

Strategic Road Network Impacts Thanet Local Plan Evidence Base

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00 (Draft for Comment)	Name: Shipra Samanta Signature: Date:	Name: Steve Whittaker Signature: Date:	Name: Jeff Webb Signature: Date:
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	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:
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1 Introduction

1.1 Overview

- 1.1.1 Amey have been commissioned to evaluate the likely traffic impact of the Thanet Local Plan on the Strategic Road Network (SRN), in particular at the Brenley Corner junction for London/west bound movements and at Duke of York junction for south bound traffic.
- 1.1.2 During consultation on the draft Local Plan for Thanet, Thanet District Council (TDC) and Kent County Council (KCC) engaged with Highways England (HE) regarding the potential impacts of proposed development allocations within the Local Plan to 2031 on the SRN. HE requested that TDC undertake an analysis of the forecast traffic impacts of 'non-consented' development on the SRN.

1.2 Study Area

- 1.2.1 The SRN does not extend into Thanet district itself. The locations where the SRN are nearest to Thanet are at the junction of the A2(M2)/A299 (Brenley Corner), located in approximately 15 miles to the west in the district of Swale, and the A2/A258 (Duke of York) Roundabout, located approximately 13 miles to the south in the Dover district. Figure 1-1 shows the locations of the SRN junctions with respect to Thanet district.

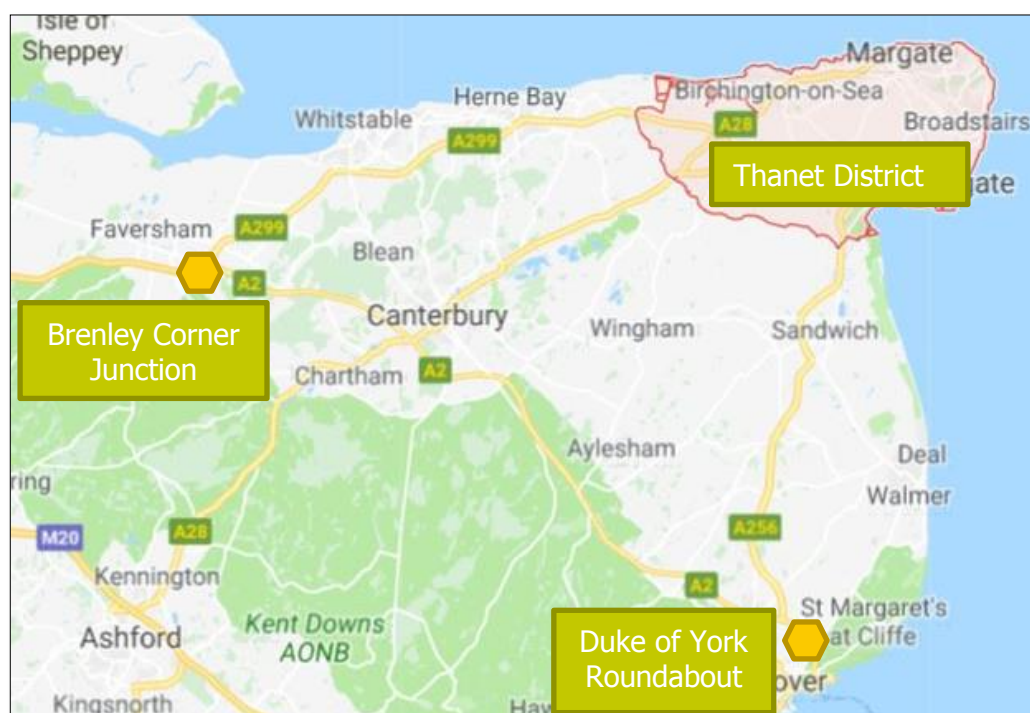


Figure 1-1: SRN and Thanet District Location Plan

- 1.2.2 The Brenley Corner junction is a grade separated roundabout at the intersection of the A2(M2)/A299. The M2 motorway, which forms the southern arm of the junction, terminates and becomes the A299 Thanet Way heading north east. The A2 (E), towards Faversham and Sittingbourne, and the A2 (W), towards Canterbury, are accessed via a grade separated roundabout above the M2/A299.
- 1.2.3 The Duke of York Roundabout is an at-grade roundabout at the intersection of the A2/A258 to the north east of Dover town centre. The A2 forms the northern and southern arms providing links to Canterbury to the north and Dover town and Port to the south.

