result: Improved or stayed the same	Reduction % to apply
Red – Clusters that are likely to be predominantly car-oriented	Red	Stayed the same	N/A
	Amber	Improved	5%
	Green	Improved	10%
Amber – Clusters with some potential for mode shift.	Amber	Stayed the same	N/A
	Green	Improved	10%
Green – Clusters with high potential for modal shift	Green	Stayed the same	N/A
	Green	Improved	10%

Modal Shift Scenario



- J1 - Hall Road / New Barn Road / Station Road
- J2 - A2 / Hall Road
- J3 - B258 Swanley Lane / Bartholomew Way
- J4 - B258 / Nightingale Way / High Street
- J5 - B2173 / Kingswood Avenue / St Georges Road
- J6 - M25 J3
- J7 - B260 / Fawkham Road / Whitehill Road
- J8 - B2026 / Stangrove Road
- J9 - A25 / Homedean Road
- J10 - A25 / Larkfield Road
- J11 - B2026 / Lingfield Road
- J12 - M25 J6
- J13 - A225 / Shoreham Road / Station Road
- J14 - A25 / Cold Arbor Road
- J15 - A25 / Witches Lane
- J16 - A25 / Amherst Hill
- J17 - A25 / Maidstone Road
- J19 - A25 / Bradbourne Avenue
- J20 - High Street / Pembroke Road
- J21 - A25 / B2019 / Filmer Lane
- J22 - Morley's Roundabout
- J23 - B2026 / Hilders Lane
- J24 - Ash Road / The Street / Billet Hill
- J25 - Hewitts Roundabout
- J26 - A21 Sevenoaks Road / London Road
- J27 - B2026 / Station Road
- J28 - Little Browns Lane / Hilders Lane



Modelling Methodology

- **Base Modelling** – Understand existing problems at each junction
- **Flow Development** – Use the strategic Sevenoaks Local Transport Model to develop assessed case flows
 - The junction models have utilised local count data where available, with future scenarios forming the basis for growth forecasting. Where count data is unavailable, flows have been derived directly from the strategic model.
 - The models have not been formally validated However, they have been developed with appropriate consideration of existing conditions, including manual signal optimisation and representation of unequal lane usage at priority roundabouts.
 - This approach is consistent with the level of detail typically expected for Local Plan studies, where the objective is to provide a proportionate assessment of network performance. Should any junction performance results appear unexpected or require further scrutiny, fully validated models can be developed at a later stage, subject to agreement of a CE. This would involve additional data collection (which can be undertaken in September) and would require approximately two-four weeks to complete (on receipt of the collected data).

Modelling Methodology

- It is expected that the local junction model demonstrates mitigation is NOT required if either of the following criteria are met:
 - The Forecast Refined DS Scenario with modal shift flow results show the junction to operate within practical capacity (90% DoS for signal junctions & 0.85 RFC for unsignalised junctions).
 - The difference between the Forecast Reference Case results and the Refined DS Scenario results is not significant (below +3% increase in DoS or +0.03 RFC).
- Requirement for mitigation could still be triggered if the local plan scenario flows cause the junction to jump the following thresholds:
 - From under practical capacity in the Forecast Reference Case (90% DoS for signal junctions & 0.85 RFC for unsignalised junctions) to over practical capacity in the Refined DS Scenario.
 - From under theoretical capacity in the Forecast Reference Case (100% DoS/1.00 RFC) to over theoretical capacity in the Refined DS Scenario.

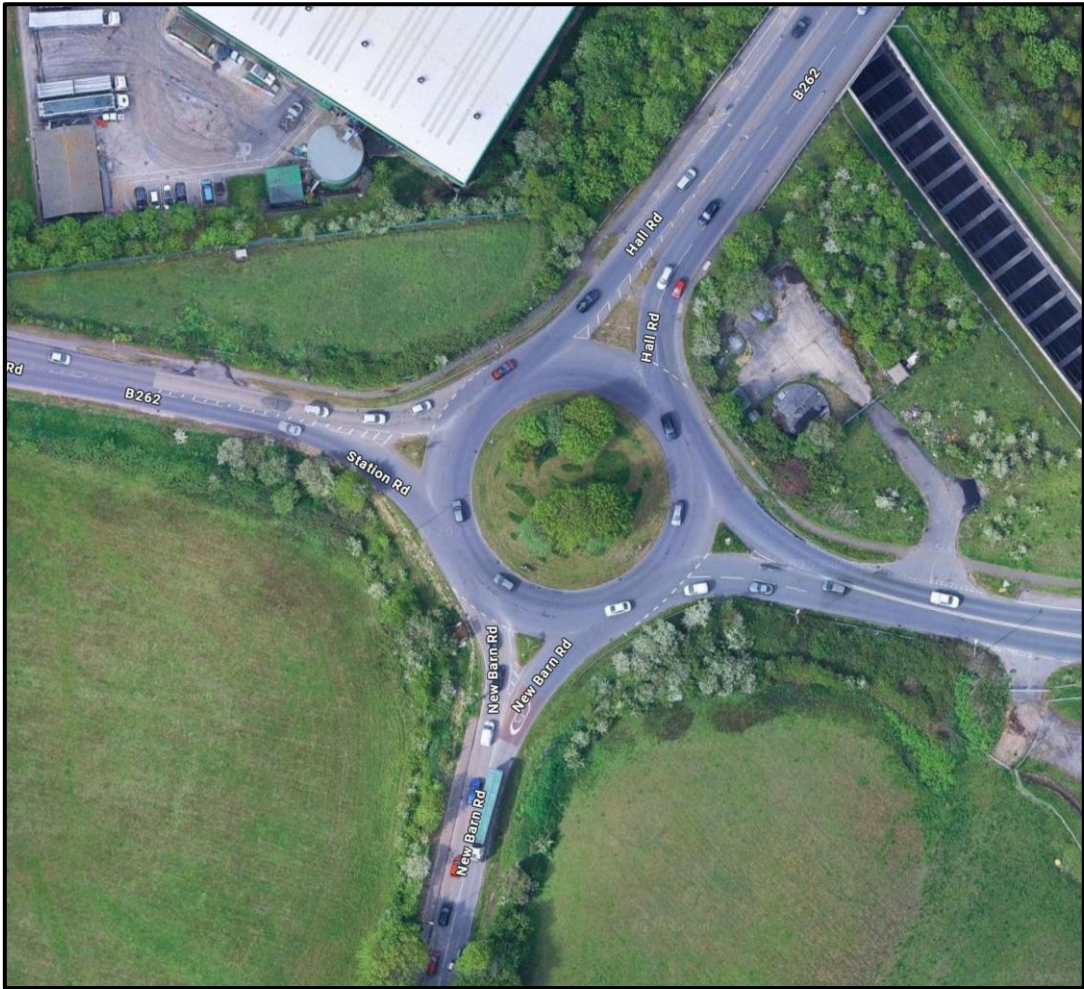
Terminology/Definitions

- **Intergreen** - Time between one traffic phase ending and another starting. Key safety component.
- **RFC/DoS** - Ratio of Flow to Capacity/Degree of Saturation, expressed as a percentage or decimal.
- **LOS** - Level of Service, indicative assessment of overall traffic congestion at a link or junction.
- **Practical Capacity** - Point after which delays and queues increase significantly. (85% Roundabouts, 90% Signals).
- **PRC** - Practical Reserve Capacity, the percentage increase in traffic required before the junction would exceed practical capacity.
- **NRC** - Network Reserve Capacity, similar to PRC, but for unsignalised junctions.

Junction Assessment Key

xx		Junction operates below practical capacity. Minimal-moderate delays and queues.
xx		Junction operates over practical capacity, but below absolute capacity. Moderate to high delays and queues.
xx		Demand would exceed the absolute capacity of the junction. Without mitigation, the surrounding network would be affected.

J1: Hall Road / Station Road / New Barn Road, Dartford



NRC		
Scenario	AM	PM
2019 Base	-1%	21%
2042 Forecast Baseline	-17%	8%
2042 Local Plan Test	-17%	8%
2042 LP Modal Shift	-16%	9%

Key Takeaway

- In the AM peak, this junction operates overcapacity in both 2042 scenarios.
- Hall Road arm is operating overcapacity in the 2042 AM peaks.

OVER
CAPACITY

J1: Hall Road / Station Road / New Barn Road, Dartford



2042 Forecast Baseline: RFC

Approach	AM	PM
Hall Road	1.03	0.76
A2 WB slip	0.52	0.40
New Barn Road	0.34	0.16
Station Road	0.62	0.77

2042 Local Plan: RFC

Approach	AM	PM
Hall Road	1.04	0.77
A2 WB slip	0.52	0.43
New Barn Road	0.38	0.19
Station Road	0.64	0.77

2042 LP Modal Shift: RFC

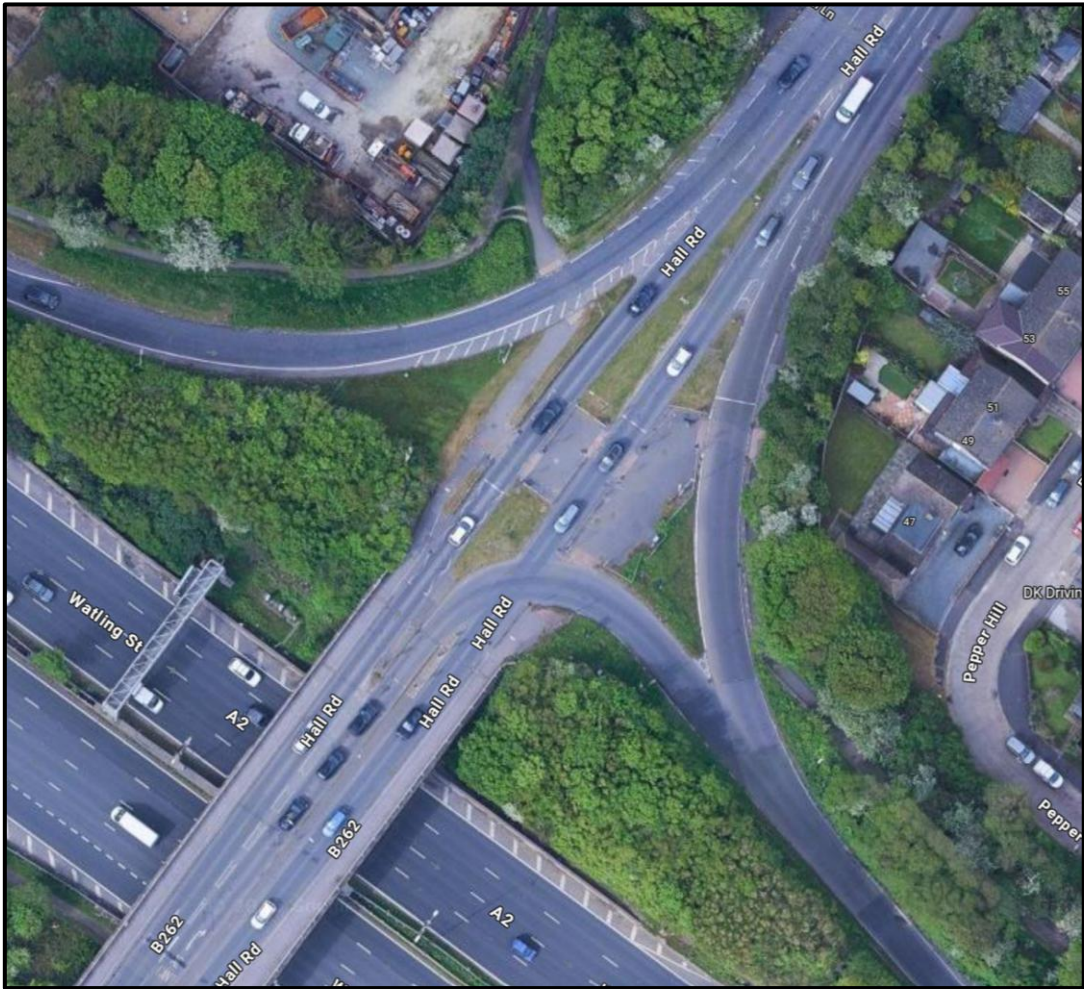
Approach	AM	PM
Hall Road	1.01	0.76
A2 WB slip	0.51	0.43
New Barn Road	0.35	0.19
Station Road	0.61	0.76



Mitigation Requirements:

- Mitigation is **not** required as the increase from the Forecast scenario to the LP scenario is not significant.

