

Technical Note 4 (TN4)

Land South of Longfield Road, Meopham
Richborough



LAND SOUTH OF LONGFIELD ROAD

Prepared for

Richborough
Second Floor
Waterloo House
20 Waterloo Street
Birmingham
B2 5TB

Prepared by

Ridge and Partners LLP
Floor 1B
4 Temple Row
Birmingham
B2 5HG
Tel: 0121 454 5530

Contact

Gerard McKinney
T25526
Email: gerardmckinney@ridge.co.uk

VERSION CONTROL

VERSION	DATE	DESCRIPTION	CREATED BY	REVIEWED BY
1.0	03/08/2026		GM/SC	GM
2.0	11/08/2026		GM/MJ	GM

1. INTRODUCTION

- 1.1.1. Ridge and Partners LLP (formerly Hub Transport Planning Ltd) has been commissioned by Richborough to provide transport advice for a proposed residential development on land south of Longfield Road, Meopham, Kent.
- 1.1.2. The proposed development is for up to 120 dwellings and has been submitted as part of an outline planning application (Ref: GB/20250993) with all matters reserved except for details of access to the site.
- 1.1.3. The planning application is supported by an initial and updated Transport Assessment (TA) and Travel Plan (TP) along with two previous Technical Notes addressing issues raised by National Highways (NH) and Kent County Council (KCC).

2. PURPOSE OF THIS NOTE

- 2.1.1. This TN has been prepared on the basis of a meeting with NH, KCC, the applicant, and the applicant's development planning team on 27th July 2026.
- 2.1.2. The purpose of this note is to address comments from NH that relate to the distribution and assignment of traffic and specifically in relation to modelling at the A2/Wrotham Road junction.

3. ISSUES DISCUSSED/AGREED AT JULY 2026 MEETING

- 3.1.1. The following items were discussed and agreed at the meeting of 27 July 2026:
 - Assessment years. The Local Plan (LP) assessment year refers to the existing LP assessment year of 2028 and not the emerging Local Plan year of 2042.
 - Base assessment. This has been agreed as the 2030 'Do Minimum' assessment used for the Land at Rose Farm (Planning Ref: 20251233) development which includes a recently approved, and calibrated, base model.
 - Mitigation Schemes. The relevant tests to be included are those that include the 'Interim' mitigation scheme (white lining changes to the southern roundabout) proposed under the the Former Tollgate Hotel (Planning Ref: 20240856) development using the model included within the Land at Rose Farm Technical Note (May 2026), and the 'Final' mitigation scheme which is signalisation of the southern roundabout and 'teardrop' arrangement proposed as part of the Land at Coldharbour Road development (Planning Ref: 20141214).
 - As this is a standalone development it must be treated on its own merits based on traffic forecasts that include committed developments only (i.e. not including traffic associated with land to the east of Wrotham Road).
- 3.1.2. All other matters not included within this note, such as highway safety analysis etc. are assumed to have been agreed by NH as part of preceding assessments.

4. TRAFFIC FORECASTS AND TRAFFIC IMPACT

- 4.1.1. As indicated above the base traffic forecasts to be used in the assessments are the assessments used in the Land at Rose Farm development application for the 2030 'Do Minimum' scenario which includes base traffic, traffic growth, and associated development flows associated with Land at Rose Farm.