2 Methodology

- 2.1.1 A methodology for undertaking the traffic impact assessment on the SRN network was discussed and agreed in principle with HE by email on 26/07/17.
- 2.1.2 It was proposed to use mobile phone origin/destination (O/D) data, obtained on behalf of KCC for the development of a strategic transport model for the district, as the basis of the assessment.
- 2.1.3 In particular, a subset of the data called 'Select Link Analysis' (SLA) would be used, which captures all peak period O/D pairs using the key corridors in/out of the Thanet (e.g. the A299, A28 and A256). The extracted flows would be calibrated and uplifted, if required; to match observed traffic flows on these links.
- 2.1.4 The current level of Thanet generated peak hour traffic using these junctions would be determined by grouping together the external Kent districts that would likely use them. Any assumptions required will be chosen to represent the worst case impact on the SRN to ensure a robust assessment.
- 2.1.5 The adopted assumptions regarding the selection of districts where all traffic to/from Thanet would use the SRN junctions are set out below:

Brenley Corner

- A299, Thanet – Dartford (through traffic only)
- A299, Thanet – Gravesham (through traffic only)
- A299, Thanet – Maidstone (through traffic only)
- A299, Thanet – Medway (through traffic only)
- A299, Thanet – Sevenoaks (through traffic only)
- A299, Thanet – Tonbridge & Malling (through traffic only)
- A299, Thanet – Tunbridge Wells (through traffic only)
- A299, Thanet – Swale (assume all trips use junction to/from A2 London Rd)

Duke of York

- A256, Thanet – Shepway (assume all trips to/from A2 Jubilee Way)
- A256, Thanet – Dover (assume 40% to/from A2 Jubilee Way & 10% to/from A258)

- 2.1.6 The forecast traffic impact of the Local Plan on these junctions would be identified by applying uplift factors based upon the total % increase in traffic flows in Thanet in 2031 generated by a) committed (consented) development and b) the Local Plan allocation sites (non-consented).
- 2.1.7 The uplift factors are to be derived from a current strategic SATURN transport model developed on behalf of KCC and TDC to test Local Plan scenarios. The forecast scenarios from the SATURN model to be used to represent the a) consented and b) non-consented developments are as follows:
- 2031 Do Nothing (DN) – committed/permitted development and committed transport schemes only; and
 - 2031 Do Something (DS) – as DN scenario plus projected Local Plan development and proposed transport strategy schemes.
- 2.1.8 The worst case weekday AM peak traffic impact of the non-consented development within the Thanet Local Plan at the SRN junctions would be established by simply subtracting the anticipated O/D flows in scenario a) from scenario b).

3 Traffic Impact Assessment

3.1 Data Extraction

3.1.1 The mobile phone data was available for the peak period (0700-1000). To derive an actual peak hour a factor of 0.41 was calculated from a recent link flow survey and applied to the 3 hour O/D flows. The selected OD pairs identified in the above methodology were then extracted for the AM peak hour and are shown in Table 3-1 and Table 3-2.

2017 AM Peak hour (0800-0900)			
SL05 – To Thanet	176	SL06 - From Thanet	223
From:		To:	
Dartford	18	Dartford	30
Gravesham	12	Gravesham	15
Maidstone	18	Maidstone	25
Medway	28	Medway	26
Sevenoaks	26	Sevenoaks	43
Tonbridge & Malling	21	Tonbridge & Malling	27
Tunbridge wells	9	Tunbridge wells	9
Swale	43	Swale	47

Table 3-1: Origin/Destination data to/from Thanet on A299

2017 AM Peak hour (0800-0900)			
SL03 - To Thanet	278	SL04 - From Thanet	317
From:		To:	
Dover	250	Dover	286
Shepway	27	Shepway	31

Table 3-2: Origin/Destination data to/from Thanet on A256

3.1.2 The above data was then re-classified on the basis of the assumed movements at each junction. The re-classified data is shown in Table 3-3 and Table 3-4.

2017 AM Peak hour (0800-0900)			
To Thanet	176	From Thanet	223
Through Traffic	133	Through Traffic	177
Using A2 London Road	43	Using A2 London Road	47

Table 3-3: Thanet Traffic at Brenley Corner Junction (Unexpanded)

2017 AM Peak hour (0800-0900)			
To Thanet	153	From Thanet	174
From A2 Jubilee Way	128	To A2 Jubilee Way	145
From A258	25	To A258	29

Table 3-4: Thanet Traffic at Duke of York Roundabout (Unexpanded)

3.2 Data Calibration

- 3.2.1 The mobile phone data was compared to available link counts on the A299 and A256 in order to expand the data with respect to the total volume observed.
- 3.2.2 The A299 link traffic counts were derived from surveys at St. Nicholas Roundabout undertaken on 12/01/2016. A comparison of the estimated peak hour counts from the mobile phone data and the link counts is provided in Table 3-5.

Direction	Mobile Phone Data		Link Counts (0800-0900)	Expansion Factor
	Peak Period (0700-1000)	Estimated Peak Hour (0800-0900)		
To Thanet (EB)	1962	804	1234	1.53
From Thanet (WB)	2246	921	1429	1.55

Table 3-5: Traffic Flow Comparison on A299

- 3.2.3 The A256 link flows were derived from an ATC survey on A256 Richborough Way (South of Sandwich Road) undertaken in January 2016. A comparison of the peak hour flows from the mobile phone data and the link survey is provided in Table 3-6.