J2: A2 / Hall Road, Gravesham



PRC		
Scenario	AM	PM
2019 Base	3%	6%
2042 Forecast Baseline	-8%	0%
2042 Local Plan Test	-7%	2%
2042 LP Modal Shift	-6%	2%
Cycle Time (s)	72	66

Key Takeaway

- The junction operates at capacity (between 90% - 100% of capacity) in 2042 scenarios, except in the PM Local Plan which is operating within capacity.
- Mitigation is not required!

**AT
CAPACITY**

J3: B258 Swanley Lane / Bartholomew Way, Swanley



NRC		
Scenario	AM	PM
2022 Base	-5%	21%
2042 Forecast Baseline	-9%	12%
2042 Local Plan Test	-14%	6%
2042 LP Modal Shift	-14%	7%

Key Takeaway

- In the AM, the junction is at capacity in the Forecast scenario, and it operates overcapacity in the Local Plan scenario.
- In the PM scenarios, the junction operates within capacity.

OVER
CAPACITY

J3: B258 Swanley Lane / Bartholomew Way, Swanley



2042 Forecast Baseline: RFC

Approach	AM	PM
Swanley Lane (North)	0.99	0.70
Swanley Lane (South)	0.64	0.65
Bartholomew Way	0.74	0.71

2042 Local Plan: RFC

Approach	AM	PM
Swanley Lane (North)	1.08	0.76
Swanley Lane (South)	0.65	0.67
Bartholomew Way	0.75	0.74

2042 LP Modal Shift: RFC

Approach	AM	PM
Swanley Lane (North)	1.07	0.76
Swanley Lane (South)	0.65	0.67
Bartholomew Way	0.75	0.74

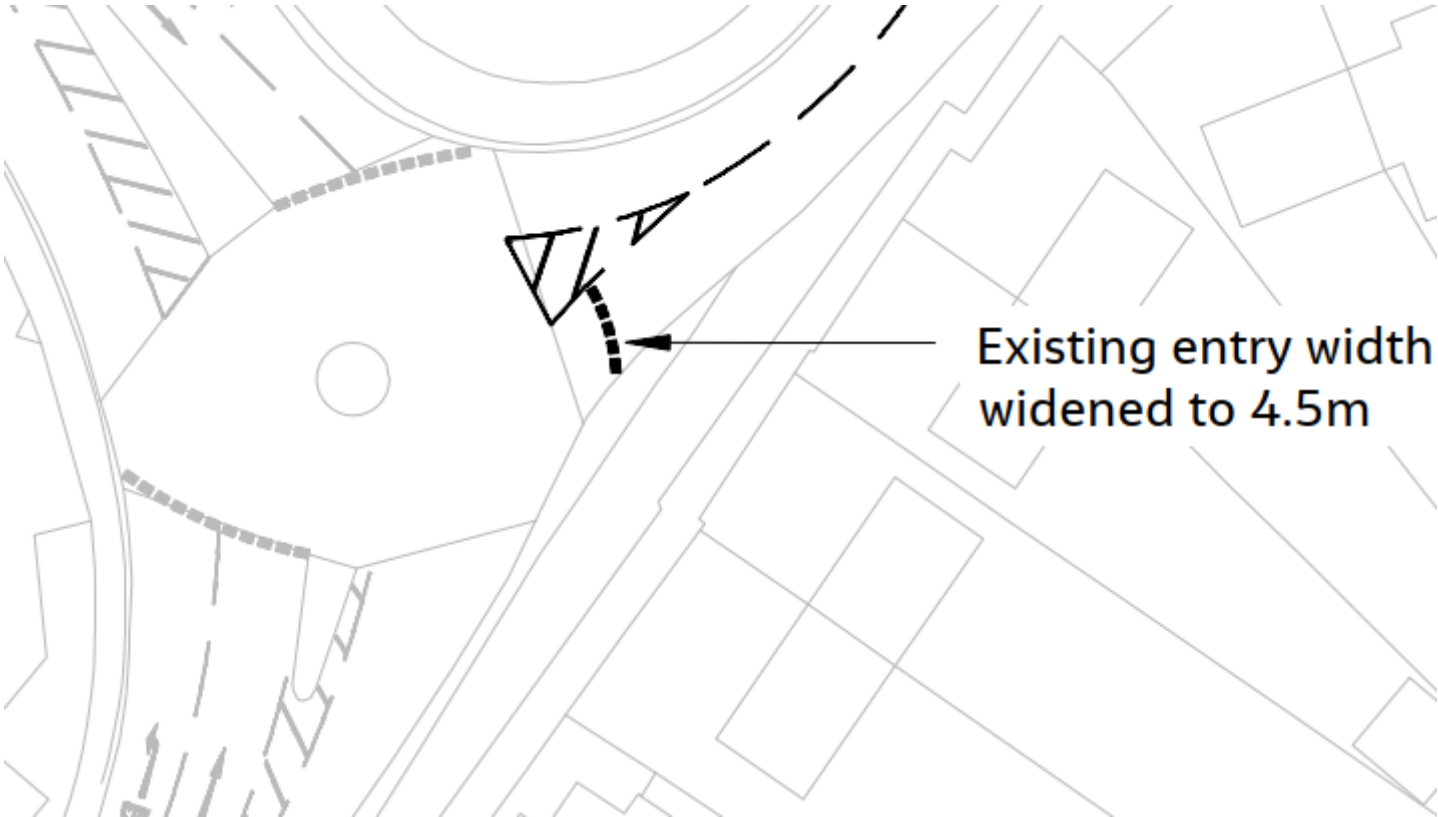


Mitigation Requirements:

- The Local Plan scenario requires a mitigation.
- Flare lane on Swanley Lane (North)



J3: B258 Swanley Lane / Bartholomew Way, Swanley



2042 Forecast Baseline: RFC

Approach	AM	PM
Swanley Lane (North)	0.99	0.70
Swanley Lane (South)	0.64	0.65
Bartholomew Way	0.74	0.71

2042 LP Modal Shift: RFC

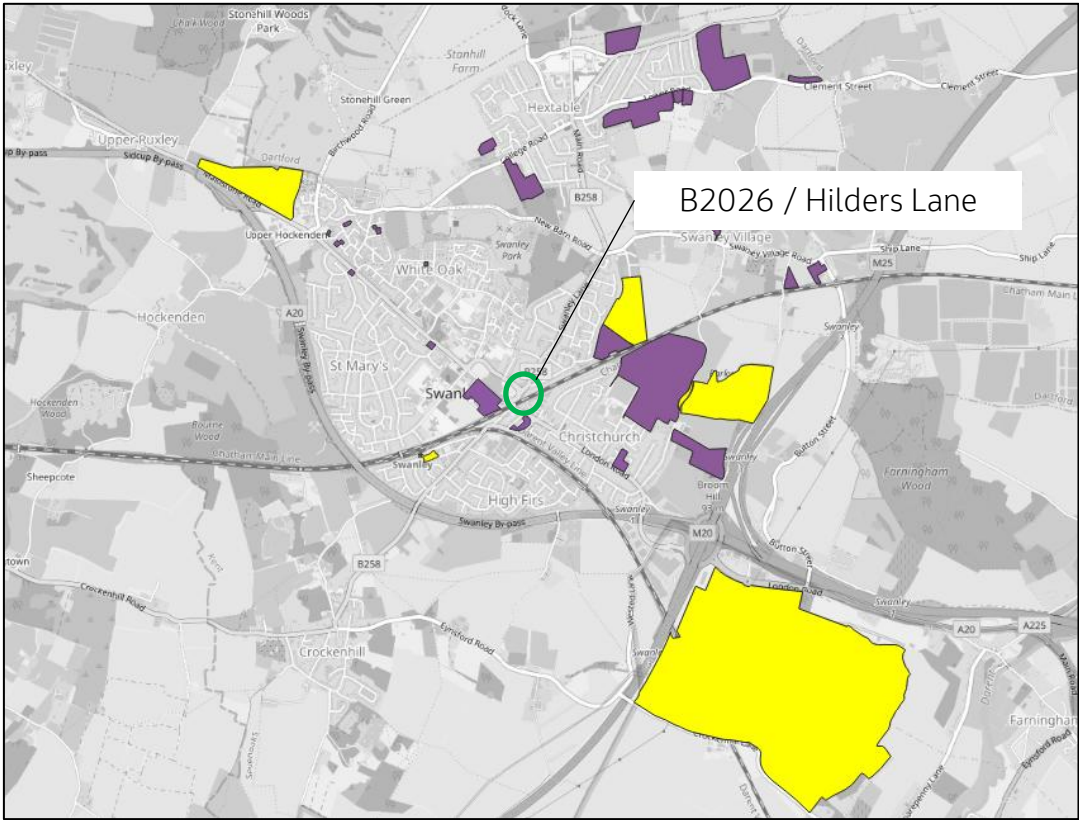
Approach	AM	PM
Swanley Lane (North)	0.98	0.69
Swanley Lane (South)	0.66	0.67
Bartholomew Way	0.75	0.74



Key findings:

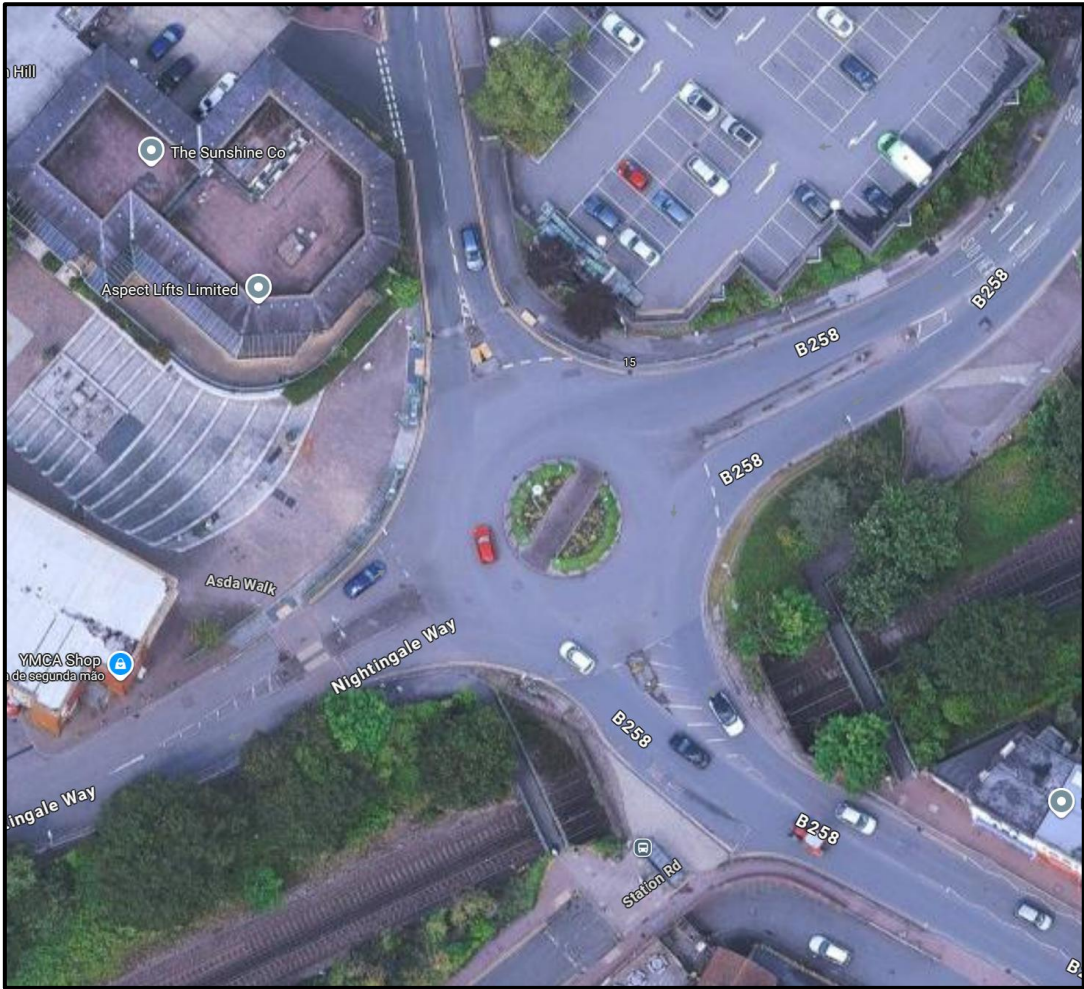
The layout is shown to mitigate the local plan in the model.
There is not a material increase in lane provision.

Proportion of Key Development Traffic using J3: B258 Swanley Lane / Bartholomew Way, Swanley



Total Traffic	Total Development Traffic	% Total Development Traffic	Key Developments	Key Development Traffic	% Key Development Traffic
2,371	311	13%	Parkwood Hall Co-operative Academy, Beechenlea Lane, Swanley	106	4.5%
			Land north of railway line and west of Beechenlea Lane, Swanley	24	1.0%
			Land at Lullingstone Avenue, Swanley	20	0.9%
			Land north of Maidstone Road, Swanley	19	0.8%
			Land at Pedham Place_HH	19	0.8%
			Media House, Azalea Drive, Swanley	19	0.8%

J4: B258 / Nightingale Way / High Street, Swanley



NRC		
Scenario	AM	PM
2022 Base	3%	7%
2042 Forecast Baseline	-5%	-4%
2042 Local Plan Test	-7%	-6%
2042 LP Modal Shift	-7%	-6%

Key Takeaway

- The junction operates at capacity (between 0.85%-100% of capacity) in 2042 scenarios
- Mitigation is not required!

AT
CAPACITY

J5: B2173 / Kingswood Avenue / St Georges Road, Swanley



NRC		
Scenario	AM	PM
2019 Base	26%	23%
2042 Forecast Baseline	12%	12%
2042 Local Plan Test	5%	7%
2042 LP Modal Shift	5%	7%

Key Takeaway

- Junction operates within capacity.
- Mitigation is not required!

WITHIN CAPACITY

J6: M25 J3, Swanley



PRC		
Scenario	AM	PM
2022 Base	-80%	-61%
2042 Forecast Baseline	-87%	-100%
2042 Local Plan Test	-118%	-110%
2042 LP Model Shift	-116%	-99%



Key Takeaway

- The junction operates overcapacity in all scenarios.
- Queues have largely been managed on the internal arms to the detriment of entry arms.
- High DoS levels at the entry arms.

**OVER
CAPACITY**

J6: M25 J3, Swanley



2042 Forecast Baseline: DoS

2042 Local Plan: DoS

Approach	AM	PM
M25 (North)	70%	79%
M20 (East)	168%	64%
London Road (East)	166%	85%
M25 (South)	100%	170%
London Road (West)	149%	180%
M20 (West)	80%	78%
Cycle Time (s)	60	60

Approach	AM	PM
M25 (North)	87%	87%
M20 (East)	194%	126%
London Road (East)	196%	183%
M25 (South)	88%	189%
London Road (West)	177%	173%
M20 (West)	84%	95%
Cycle Time (s)	60	60

2042 LP Modal Shift: DoS

Approach	AM	PM
M25 (North)	84%	85%
M20 (East)	194%	124%
London Road (East)	193%	179%
M25 (South)	104%	173%
London Road (West)	176%	172%
M20 (West)	84%	90%
Cycle Time (s)	60	60

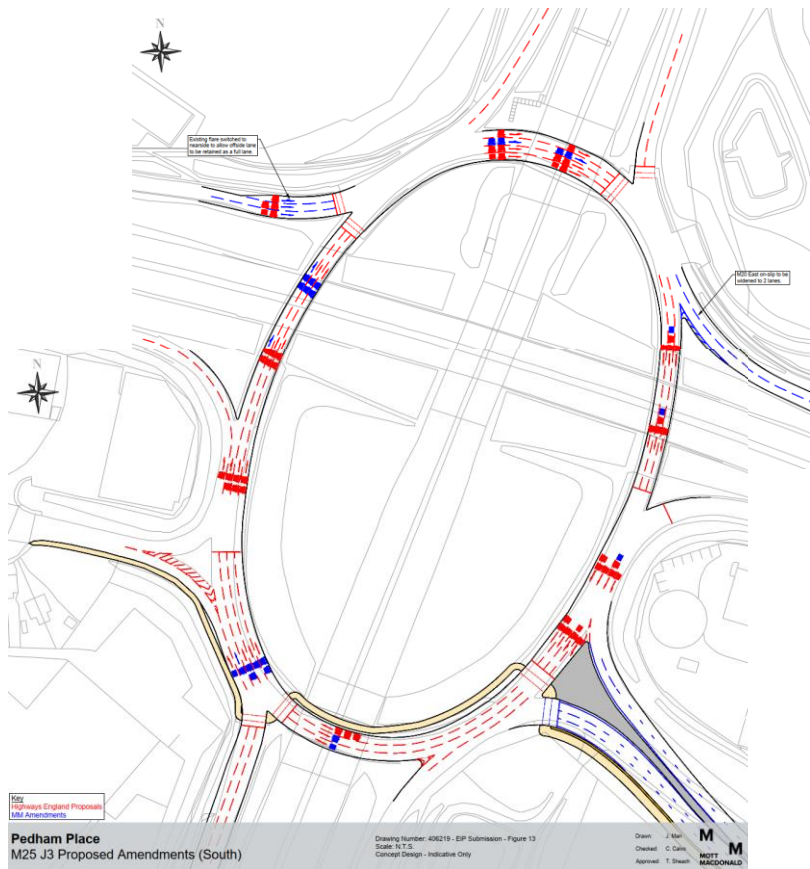


Mitigation Requirements:

- Mitigation is required.
- Possibility on adding additional lanes at exits/entries

MITIGATION
REQUIRED

J6: M25 J3 – Pedham Place Proposed Scheme



Note: Ped Intergreens increased due to the addition of new lanes.

2042 Forecast Baseline: DoS

Approach	AM	PM
M25 (North)	70%	79%
M20 (East)	168%	64%
London Road (East)	166%	85%
M25 (South)	100%	170%
London Road (West)	149%	180%
M20 (West)	80%	78%
Cycle Time (s)	60	60

2042 Local Plan : DoS

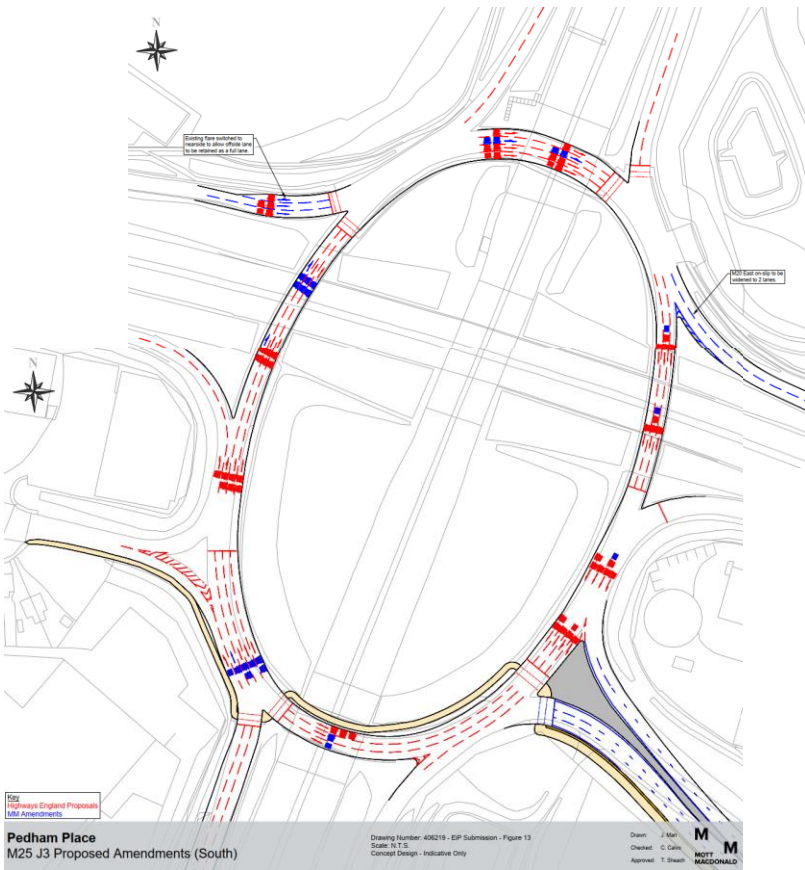
Approach	AM	PM
M25 (North)	105%	83%
M20 (East)	100%	107%
London Road (East)	104%	72%
M25 (South)	93%	143%
London Road (West)	104%	118%
M20 (West)	94%	114%
Cycle Time (s)	60	60

PRC		
Scenario	AM	PM
2022 Base	6%	-2%
2042 Forecast Baseline	2%	-7%
2042 Local Plan Test	-16%	-59%
2042 LP Modal Shift	-13%	-48%