- 4.1.2. We have considered the forecasts presented in the Technical Note to support the Land at Rose Farm development and the subsequent correspondence with NH resulting in the Technical Note dated May 2026 prepared by DHA that responds to comments provided by NH.
- 4.1.3. The traffic distribution and assignment, for the purposes of assessment of the A2/Wrotham Road junction, has been undertaken manually and has previously been reported in the Ridge technical note TN2. NH has agreed the manual assignment is appropriate.
- 4.1.4. The total two-way traffic generation forecast for the development south of Longfield Road is 61 and 62 vehicle trips in the AM and PM peak hours, respectively.
- 4.1.5. The forecast level of vehicle development trips to reach the A2/Wrotham Road junction complex is 41 in the AM peak hour and 43 in the PM peak hour.
- 4.1.6. The junction complex gives access to the Strategic Road Network (SRN) and impacts of approximately one vehicle roughly every one to one and a half minutes is forecast. This level of additional traffic is unlikely to have any noticeable impact on the operation of the junction in terms of queues and delays.
- 4.1.7. Nevertheless, we have indicated the forecast level of traffic at the junction in 2030 (the Land at Rose Farm 'Do Minimum' scenario), and those forecasts are provided in Appendix A. We have called these the 'RF Do Minimum' traffic flows.
- 4.1.8. Two highway mitigation/improvement proposals have been tested to assess the impact of the proposed development traffic.
- 4.1.9. The two mitigation/improvement proposals are as follows:
- 'Interim' mitigation – White lining changes on the A2 WB off slip (Former Tollgate Hotel) and tested as part of Land at Rose Farm.
 - 'Final' mitigation – Partial signalisation of the southern roundabout converted to a 'teardrop' layout. (Land at Coldharbour Road).

5. CAPACITY ANALYSIS

Existing Arrangement

- 5.1.1. The approved calibrated base model utilised within the Land at Rose Farm (RF) technical note has been replicated within this assessment to demonstrate the proposed development impact on the existing junction arrangement.
- 5.1.2. This includes geometry, intercept adjustments, and base flows. For clarity, the base model was calibrated to 2023 flows and uplifted to a 2025 base year and a future 2030 'Do Minimum' year. This includes flows associated with the Former Tollgate Hotel.
- 5.1.3. Given we have been requested to assess for the current Local Plan year (up to 2028), it is assumed that the 2030 'Do Minimum' scenario presented within the Land at Rose Farm (referred to as 'RF' in the subsequent assessment scenarios) assessment is likely to include the majority of development up to this point and hence provide a robust assessment.
- 5.1.4. The assessment includes the following scenarios:
- 2023 RF Base (AM and PM);

- 2025 RF Base (AM and PM);
- 2030 RF Do Minimum (AM and PM);
- 2030 RF Do Minimum + Development (AM and PM).

5.1.5. Please note that separate base models were used to calibrate both the AM and PM peaks separately and has therefore been replicated within this assessment.

5.1.6. The minimal U-turn movements have been excluded from the model given it creates a very negligible difference to model results.

5.1.7. The results are summarised in Table 1 with the model outputs included within Appendix B.

Table 1: A2/Wrotham Road Complex Model Results (ARCADY)

JUNCTION (NO.)	APPROACH	AM PEAK 08:00 – 09:00			PM PEAK 17:00-18:00		
		RFC	QUEUE (PCU)	DELAY (S)	RFC	QUEUE (PCU)	DELAY (S)
2023 RF BASE							
Southern Roundabout (1)	A2 WB Off Slip	1.17	60	271	1.19	61	300
	A227 (S)	0.86	6	28	0.85	6	26
	A227 (N) Internal Link	0.52	1	3	0.52	1	3
Northern Roundabout (2)	A227 (S) Internal Link	0.44	1	3	0.44	1	3
	A2 EB Off Slip	0.65	2	11	0.83	5	16
	A227 (N)	0.80	4	10	0.80	4	11
	Former Tollgate Hotel	0.00	0	0	0.00	0	0
2025 RF BASE							
Southern Roundabout (1)	A2 WB Off Slip	1.19	67	302	1.21	67	329
	A227 (S)	0.87	7	29	0.86	6	27
	A227 (N) Internal Link	0.52	1	3	0.52	1	3
Northern Roundabout (2)	A227 (S) Internal Link	0.44	1	3	0.44	1	3
	A2 EB Off Slip	0.66	2	11	0.85	6	17
	A227 (N)	0.81	5	11	0.81	5	12
	Former Tollgate Hotel	0.00	0	0	0.00	0	0
2030 RF DO MINIMUM							
Southern Roundabout (1)	A2 WB Off Slip	1.65	202	1064	1.68	193	1094
	A227 (S)	1.03	31	115	0.97	17	67
	A227 (N) Internal Link	0.61	2	4	0.60	2	4
Northern Roundabout (2)	A227 (S) Internal Link	0.49	1	3	0.50	1	3
	A2 EB Off Slip	0.86	6	28	1.08	69	151
	A227 (N)	0.94	14	32	0.93	12	29
	Former Tollgate Hotel	0.51	1	35	0.63	2	52
2030 RF DO MINIMUM + DEVELOPMENT							
Southern Roundabout (1)	A2 WB Off Slip	1.67	209	1102	1.74	209	1180
	A227 (S)	1.06	42	145	0.98	19	74
	A227 (N) Internal Link	0.62	2	4	0.61	2	4