Direction	Mobile Phone Data		Link Counts (0800-0900)	Expansion Factor
	Peak Period (0700-1000)	Estimated Peak Hour (0800-0900)		
To Thanet (NB)	2324	950	1148	1.21
From Thanet (SB)	2581	1057	1538	1.46

Table 3-6: Traffic Flow Comparison on A256

- 3.2.4 Using the above expansion factors, the current movements of Thanet generated traffic at each SRN junction was established and is shown in Table 3-7 and Table 3-8.

2017 AM Peak hour (0800-0900)			
To Thanet	264	From Thanet	357
Through Traffic	200	Through Traffic	282
Using A2 London Road	64	Using A2 London Road	75

Table 3-7: Existing Thanet Traffic at Brenley Corner Junction

2017 AM Peak hour (0800-0900)			
To Thanet	229	From Thanet	208
From A2 Jubilee Way	191	To A2 Jubilee Way	174
From A258	38	To A258	34

Table 3-8: Existing Thanet Traffic at Duke of York Roundabout

3.3 Forecast Traffic Impact Assessment

3.3.1 The forecast impacts of the non-consented Local Plan sites on these junctions has been assessed by applying appropriate uplift factors to the base flows in Table 3-7 and Table 3-8.

3.3.2 A strategic transport model for Thanet has been used in order to derive appropriate uplift factors for a forecast baseline (2031 with committed development only) and a forecast scenario including all proposed Local Plan development (consented and non-consented).

3.3.3 Firstly, the 2031 baseline traffic was established using a factor derived from the increase in total travel demand from the 2017 base model to a 2031 Do Nothing scenario.

3.3.4 The 2031 baseline traffic was then uplifted using a factor derived from the increase in total travel demand from the 2031 Do Nothing scenario to the 2031 Do Something scenario.

3.3.5 The established uplift factors are shown in Table 3-9:

AM Peak	2017	2031 DN	2031 DM/DS
Total Travel Demand	22,466	25,007	28,782
Increase over Base		1.11	1.28
Increase over DN			1.15

Table 3-9: Forecast Flow Uplift Factors

3.3.6 The forecast traffic impacts of the non-consented development within the Thanet Local Plan at the SRN junctions has then been established by subtracting the 2031 baseline flows from the full Local Plan (2031 Do Something) scenario. The summary tables for each junction are shown in the following Tables 3-10 to 3-15.

Brenley Corner Junction

2031 AM Peak hour (0800-0900)			
To Thanet	296	From Thanet	421
Through Traffic	224	Through Traffic	333
Using A2 London Road	72	Using A2 London Road	88

Table 3-10: Forecast Baseline Traffic at Brenley Corner Junction

2031 AM Peak hour (0800-0900)			
To Thanet	340	From Thanet	484
Through Traffic	257	Through Traffic	383
Using A2 London Road	83	Using A2 London Road	101

Table 3-11: Forecast Local Plan Traffic at Brenley Corner Junction

2031 AM Peak hour (0800-0900)			
To Thanet	44	From Thanet	63
Through Traffic	34	Through Traffic	50
Using A2 London Road	11	Using A2 London Road	13

Table 3-12: Forecast Non-Consented Traffic at Brenley Corner Junction

3.3.7 Tables 3-10 to 3-12 indicate that at the Brenley Corner junction the total traffic impact of non-consented development within the Thanet Local Plan would be in the order of 107 vehicles in the AM peak in 2031. More significantly, only 24 of these vehicles would make conflicted movements at the junction by accessing the A2 via the grade separated roundabout.

Duke of York Roundabout

2031 AM Peak hour (0800-0900)			
To Thanet	276	From Thanet	245
From A2 Jubilee Way	231	To A2 Jubilee Way	204
From A258	45	To A258	40

Table 3-13: Forecast Baseline Traffic at Duke of York Roundabout

2031 AM Peak hour (0800-0900)			
To Thanet	318	From Thanet	281
From A2 Jubilee Way	266	To A2 Jubilee Way	235
From A258	52	To A258	46

Table 3-14: Forecast Local Plan Traffic at Duke of York Roundabout

2031 AM Peak hour (0800-0900)			
To Thanet	41	From Thanet	37
From A2 Jubilee Way	35	To A2 Jubilee Way	31
From A258	7	To A258	6

Table 3-15: Forecast Non-Consented Traffic at Duke of York Roundabout

- 3.3.8 Tables 3-13 to 3-15 indicate that the total traffic impact of non-consented development within the Thanet Local Plan on the Duke of York Roundabout would be in the order of 78 vehicles in the AM peak in 2031.
- 3.3.9 Based upon the above assessments it is considered that the non-consented development within the Thanet Local Plan will have a negligible impact at these junctions. The forecast additional flows as a result of the Local Plan would represent a very small proportion of the total traffic flows at the junction both existing and in the future.