2042 LP Modal Shift: DoS

Approach	AM	PM
M25 (North)	89%	88%
M20 (East)	96%	106%
London Road (East)	102%	72%
M25 (South)	91%	133%
London Road (West)	100%	117%
M20 (West)	97%	88%
Cycle Time (s)	60	60

J6: M25 J3 – Queue Results



Queue Results AM

Scenario	M25 SB	M25 NB
Storage	280	520
2042 Forecast Baseline	<50	60
2042 Local Plan with Modal Shift (without mitigation)	<50	65
2042 Local Plan with Modal Shift (with mitigation)	<50	<50

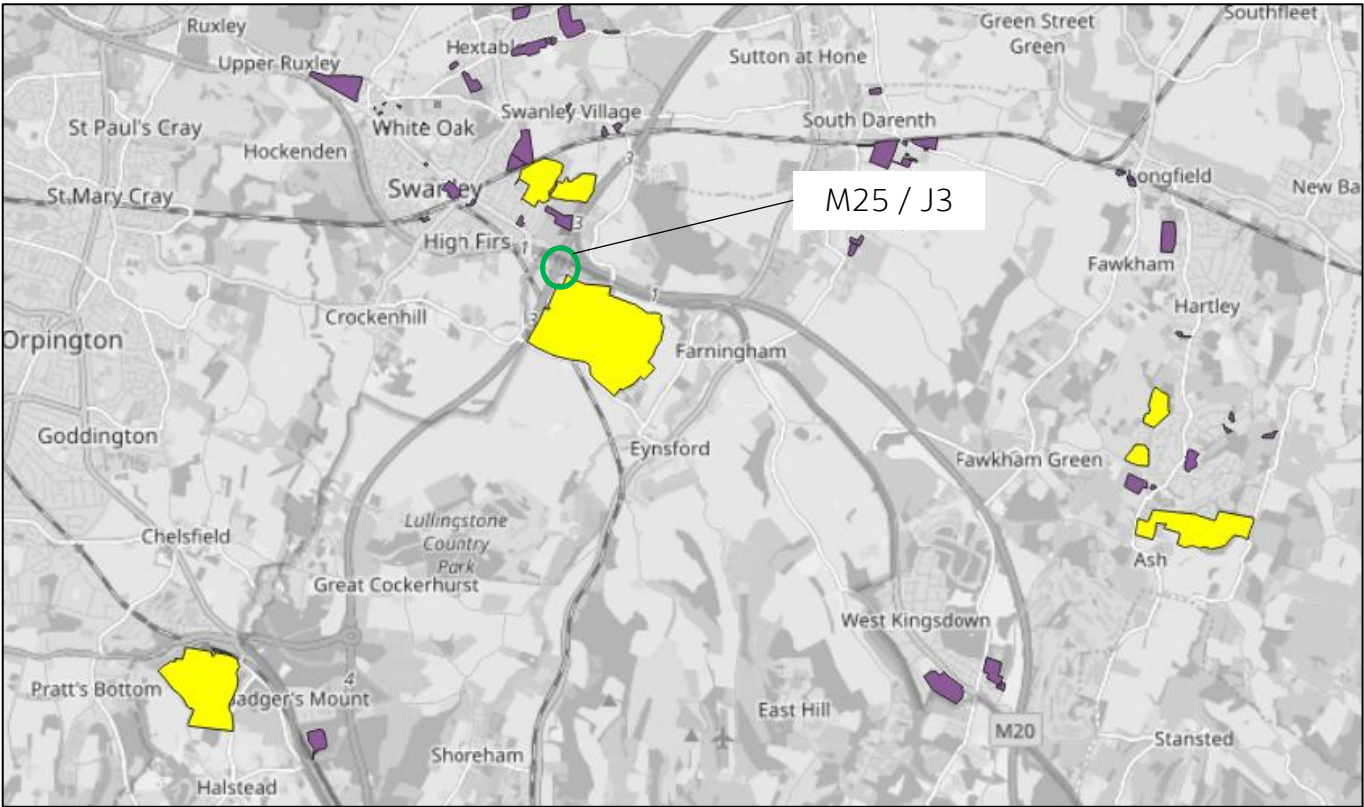
Queue Results PM

Scenario	M25 SB	M25 NB
Storage	280	520
2042 Forecast Baseline	<50	160
2042 Local Plan	<50	190
2042 Local Plan with Modal Shift	<50	100

Key Takeaway

- Queues are contained within storage in all scenarios

Proportion of Key Development Traffic using J6: M25 J3



Total Traffic	Total Development Traffic	% Total Development Traffic	Key Developments	Key Development Traffic	% Key Development Traffic
6,804	1,492	22%	Land at Pedham Place_HH	781	11.47%
			Land at Pedham Place_B2B8	178	2.62%
			Broke Hill Golf Course, Halstead, Sevenoaks	106	1.55%
			Parkwood Hall Co-operative Academy, Beechenlea Lane, Swanley	82	1.21%
			Land west of New Ash Green	67	0.98%
			Land north of Moultain Hill, Swanley	65	0.96%
			Land South of Redhill Road, New Ash Green	31	0.46%

J7: B260 / Fawkham Road / Whitehill Road, Longfield and Fawkham



NRC		
Scenario	AM	PM
2019 Base	-47%	-27%
2042 Forecast Baseline	-46%	-31%
2042 Local Plan Test	-49%	-35%
2042 LP Modal Shift	-49%	-35%

Key Takeaway

- From the Base scenarios, this junction is operating overcapacity.
- Therefore, the junction continues to operate overcapacity in the 2042 scenarios.

OVER
CAPACITY

J7: B260 / Fawkham Road / Whitehill Road, Longfield and Fawkham



2042 Forecast Baseline: RFC

2042 Local Plan: RFC

Approach	AM	PM	Approach	AM	PM
Whitehill Road	1.06	1.43	Whitehill Road	1.11	1.51
B260 E	1.63	1.05	B260 E	1.72	1.18
Fawkham Road	0.57	0.42	Fawkham Road	0.65	0.44
B260 W	0.63	1.01	B260 W	0.71	1.13

2042 LP Modal Shift: RFC

Approach	AM	PM
Whitehill Road	1.10	1.52
B260 E	1.73	1.18
Fawkham Road	0.66	0.43
B260 W	0.71	1.13

Mitigation Requirements:

- Mitigation is **not** required as the increase from the Forecast scenario to the LP scenario is not significant.

J8: B2026 / Stangrove Road, Edenbridge



PRC		
Scenario	AM	PM
2019 Base	17%	29%
2042 Forecast Baseline	15%	19%
2042 Local Plan Test	0%	17%
2042 LP Modal Shift	0%	17%
Cycle Time (s)	72	72

Key Takeaway

- Junction operates within capacity.
- No flows from Stangrove Road to B2026 (south)
- Mitigation is not required!

WITHIN CAPACITY

J9: A25 / Homedean Road, Sevenoaks



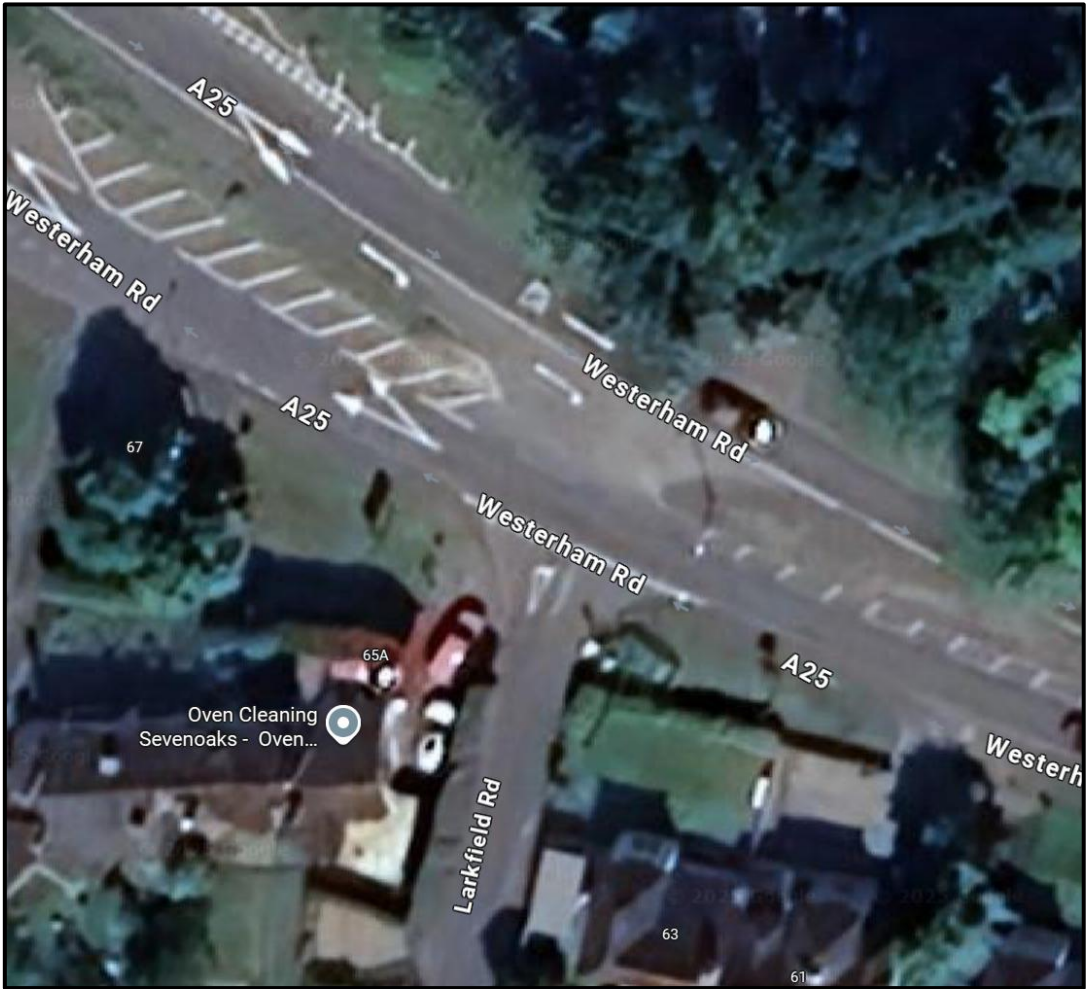
NRC		
Scenario	AM	PM
2019 Base	35%	19%
2042 Forecast Baseline	16%	5%
2042 Local Plan Test	3%	2%
2042 LP Modal Shift	3%	2%

Key Takeaway

- Junction operates within capacity.
- Mitigation is not required!

WITHIN CAPACITY

J10: A25 / Larkfield Road, Sevenoaks



NRC		
Scenario	AM	PM
2019 Base	69%	25%
2042 Forecast Baseline	35%	22%
2042 Local Plan Test	18%	16%
2042 LP Modal Shift	19%	16%

Key Takeaway

- This junction operates within capacity in all scenarios.
- **Mitigation is not required!**

WITHIN CAPACITY

J11: B2026 / Lingfield Road, Edenbridge



PRC		
Scenario	AM	PM
2019 Base	20%	14%
2042 Forecast Baseline	6%	17%
2042 Local Plan Test	-4%	-2%
2042 LP Modal Shift	-4%	0%

Key Takeaway

- In the Forecast scenarios, this junction operates within capacity (between 90% - 100% of capacity) .
- In the AM, There is a small decrease in flows from Base to the Forecast Baseline scenario at B2026 N.
- Mitigation is not required!