JUNCTION (NO.)	APPROACH	AM PEAK 08:00 – 09:00			PM PEAK 17:00-18:00		
		RFC	QUEUE (PCU)	DELAY (S)	RFC	QUEUE (PCU)	DELAY (S)
Northern Roundabout (2)	A227 (S) Internal Link	0.50	1	3	0.50	1	3
	A2 EB Off Slip	0.87	7	32	1.10	79	169
	A227 (N)	0.95	16	34	0.94	13	32
	Former Tollgate Hotel	0.52	1	37	0.66	2	57

5.1.8. As can be seen, the junction is expected to operate above capacity in the 2030 'Do Minimum' scenario. Most noticeable is the A2 WB Off Slip which operates with an RFC of 1.67 and a queue of 209 which is a known issue to NH.

5.1.9. Notwithstanding this, the proposed development increases queueing of 7 PCUs and delay of 38 seconds on the arm which is considered to be a minimal impact.

'Interim' Mitigation Scheme – White Lining Change on W/B Off-Slip (Former Tollgate Hotel)

5.1.10. As agreed with NH, the proposed 'Interim' mitigation lane simulation ARCADY model has been used from the Land at Rose Farm assessment to assess the proposed development impact against the 2030 'Do Minimum' scenario.

5.1.11. The lane simulation model has been subject to multiple runs to ensure the results closely align with those presented within the Land at Rose Farm assessment. Lane simulation within the ARCADY model returns differing results with each model run given it assumes different lane use, and queueing variations each time.

5.1.12. From review of the Land at Rose Farm Technical Note provided in May 2026, NH had previously requested the WB off slip approach road half width to be modified to 3.7m from 5.0m across all models (Appendix A).

5.1.13. This was done for the calibrated base models as well as the PM peak lane simulation model. However, this does not appear to have been done for the AM peak lane simulation model. Without providing any assumptions as to why this has not been done, we have therefore provided an assessment of the AM peak with both a 3.7m approach road half width and 5.0m approach road half width for consistency.

5.1.14. Again, the geometric parameters and traffic flows are those prepared for the Land at Rose Farm application with the addition of the Longfield Road traffic in the '+ Development' scenario.

5.1.15. The modelling is reported for the southern roundabout, where the lane markings are proposed to change, and where the greatest impact of the Longfield Road development will be experienced. It is noted that the ARCADY analysis does not output RFC results in the lane simulation mode.

5.1.16. The results of the model are summarised within Table 2, and the model outputs are included at Appendix C.

Table 2: A2/Wrotham Road (Southern Roundabout) 'Interim' Mitigation Lane Simulation Results (ARCADY)