**AT
CAPACITY**

J12: M25 J6



PRC		
Scenario	AM	PM
2019 Base	1%	4%
2042 Forecast Baseline	-34%	-7%
2042 Local Plan Test	-44%	-9%
2042 LP Modal Shift	-43%	-8%

Note: Signal data not provided. Intergreens and stages have been assumed for modelling purposes.

Key Takeaway

- This junction operates overcapacity in the 2042 scenarios.
- Minor signal time changes have been done, avoiding blockages within the roundabout.

OVER CAPACITY

J12: M25 J6



2042 Forecast Baseline: DoS

Approach	AM	PM
A22 Godstone Hill	83%	96%
M25 (East)	94%	95%
A22	90%	59%
B2235 Godstone Hill	120%	82%
M25 (West)	74%	91%
Cycle Time (s)	60	60

2042 Local Plan : DoS

Approach	AM	PM
A22 Godstone Hill	92%	95%
M25 (East)	89%	97%
A22	80%	59%
B2235 Godstone Hill	129%	78%
M25 (West)	75%	98%
Cycle Time (s)	60	60

2042 LP Modal Shift: DoS

Approach	AM	PM
A22 Godstone Hill	81%	92%
M25 (East)	89%	97%
A22	81%	59%
B2235 Godstone Hill	129%	78%
M25 (West)	78%	96%
Cycle Time (s)	60	60

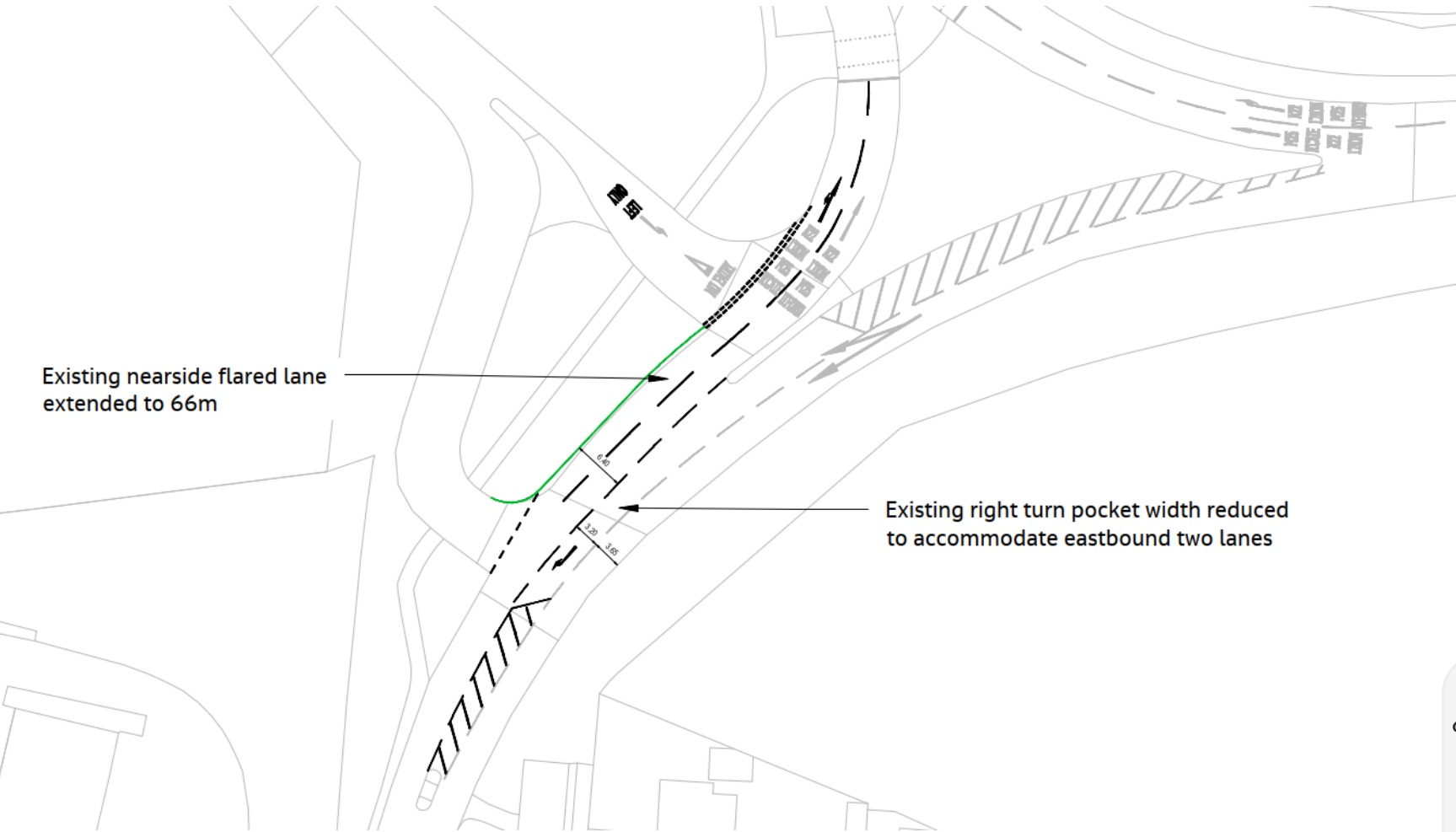


Mitigation Requirements:

- Mitigation is required.
- Possibility on adding additional lanes at exits/entries.

**MITIGATION
REQUIRED**

J12: M25 J6



2042 Forecast Baseline: DoS

Approach	AM	PM
A22 Godstone Hill	83%	96%
M25 (East)	94%	95%
A22	90%	59%
B2235 Godstone Hill	120%	82%
M25 (West)	74%	91%
Cycle Time (s)	60	60

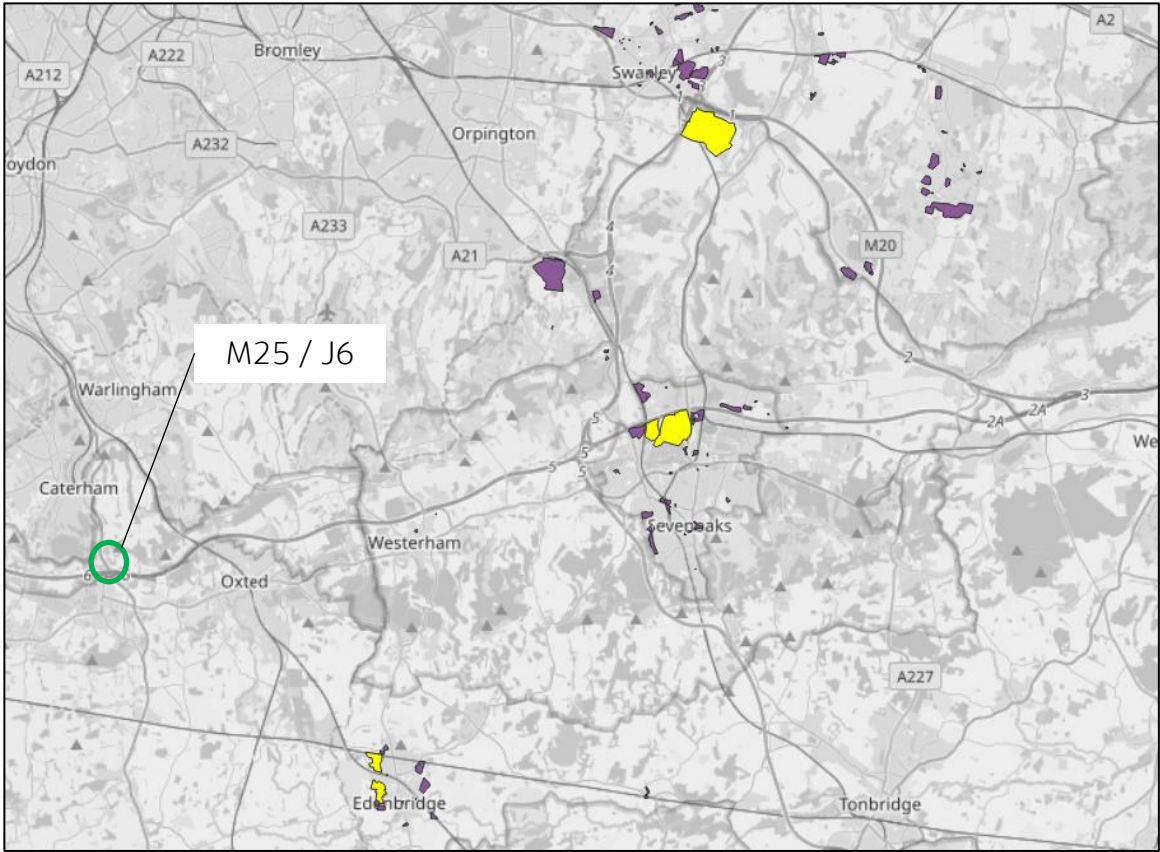
2042 LP Modal Shift: DoS

Approach	AM	PM
A22 Godstone Hill	81%	92%
M25 (East)	89%	97%
A22	81%	59%
B2235 Godstone Hill	120%	78%
M25 (West)	78%	96%
Cycle Time (s)	60	60



Key Takeaway
Layout mitigates impact of local plan

Proportion of Key Development Traffic using J12: M25 J6



Total Traffic	Total Development Traffic	% Total Development Traffic	Key Developments	Key Development Traffic	% Key Development Traffic
4,458	63	1.4%	Land at Breezehurst Farm, Crouch House Road	15	0.33%
			Land at Crouch House Road, Edenbridge	6	0.13%
			Land at Breezehurst Farm, Crouch House Road	5	0.12%
			Land at Pedham Place_HH	5	0.11%
			Land north of Sevenoaks, west of Otford Road	4	0.10%

J13: A225 / Shoreham Road / Station Road, Otford



NRC		
Scenario	AM	PM
2022 Base	-27%	-7%
2042 Forecast Baseline	-39%	-27%
2042 Local Plan Test	-42%	-33%
2042 LP Modal Shift	-42%	-32%

Key Takeaway

- From the Base, this junction is operating overcapacity.
- Mitigation is not required, there is a very slightly increase (3%).

OVER
CAPACITY

J14: A25 / Cold Arbor Road, Sevenoaks



NRC		
Scenario	AM	PM
2019 Base	49%	54%
2042 Forecast Baseline	37%	32%
2042 Local Plan Test	21%	23%
2042 LP Modal Shift	20%	24%

Key Takeaway

- This junction operates within capacity in all scenarios.
- All flows from minor arm are turning right.
- Mitigation is not required!

**WITHIN
CAPACITY**

J15: A25 / Witches Lane, Sevenoaks



NRC		
Scenario	AM	PM
2019 Base	14%	16%
2042 Forecast Baseline	13%	9%
2042 Local Plan Test	6%	3%
2042 LP Modal Shift	7%	3%

Key Takeaway

- Junction operates within capacity.
- No flows to/from the school arm, in all scenarios.
- Mitigation is not required!

WITHIN CAPACITY

J16 & J17: A25 / Amherst Hill / Maidstone Road



Junction now modelled together in a single model. This tries to replicate blocking between the junctions but is not particularly accurate. Caution should be used.

Potential Mitigation

- Signalising one or both junctions to better control or gate traffic to improve overall network performance.
- Further investment in sustainable modes.

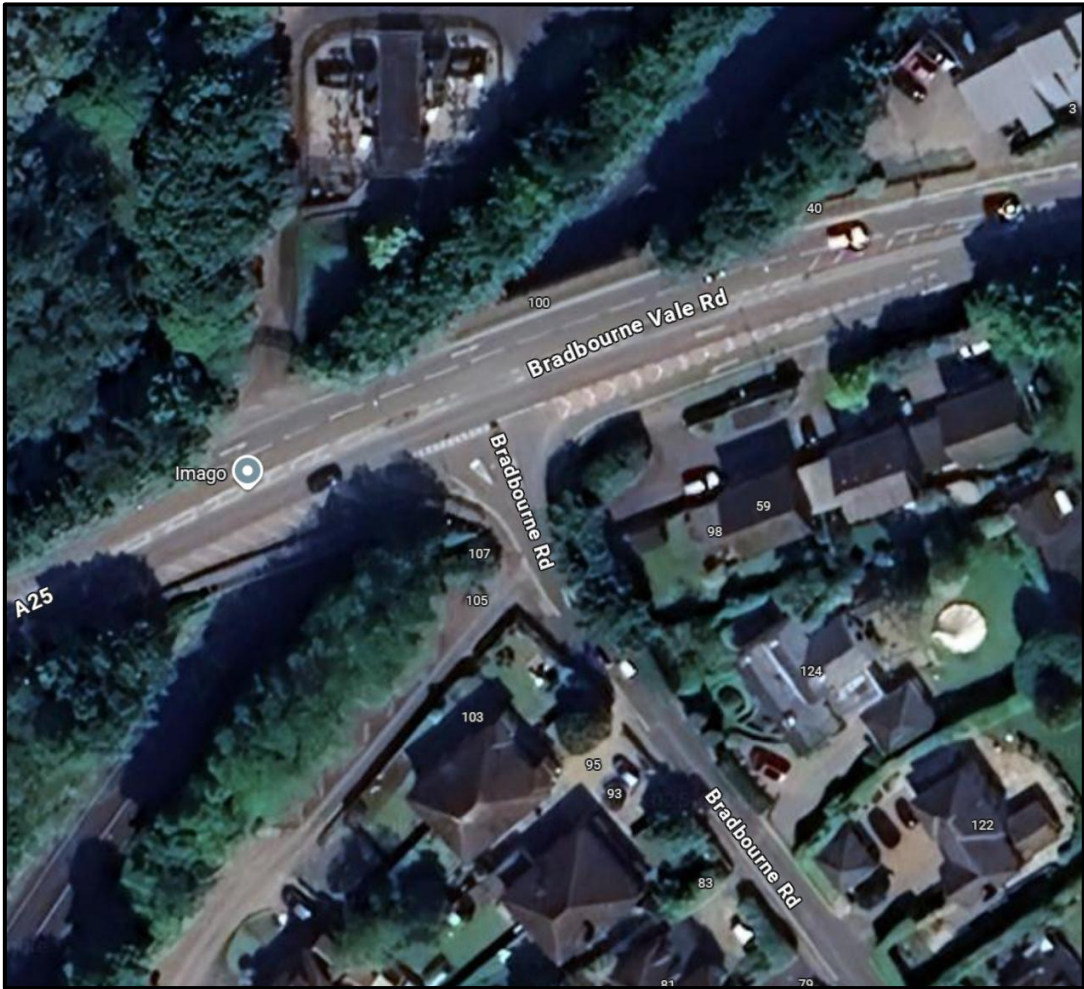
Highest RFC Value		
Scenario	AM	PM
2019 Base	0.98	0.83
2042 Forecast Baseline	1.16	0.94
2042 Local Plan Test	1.27	0.99
2042 LP Modal Shift	1.26	0.99

Key Takeaway

- Significant increase in RFC between reference case and local plan scenarios.
- Mitigation is required!

OVER
CAPACITY

J19: A25 / Bradbourne Avenue, Sevenoaks



RFC		
Scenario	AM	PM
2019 Base	96%	104%
2042 Forecast Baseline	68%	67%
2042 Local Plan Test	67%	65%
2042 LP Modal Shift	68%	68%

Key Takeaway

- Junction operates within capacity.
- Mitigation is not required!

WITHIN CAPACITY

J20: High Street / Pembroke Road, Sevenoaks



PRC		
Scenario	AM	PM
2022 Base	0%	4%
2042 Forecast Baseline	2%	3%
2042 Local Plan Test	2%	3%
2042 LP Modal Shift	2%	4%

Key Takeaway

- All red stage (ped stage) was assumed to run on demand, running every third cycle.
- In 2042 scenarios, there are no flows from High Street (South) to Pembroke Road (West) and vice-versa.

**WITHIN
CAPACITY**

J21: A25 / B2019 / Filmer Lane, Sevenoaks



PRC		
Scenario	AM	PM
2022 Base	10%	1%
2042 Forecast Baseline	-22%	8%
2042 Local Plan Test	-24%	7%
2042 LP Modal Shift	-24%	7%

Key Takeaway

- Junction is operating overcapacity in the 2042 AM scenarios.
- While, in the PM, this junction operates within capacity.

OVER
CAPACITY

J21: A25 / B2019 / Filmer Lane, Sevenoaks



2042 Forecast Baseline: DoS

Approach	AM	PM
Filmer Lane	64%	32%
A25 (East)	110%	75%
B2019	110%	84%
A25 (West)	110%	84%
Cycle Time (s)	300	300

2042 Local Plan : DoS

Approach	AM	PM
Filmer Lane	64%	34%
A25 (East)	112%	77%
B2019	111%	84%
A25 (West)	112%	85%
Cycle Time (s)	300	300

2042 LP Modal Shift: DoS

Approach	AM	PM
Filmer Lane	64%	34%
A25 (East)	112%	76%
B2019	111%	84%
A25 (West)	112%	84%
Cycle Time (s)	300	300



Mitigation Requirements:

- The stage correspondent to Filmer Lane was assumed with DD, running every third cycle.
- Mitigation is **not** required for this junction (PRC decreased by only 2%).

J22: Morley's Roundabout



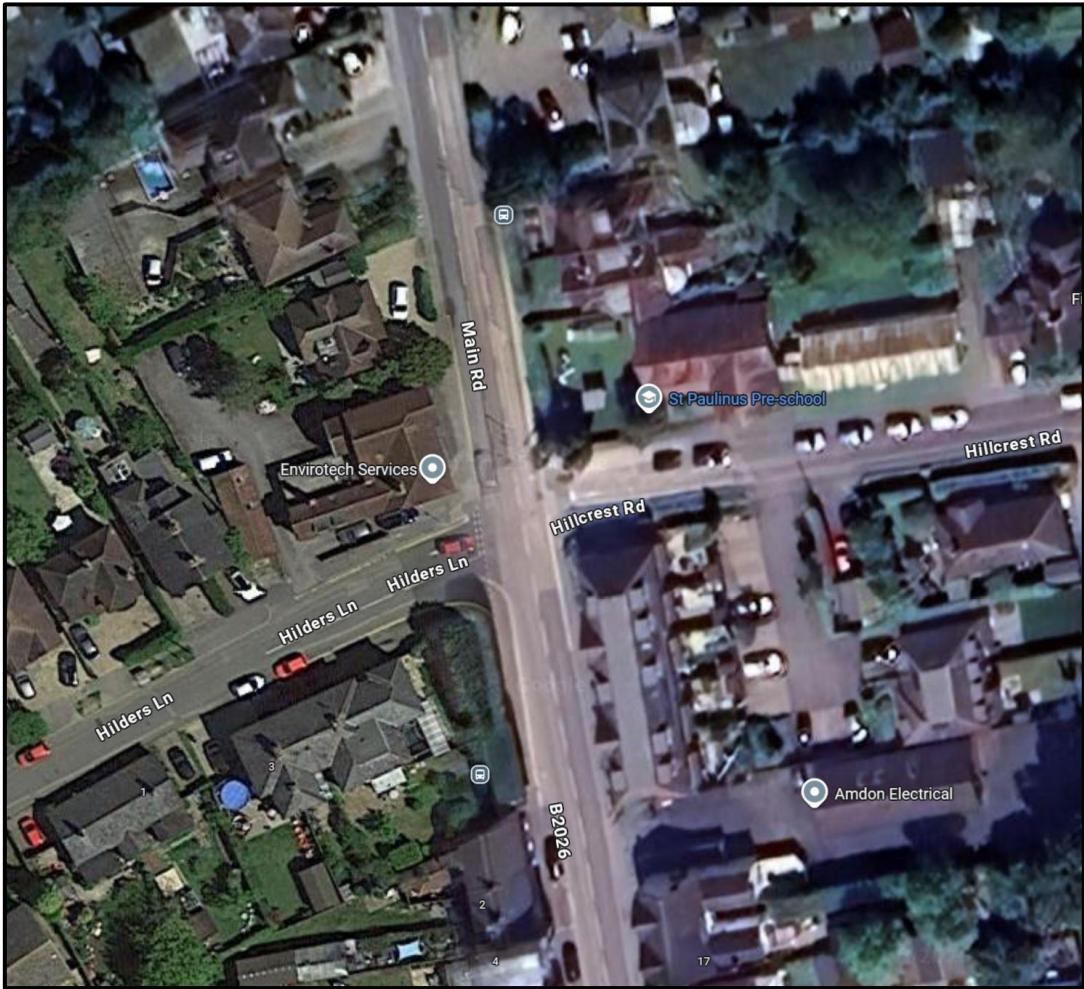
RFC		
Scenario	AM	PM
2019 Base	19%	70%
2042 Forecast Baseline	8%	33%
2042 Local Plan Test	10%	33%
2042 LP Modal Shift	10%	33%

Key Takeaway

- Junction operates within capacity.
- Mitigation is not required!