JUNCTION (NO.)	APPROACH	AM PEAK 08:00 – 09:00		PM PEAK 17:00-18:00	
		QUEUE (PCU)	DELAY (S)	QUEUE (PCU)	DELAY (S)
2030 RF DO MINIMUM (5.0M APPROACH ROAD HALF WIDTH)					
Southern Roundabout (1)	A2 WB Off Slip	12	50	-	-
	A227 (S)	10	37	-	-
	A227 (N) Internal Link	6	12	-	-
2030 RF DO MINIMUM + DEVELOPMENT (5.0M APPROACH ROAD HALF WIDTH)					
Southern Roundabout (1)	A2 WB Off Slip	13	52	-	-
	A227 (S)	10	46	-	-
	A227 (N) Internal Link	6	12	-	-
2030 RF DO MINIMUM (3.7M APPROACH ROAD HALF WIDTH)					
Southern Roundabout (1)	A2 WB Off Slip	66	252	37	154
	A227 (S)	8	28	4	14
	A227 (N) Internal Link	5	12	3	7
2030 RF DO MINIMUM + DEVELOPMENT (3.7M APPROACH ROAD HALF WIDTH)					
Southern Roundabout (1)	A2 WB Off Slip	68	265	42	175
	A227 (S)	9	34	4	15
	A227 (N) Internal Link	5	12	3	8

- 5.1.17. As demonstrated, the 'Interim' mitigation scheme does offer noticeable capacity benefits, especially for the operation of the A2 WB off slip.
- 5.1.18. The forecast changes to queues at the junction with the addition of Longfield Road traffic are negligible/minimal with only limited increases in queuing forecast on any arm in either peak hour.
- 5.1.19. The A2 WB off slip at the southern roundabout has a queuing capacity of some 400m or about 70 PCUs (5.75m). It is clear that the forecast queueing will be within this capacity with the proposed development in place across both geometrical scenarios, with the results likely to operate somewhere in between the two.
- 5.1.20. The impact of the traffic related to the proposed development is forecast to have a negligible or, at worst, minimal impact on the operation of this junction with the Interim mitigation improvement in place.

'Final' Mitigation Scheme – Partial Signalisation and 'Teardrop' on southern Roundabout

- 5.1.21. Whilst the proposed development can be catered for by the 'Interim' mitigation scheme, we have tested the proposed development within the 'Final' mitigation scheme proposed as part of the Land at Coldharbour Road development.
- 5.1.22. The 'Final' Mitigation scheme is a partial signalisation of the southern roundabout in a 'teardrop' arrangement by filling in the northern section of the circulatory.
- 5.1.23. NH previously stated in an earlier response that the approved scheme is included in Drawing 684437CH-JAC-A2-HGN-DR-1200-001 Rev PO1, however this could not be identified on the

Gravesham Planning portal. Instead, an early version of the scheme was identified (Drawing No. PHCOLDHARBOURRD.1/01).

5.1.24. It does, however, appear that the approved scheme has been modelled as part of the Former Tollgate Hotel application within a Technical Note (Doc ref: TN01) albeit we are unsure whether this was accepted by NH. Using both the early version of the design and the LinSig model output, an assessment of the scheme has been undertaken.

5.1.25. Some minor amendments to the scheme have been made following review:

- Pedestrian crossing added to phasing over the A2 WB off slip.
- Right turn radii updated to represent roundabout entry radii.
- A227 (N) length decreased to a length of 40 PCUs.
- Cycle time optimisation.

5.1.26. Again, the proposed development has been assessed against the 2030 'Do Minimum' scenario.

5.1.27. The results are summarised in Table 3 with the model output included at Appendix D.

Table 3: A2/Wrotham Road Southern Roundabout 'Final' Mitigation Scheme (LinSig)

APPROACH	AM PEAK 08:00 – 09:00			PM PEAK 17:00-18:00		
	DOS (%)	QUEUE (PCU)	DELAY (S/PCU)	DOS (%)	QUEUE (PCU)	DELAY (S/PCU)
2030 RF DO MINIMUM						
Internal Link (N) Ahead	55	6	15	79	9	20
Internal Link (N) Right	90	15	31	66	7	16
A2 WB Off Slip	89	10	34	84	7	28
A227 (S)	71	4	5	64	2	4
Cycle Time (S)	55			45		
PRC (%)	0.5			7		
Delay (PCU/Hr)	18			13		
2030 RF DO MINIMUM + DEVELOPMENT						
Internal Link (N) Ahead	56	6	15	81	10	21
Internal Link (N) Right	90	15	31	66	7	16
A2 WB Off Slip	89	10	35	85	7	29
A227 (S)	71	4	5	65	2	4
Cycle Time (S)	55			45		
PRC (%)	0.5			7		
Delay (PCU/Hr)	18			14		

Notes. DOS is Degree. Queues and delays are rounded.