WITHIN CAPACITY

J23: B2026 / Hilders Lane, Edenbridge



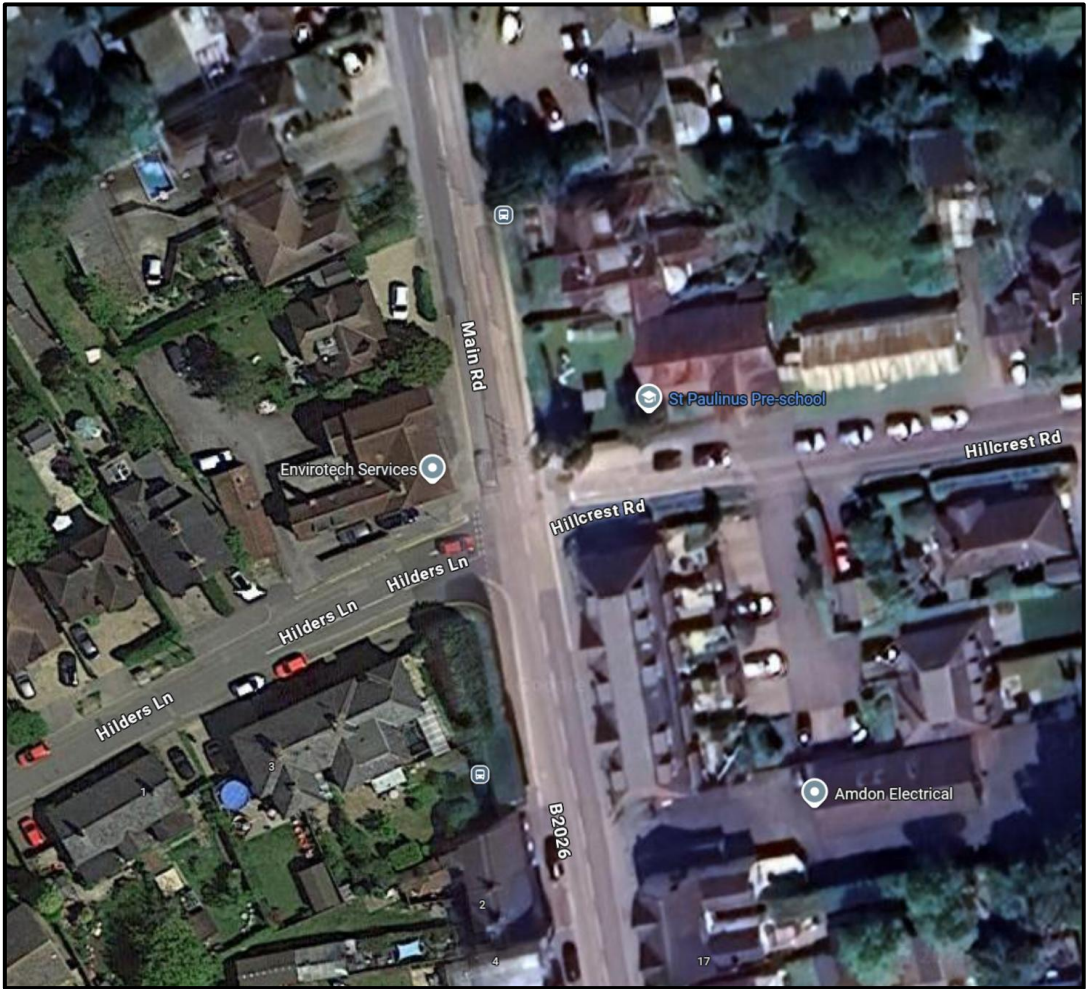
RFC		
Scenario	AM	PM
2019 Base	28%	23%
2042 Forecast Baseline	15%	23%
2042 Local Plan Test	-19%	-7%
2042 LP Modal Shift	-18%	-6%

Key Takeaway

- Junction operates within capacity in the Forecast scenarios.
- This junction operates overcapacity for the AM Local Plan scenario.

OVER
CAPACITY

J23: B2026 / Hilders Lane, Edenbridge



2042 Forecast Baseline: RFC

2042 Local Plan : RFC

Approach	AM	PM	Approach	AM	PM
Hillcrest Road	0.00	0.00	Hillcrest Road	0.00	0.00
B2026 (North)	0.18	0.22	B2026 (North)	0.34	0.40
Hilders Lane	0.67	0.60	Hilders Lane	1.17	0.96
B2026 (South)	0.00	0.00	B2026 (South)	0.00	0.00

2042 LP Modal Shift: RFC

Approach	AM	PM
Hillcrest Road	0.00	0.00
B2026 (North)	0.33	0.39
Hilders Lane	1.16	0.94
B2026 (South)	0.00	0.00

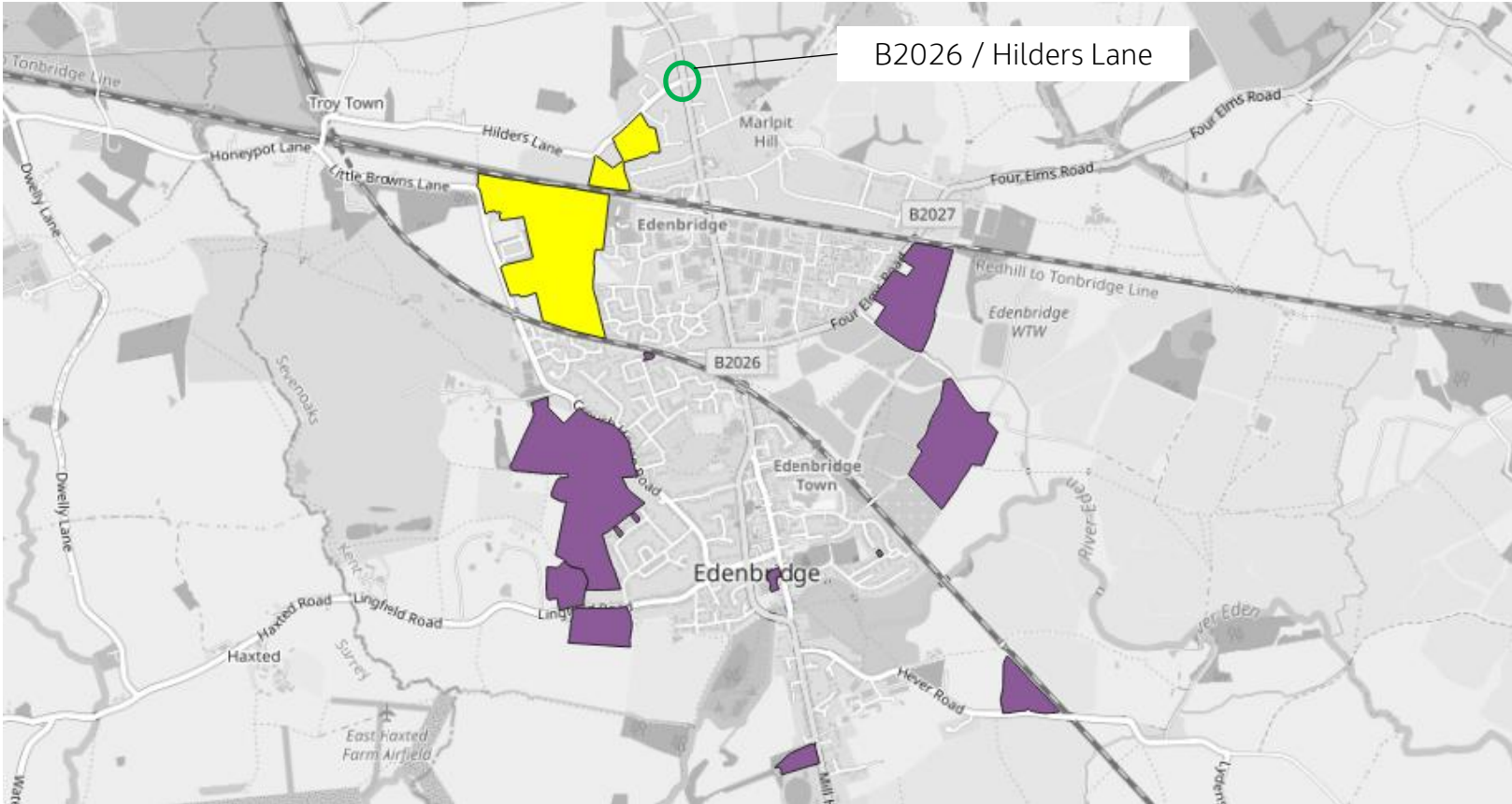


Mitigation Requirements:

- Mitigation better placed in alternative measures than junction improvements at this location.
- Mitigation is required!

MITIGATION
REQUIRED

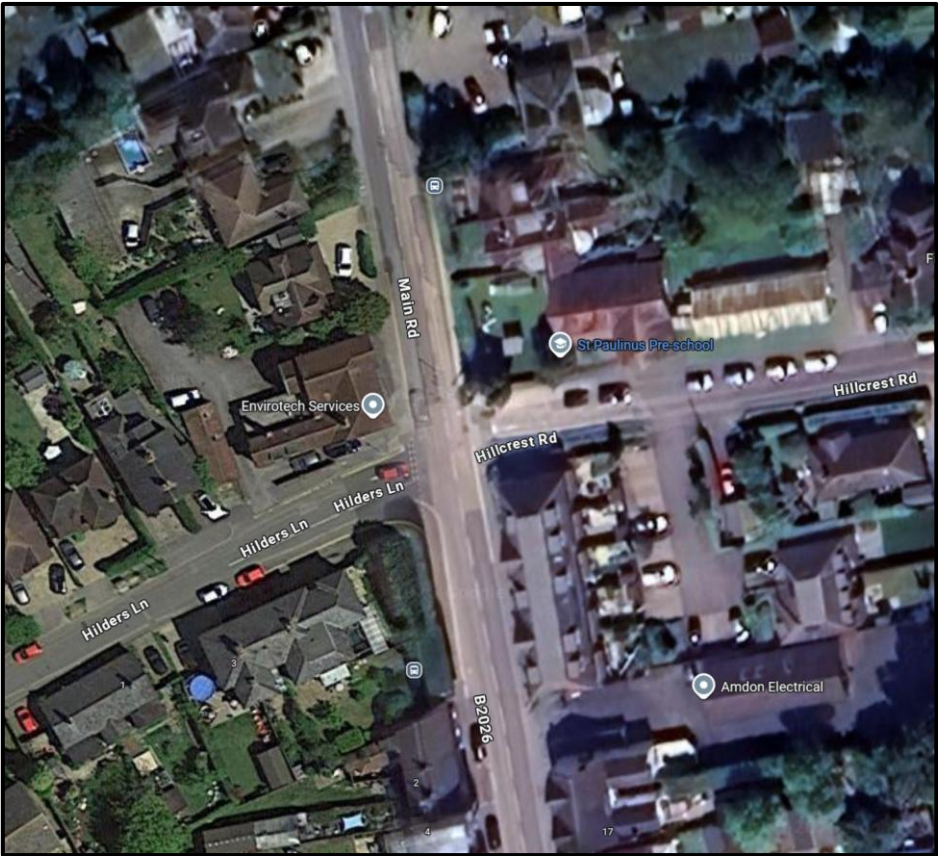
Proportion of Ket Development Traffic using J23: B2026 / Hilders Lane, Edenbridge



Total Traffic	Total Development Traffic	% Total Development Traffic	Key Developments	Key Development Traffic	% Key Development Traffic
1,394	330	24%	Land at Breezehurst Farm, Crouch House Road	194	13.90%
			Land at Breezehurst Farm, Crouch House Road	36	2.58%
			Land west of Ashcombe Drive and Meadow Lane, Edenbridge	35	2.50%

J23: B2026 / Hilders Lane, Edenbridge – Southern Rerouting

This test assesses how the B2026 / Hilders Lane junction would perform if traffic-calming measures were introduced on Hilders Lane, diverting development traffic to corridors to the south (i.e. Stangrove Road). See the following slides for the additional assessment of Stangrove Road.



2042 Forecast Baseline: RFC

2042 Local Plan : RFC

Approach	AM	PM	Approach	AM	PM
Hillcrest Road	0.00	0.00	Hillcrest Road	0.00	0.00
B2026 (North)	0.18	0.22	B2026 (North)	0.34	0.40
Hilders Lane	0.67	0.60	Hilders Lane	0.75	0.67
B2026 (South)	0.00	0.00	B2026 (South)	0.00	0.00

2042 LP Modal Shift: RFC

Approach	AM	PM
Hillcrest Road	0.00	0.00
B2026 (North)	0.33	0.39
Hilders Lane	0.75	0.67
B2026 (South)	0.00	0.00



Mitigation Requirements:

- The rerouting removes the concerns at this junction, with operation within capacity.



J8: B2026 / Stangrove Road, Edenbridge – Hilders Lane Rerouting



PRC		
Scenario	AM	PM
2019 Base	23%	36%
2042 Forecast Baseline	20%	25%
2042 Local Plan Test	-14%	5%
2042 LP Modal Shift	-14%	5%
Cycle Time (s)	72	72

Key Takeaway

- Junction operates over capacity in the AM peak
- Mitigation is required!

OVER
CAPACITY

J8: B2026 / Stangrove Road, Edenbridge – Hilders Lane Mitigation Option 1



PRC		
Scenario	AM	PM
2019 Base	23%	36%
2042 Forecast Baseline	20%	25%
2042 Local Plan Test	5%	17%
2042 LP Modal Shift	5%	17%
Cycle Time (s)	72	72

Key Takeaway

- Junction would operate within capacity.
- Potential issues over right turn ban.

WITHIN CAPACITY

J8: B2026 / Stangrove Road, Edenbridge – Hilders Lane Mitigation Option 2



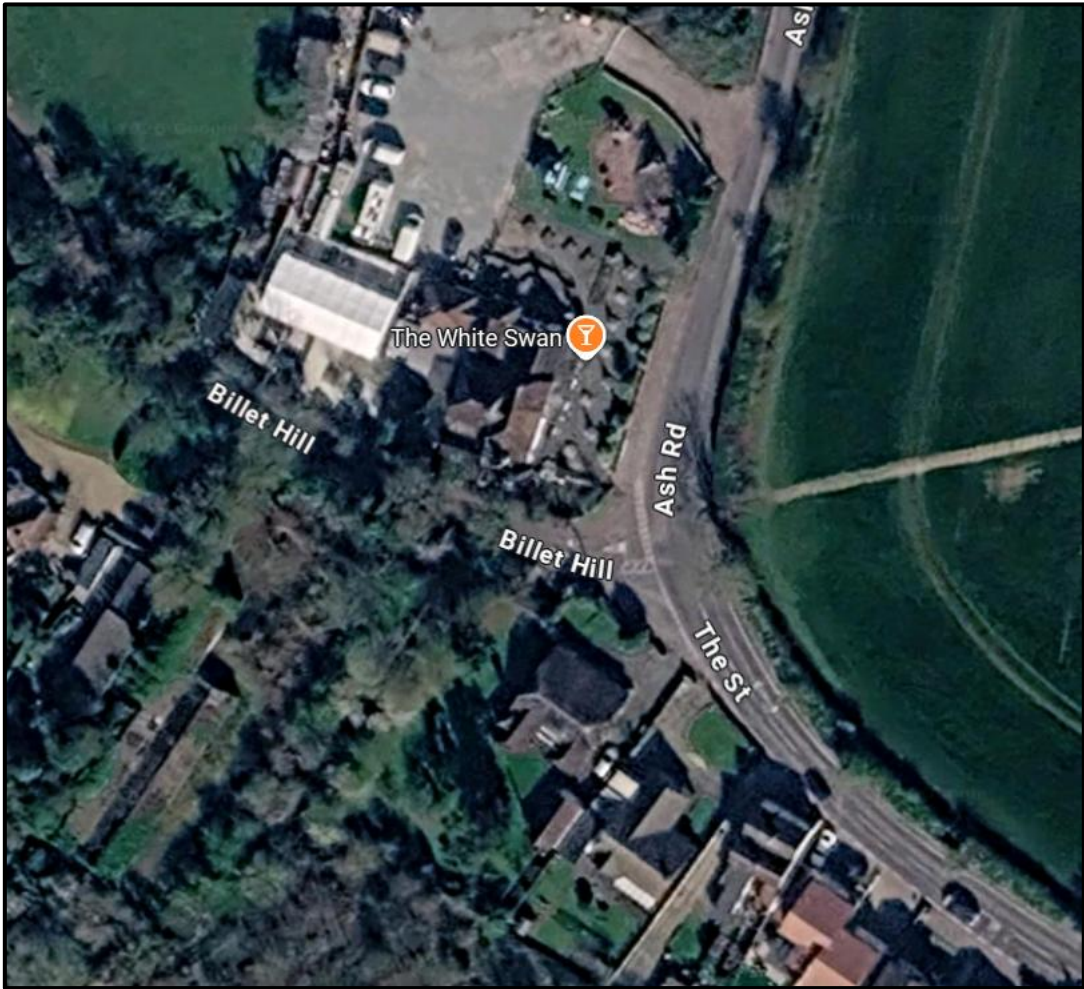
PRC		
Scenario	AM	PM
2019 Base	23%	36%
2042 Forecast Baseline	20%	25%
2042 Local Plan Test	31%	54%
2042 LP Modal Shift	31%	54%
Cycle Time (s)	72	72

Key Takeaway

- Junction operates within capacity.
- Removal of dedicated cycle link

WITHIN CAPACITY

J24: Ash Road / The Street / Billet Hill



RFC		
Scenario	AM	PM
2019 Base	46%	145%
2042 Forecast Baseline	39%	125%
2042 Local Plan Test	9%	68%
2042 LP Modal Shift	9%	68%

Key Takeaway

- Junction operates within capacity.
- Mitigation is not required!

WITHIN CAPACITY

J25: Hewitts Roundabout



RFC		
Scenario	AM	PM
2019 Base	-18%	1%
2042 Forecast Baseline	-35%	-16%
2042 Local Plan Test	-38%	-29%
2042 LP Modal Shift	-37%	-28%

Key Takeaway

- This junction operates overcapacity in all scenarios. However, there is only a slightly increase
- Mitigation is not required!

OVER
CAPACITY

J25: Hewitts Roundabout



2042 Forecast Baseline: RFC

2042 Local Plan : RFC

Approach	AM	PM	Approach	AM	PM
Court Road	0.85	0.96	Court Road	0.98	1.09
Hewitts Road	0.13	0.00	Hewitts Road	0.00	0.00
M25	1.34	1.02	M25	1.40	1.20
Orpington By-Pass	0.44	0.51	Orpington By-Pass	0.53	0.70
Wheatsheaf Hill	0.00	0.25	Wheatsheaf Hill	0.00	0.00
Sevenoaks Road	0.77	1.01	Sevenoaks Road	0.97	1.15

2042 LP Modal Shift: RFC

Approach	AM	PM
Court Road	0.97	1.09
Hewitts Road	0.00	0.00
M25	1.40	1.19
Orpington By-Pass	0.52	0.70
Wheatsheaf Hill	0.00	0.00
Sevenoaks Road	0.96	1.15



Mitigation Requirements:

- Mitigation is **not** required as the increase from the Forecast scenario to the LP scenario is not significant.

J26: A21 Sevenoaks Road / London Road



RFC		
Scenario	AM	PM
2019 Base	228%	314%
2042 Forecast Baseline	139%	214%
2042 Local Plan Test	24%	50%
2042 LP Modal Shift	27%	55%

Key Takeaway

- Junction operates within capacity.
- Mitigation is not required!

WITHIN CAPACITY

J27: B2026 / Station Road



PRC		
Scenario	AM	PM
2022 Base	41%	32%
2042 Forecast Baseline	29%	17%
2042 Local Plan Test	21%	11%
2042 LP Modal Shift	21%	11%

Key Takeaway

- Junction operates within capacity.
- Mitigation is not required!

WITHIN CAPACITY

J28: Little Browns Lane / Hilders Lane



RFC		
Scenario	AM	PM
2019 Base	546%	679%
2042 Forecast Baseline	393%	301%
2042 Local Plan Test	112%	62%
2042 LP Modal Shift	114%	67%

Key Takeaway

- Junction operates within capacity.
- **Mitigation is not required!**

WITHIN CAPACITY

Junction Overview

	Junction operates below practical capacity. Minimal-moderate delays and queues.
	Junction operates over practical capacity, but below absolute capacity. Moderate to high delays and queues.
	Demand would exceed the absolute capacity of the junction. Without mitigation, the surrounding network would be affected.

Scenario	2042 AM			2042 PM			Summary
	Forecast	LP	LP Modal Shift	Forecast	LP	LP Modal Shift	
J1: Hall Road / New Barn Road / Station Road							Mitigation not required.
J2: A2 / Hall Road							Mitigation not required.
J3: B258 Swanley Lane / Bartholomew Way							Mitigation required.
J4: B258 / Nightingale Way / High Street							Mitigation not required.
J5: B2173 / Kingswood Avenue / St Georges Road							Mitigation not required.
J6: M25 J3							Mitigation required.
J7: B260 / Fawkham Road / Whitehill Road							Mitigation not required.
J8: B2026 / Stangrove Road							Mitigation not required.
J9: A25 / Homedean Road							Mitigation not required.
J10: A25 / Larkfield Road							Mitigation not required.
J11: B2026 / Lingfield Road							Mitigation not required.
J12: M25 J6							Mitigation required.
J13: A225 / Shoreham Road / Station Road							Mitigation not required.
J14: A25 / Cold Arbor Road							Mitigation not required.
J15: A25 / Witches Lane							Mitigation not required.
J16: A25 / Amherst Hill							Mitigation not required.
J17: A25 / Maidstone Road							Mitigation not required.
J19: A25 / Bradbourne Avenue							Mitigation not required.
J20: High Street / Pembroke Road							Mitigation not required.
J21: A25 / B2019							Mitigation not required.
J22: Morley's Roundabout							Mitigation not required.
J23: B2026 / Hilders Lane							Mitigation required.
J24: Ash Road / The Street / Billet Hill							Mitigation not required.
J25: Hewitts Roundabout							Mitigation not required.
J26: A21 Sevenoaks Road / London Road							Mitigation not required.
J27: B2026 / Station Road							Mitigation not required.
J28: Little Browns Lane / Hilders Lane							Mitigation not required.

Summary

- Of the 27 junctions modelled, four have been identified as needing mitigation:
 - J3: B258 Swanley Lane / Bartholomew Way
 - J6: M25 J3
 - J12: M25 J6
 - J23: B2026 / Hilders Lane
- The remaining junctions have been shown to operate at a reasonable level, although some of these do not have traffic counts so could be subject to issues if further modelling is undertaken.
- Additional work / assessment to consider
 - Validation of selected junctions - additional data collection (which can be undertaken in September) and would require approximately two-four weeks to complete (on receipt of the collected data).
 - For example, junctions along these corridors in Sevenoaks Town - A224 London Road, A25 London Road, A25 Worship Hill

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