5.1.28. The overall level of queueing across the junction is forecast to improve under the proposed signal arrangement, with notable reduction in queueing on the A2 WB off slip.

5.1.29. The model forecasts indicate that the impact of the proposed development has a negligible impact on the operation of this junction with the proposed signalisation works in place.

6. ACTIVE AND SUSTAINABLE TRAVEL

- 6.1.1. The focus of the recent meeting with NH was on the operation of the Strategic Highway Network (SRN). However, just as with other highway authorities, NH has a focus on promoting active and sustainable travel in part for environmental reasons and in part to minimise highway impacts.
- 6.1.2. As part of the consultation with KCC and Gravesham Borough Council (GBC) the following active travel and sustainable transport initiatives are proposed:
- Contributions, on an area wide level, to improve the standard and frequency of bus services and bus infrastructure along Wrotham Road to provide access to Meopham railway station and Gravesend.
 - Contributions towards the LCWIP and proposed KCC/GBC emerging cycle route proposal along the A227 with the intention of improving footway/cycleway links from the proposal site towards Meopham railway station and local schools.
- 6.1.3. The Travel Plan (TP) sets out the proximity of the development to nearby facilities and services and indicates that the site is very well located to take advantage of nearby facilities via sustainable modes, including those in close proximity to the site on Camer Parade.
- 6.1.4. The TP sets out the existing active and public transport opportunities in the vicinity of the site which, as indicated above, is intended to build upon through contributions from this development and other developments in the borough.
- 6.1.5. The TP sets out additional measures such as:
- Footway connection to existing footways on Longfield Road.
 - Dropped kerb crossover facilities.
 - Contributions towards lighting on the route towards Meopham railway station.
 - Contributions towards cycle parking at Meopham railway station.
 - Provision of maps of local walking routes for residents.
 - Provision of local cycling route maps for residents.
 - Details of government 'bike to work' scheme.
 - Provide detailed bus timetables.
 - Provide one six-month bus travelcard per each new household on the development.
 - Make residents aware of car share schemes.
- 6.1.6. The TP includes targets for minimising single-occupancy car use that the proposed measures will help to bring about.

7. SUMMARY

- 7.1.1. Ridge and Partners LLP (formerly Hub Transport Planning Ltd) has been commissioned by the client, Richborough, to provide transport advice for a proposed residential development on land south of Longfield Road, Meopham, Kent.
- 7.1.2. The primary focus of this note relates to the operation of the A2/Wrotham Road junction complex. It is evident that at around an extra one vehicle every one to one and a half minutes at the southern roundabout will have a negligible impact and can certainly be catered for within the approved committed mitigation schemes.

- 7.1.3. The traffic capacity analysis presented in this report bears out this assertion and indicates that there will not be any issue with blocking back to the mainline on the A2 WB off slip.
- 7.1.4. We have reiterated the applicant's commitment to the provision of active and sustainable travel through discussions with the LHA/LPA leading to a transport vision for the development that fits with the vision the local authorities have for the borough as a whole. That vision includes developer contributions to improving bus provision along Wrotham Road and suitable contributions to assist active travel through contributions; such contributions being sought from all developers in the area. Notwithstanding these proposed measures, connections to local active travel routes have also been proposed as part of the proposals.
- 7.1.5. Paragraph 116 of the NPPF states that:
- "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual impact on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios."*
- 7.1.6. The TA, TP, technical notes and other submissions supporting the development proposal demonstrate the sustainable nature of the development proposals, and that safe and suitable access can be provided for all modes.
- 7.1.7. This Technical Note specifically indicates that the impact of the development at the A2/Wrotham Road junction will be negligible/minimal and that there would not be an unacceptable impact on highway safety with particular reference to slip road queuing on the A2 WB off slip.

Appendix A

Traffic Flow Diagrams



















